

Handbooks on
Civil Registration and
Vital Statistics Systems
**Studies in Methods
Series F, No. 72**

Handbook on
Civil Registration and
Vital Statistics Systems
**Management, Operation
and Maintenance**



United Nations
New York, 1998

NOTE

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

ST/ESA/STAT/SER.F/72

UNITED NATIONS PUBLICATION

Sales No. E.98.XVII.11

ISBN 92-1-161405-8

Copyright © United Nations 1998
All rights reserved

CONTENTS

	<i>Paragraph</i>	<i>Page</i>
Preface		vii
Introduction	1-21	1
I. Administrative infrastructures: centralized, decentralized and local civil registration systems, and the interface with the vital statistics system.	22-117	4
A. Centralized (national) administration for the civil registration system, and interface with the vital statistics system.	29-56	4
1. Single agency for civil registration and vital statistics	34-47	5
2. Separate administrative agencies for civil registration and vital statistics	48-56	7
B. Decentralized administration for civil registration and its interface with the vital statistics system	57-81	8
1. Subnational, single-level administration for civil registration and the interaction with the vital statistics system	62-75	9
2. Subnational, multiple-level administration for civil registration and the interaction with the vital statistics system	76-81	11
C. Local programme administration	82-94	12
1. Single site or source	84-86	12
2. Multiple local sites	87-90	12
3. Transition of local site(s) to centralized or decentralized registration systems	91-94	12
D. Supplementary data from population census and sample surveys.	95-104	13
1. Use of sample surveys for civil registration and vital statistics needs	99-100	13
2. Transition to total coverage in civil registration and vital statistics	101-104	13
E. Legal requirements for civil registration and vital statistics	105-117	14
1. Organizational infrastructure and related legal status	107-112	14
2. Purpose, function and utility	113-117	15
II. Management of civil registration and vital statistics systems.	118-289	16
A. Administrative structures for civil registration and vital statistics systems	118-160	16
1. Programme units for administration	120-128	16
2. Programme interaction and integration	129-136	18
3. Intra-unit reporting	137-139	19
4. Resource allocation	140-145	19
5. Standards and policies for systems administration	146-152	20
6. Inter-agency liaison and communication	153-160	21
B. Management role and responsibility	161-234	22
1. Intra-agency coordination	162-169	22
2. Inter-agency collaboration	170-174	23
3. Planning, policy and development	175-187	24
4. Management control functions	188-195	25
5. Protocols for the system's legal structure	196-199	26
6. Logistics for record management	200-209	27
7. Methods for system functions assessment and review	210-217	28
8. External participation in system functions	218-223	29
9. Public relations	224-234	30

	<i>Paragraph</i>	<i>Page</i>
C. Technical system components	235-289	32
1. Comparative analysis for selected data elements	238-245	32
2. Indicators for assessing system functions	246-258	33
3. Training activities associated with the system	259-271	35
4. Information-sharing and feedback	272-277	37
5. Integration with the population register	278-289	38
III. Operational functions and activities	290-493	41
A. Functional components	291-380	41
1. How to register vital events	292-318	41
2. Special processing requirements for registration records	319-336	45
3. Matching registration records	337-348	47
4. Specific units and staff for processing record changes	349-362	49
5. Processing of mail requests	363-371	50
6. Internal monitoring tasks for record processing	372-380	51
B. System activities	381-460	52
1. Services to the public	382-410	52
2. Field programme	411-421	55
3. Coordination activities	422-432	57
4. Graphics for registration record flow	433-442	58
5. Surveillance programmes	443-460	61
C. Civil registration and vital statistics systems: functional relations	461-493	63
1. Integration needs for record use in civil registration and vital statistics systems ..	462-468	63
2. Coordination of civil registration and vital statistics functions	469-478	65
3. Inter-component communication	479-484	65
4. Graphic representation of integrated functions for civil registration and vital sta-		
tistics systems	485-493	66
IV. Maintenance of civil registration and vital statistics components	494-588	69
A. Operational requirements	495-564	69
1. Modification of records in registration files	496-511	69
2. Verification methods used for reported data	512-521	71
3. Internal review mechanisms for systems functions	522-536	72
4. Monitoring of stored records	537-545	74
5. Back-up and support systems for civil registration and vital statistics	546-552	76
6. Maintenance of field operations	553-565	77
B. Technical requirements	566-588	79
1. Probability sampling techniques for civil registration and vital statistics records ..	567-574	79
2. Verification and validation methods for data	575-581	80
3. Technological review mechanisms for civil registration and vital statistics main-		
tenance	582-588	80
V. Options for civil registration and vital statistics integration	589-657	82
A. Administrative and committee infrastructures	589-606	82
1. Administrative structure for civil registration and vital statistics integration	590-601	82
2. Committee infrastructures for civil registration and vital statistics integration	602-606	84

	<i>Paragraph</i>	<i>Page</i>
B. Functional relationships for integrated civil registration and vital statistics systems . . .	607-657	84
1. Definitions and standards	609-624	85
2. Quality and validation of integrated civil registration and vital statistics data	625-634	87
3. Functional committee structures for civil registration and vital statistics activities	635-650	88
4. Coordinated services	651-657	91
VI. Applications and utilization of civil registration and vital statistics information	658-744	93
A. Civil registration information	658-683	93
1. Applications within the registration system	659-669	93
2. Inter-agency applications	670-677	95
3. National programme applications	678-683	96
B. Vital statistics applications	684-744	97
1. Intra-agency applications	685-695	97
2. Inter-agency uses and applications	696-706	99
3. National vital statistics uses and applications	707-716	100
4. Research applications	717-728	101
5. Demographic applications	729-735	102
6. Human resources and services applications	736-744	103
Annexes		
I. Highlights of the <i>Handbook of Vital Statistics Systems and Methods, Vol. I</i> , concerning the informant and selected aspects of the civil registration process . . .		105
II. Civil registration and vital statistics systems in selected countries		112
III. Samples of civil registration and vital statistics forms: Botswana, Canada, Chile, Costa Rica, Ecuador, Philippines, Singapore, South Africa, Thailand, United States of America (State of Colorado)		123
References		199

PREFACE

The present *Handbook on Civil Registration and Vital Statistics Systems: Management, Operation and Maintenance* provides guidance and assistance to countries for the improvement of their civil registration and vital statistics systems. The *Handbook* also provides the background and specifications for developing and establishing civil registration and vital statistics systems in countries that do not yet have such systems in place. Since the organizational and legal infrastructures of countries differ, various options have been described to accommodate the most common structures that exist. With specific modifications, those structures may be adjusted to represent a broader range of country structures. Thus, most countries can benefit from the descriptions, processes and protocols described in the *Handbook*, which can be very helpful for developing or improving civil registration and vital statistics systems. The *Handbook* has been produced as part of the International Programme for Accelerating the Improvement of Vital Statistics and Civil Registration Systems.

The International Programme, which was designed by the United Nations Statistics Division, the United Nations Population Fund (UNFPA), the World Health Organization, and the International Institute for Vital Registration and Statistics, was endorsed by the Statistical Commission at its twenty-fifth and twenty-sixth sessions, in 1989 and 1991. The Programme aims to encourage developing countries to undertake long-term self-sustaining programmes of reform to strengthen their civil registration and vital statistics systems. The emphasis of the International Programme is on national efforts and genuine commitment. With improvement, those systems will become the foundation of a legal system for establishing the rights and privileges of individuals and a source of continuous vital statistics. The Programme is being implemented by the United Nations Statistics Division, focal point for the Programme, with the cooperation of the regional commissions and the UNFPA country support teams, and financial support mainly from UNFPA.

A vital part of the project under the International Programme, which was funded by UNFPA, was the conduct of 5 workshops in different regions of the world between 1991 and 1995.¹ A series of 5 subject-specific *Handbooks on*

Civil Registration and Vital Statistics Systems, each dealing with different aspects of civil registration and vital statistics improvement, have also been produced under this project to assist countries in strengthening their civil registration and vital statistics systems. The present *Handbook* is the first in the series and is designed for use with the other 4 *Handbooks* of the series:

- (a) *Handbook on Civil Registration and Vital Statistics Systems: Preparation of a Legal Framework;*
- (b) *Handbook on Civil Registration and Vital Statistics Systems: Developing Information, Education and Communication*
- (c) *Handbook on Civil Registration and Vital Statistics Systems: Computerization*
- (d) *Handbook on Civil Registration and Vital Statistics Systems: Policies and Protocols for the Release and Archiving of Individual Records*

The scope of the present *Handbook* includes the entire range of vital events—births, deaths, foetal deaths, marriages and dissolutions of marriage—from both the civil registration and the vital statistics perspectives. Applications at all levels of government as well as in the public and private domain with respect to the value and use of registration and statistical data and information are an integral part of the *Handbook*.

The 3 key concepts of the *Handbook*—management, operation and maintenance—are presented at the national, intermediate and local administrative levels. Specific functions are designated both within centralized and decentralized structures at each level described. And, within those structures, the need and value of continuous monitoring and evaluation of registration and statistics are presented as essential management activities, with appropriate options to meet the variations that exist in different countries.

Good management, efficient operations and effective maintenance are fundamental tools for high-quality and productive civil registration and vital statistics systems. Therefore, the *Handbook* provides appropriate and relevant information within the context of the various country infrastructures. The current processes are briefly outlined and the movement toward automated systems using various forms of electronic media are considered for meeting both registration and statistical needs. An effective operating system can consider this next phase in the civil registration and vital statistics processes. The content and

¹Workshops on strategies for accelerating the improvement of civil registration and vital statistics systems were held at Buenos Aires (1991); Damascus (1993); Beijing (1993); Addis Ababa (1994); and Rabat (1995).

purpose of the *Handbook* provide the potential for such future development.

Chapter I of the present *Handbook* provides a descriptive summary of the management, operation and maintenance of civil registration and vital statistics systems in the context of the centralized or decentralized structures that exist in different countries. Chapter II examines management methods, planning, policy and decision-making strategies within centralized and decentralized systems. Chapter III deals with the essential operational functions, and provides details on how to carry out the daily operations of the systems, such as the procedures for gathering, storing and editing the information, issues of security, how to respond to the public's need for certified copies of vital records, and the functional relationship between the civil registration system and the vital statistics system. Chapter IV describes the maintenance functions required for sound civil registration and vital statistics systems. Chapter V examines different options for integrating the civil registration system and the vital statistics system to ensure completeness, high quality and accuracy. Chapter VI describes a wide range of applications and uses of data and information from civil registration and vital statistics systems.

The present *Handbook* was drafted by Mr. Vito M. Logrillo, former Director of Health Statistics, New York State Department of Health, and a Consultant for this purpose. A final review and revision of the *Handbook*, from a technical and editorial point of view, were carried out by Mr. Joseph Carney, Director of the Division of Health Statistics and Vital Records, Colorado Department of Public Health and Environment. Expert advice and assistance in the preparation of the *Handbook* are gratefully acknowledged from the following individuals and organizations:

Mr. Kwan Kit, Statistician, United Nations Statistical Institute for Asia and the Pacific; Dr. Ranjan K. Som, former Special Technical Adviser on Population, United Nations; Dr. Iwao Moriyama and Mr. Samuel Baum, Executive Director and Deputy Director, respectively, International Institute for Vital Registration and Statistics; Mr. Pidatala Padmanabha, former United Nations Consultant on Civil Registration and Vital Statistics; Mr. Alejandro Giusti, Director of Population Statistics, National Institute of Statistics and Censuses, Government of Argentina; Mrs. Berta

Belmar Ruiz, Director-General, National Service of Civil Registration and Identification, Government of Chile; Mr. Sirageldin H. Suliman, Technical Support Services Specialist in Social Statistics, United Nations Statistics Division; Mrs. Violeta Gonzales-Diaz, Statistician, United Nations Statistics Division; Mr. Lohman Lu Howe Yew, Director of the National Registration Department, Government of Singapore.

All five *Handbooks* of the International Programme are designed to complement the *Handbook of Vital Statistics Systems and Methods*, volumes I, *Legal, Organizational and Technical Aspects*,² and II, *Review of National Practices*,³ as well as the *Principles and Recommendations for a Vital Statistics System*.⁴

Since vital statistics and rates can also be obtained through population censuses and sample surveys of various types, and also because the concepts, definitions and classifications among the various sources of demographic data should be consistent, it is suggested that users of the present *Handbook* consult other United Nations publications dealing with related issues and subjects, such as the following: *Handbook of Statistical Organization*;⁵ *Handbook of Household Surveys*;⁶ *Supplementary Principles and Recommendations for Population and Housing Censuses*;⁷ *Principles and Recommendations for Population and Housing Censuses, Rev.1* (forthcoming);⁸ *Handbook of Population and Housing Censuses, Part I, Planning, Organization and Administration of Population and Housing Censuses*;⁹ *Handbook of Population and Housing Censuses, Part II, Demographic and Social Characteristics*;¹⁰ and *Manual on Population Census Data Processing Using Microcomputers*.¹¹

²United Nations publication, Sales No. E.91.XVII.5.

³United Nations publication, Sales No. E.84.XVII.11.

⁴United Nations publication, Sales No. E.73.XVII.9.

⁵United Nations publication, Sales No. E.79.XVII.17.

⁶United Nations publication, Sales No. E.83.XVII.13.

⁷United Nations publication, Sales No. E.80.XVII.8.

⁸United Nations publication, forthcoming.

⁹United Nations publication, Sales No. E.92.XVII.8.

¹⁰United Nations publication, Sales No. E.91.XVII.9.

¹¹United Nations publication, Sales No. E.90.XVII.19.

INTRODUCTION

1. The present *Handbook* was prepared with financial support from the United Nations Population Fund (UNFPA). The *Handbook* provides detailed information regarding the management, operation and maintenance of civil registration and vital statistics systems. It examines the systems within the context of the organizational and legal infrastructure types that exist in various countries. The *Handbook* describes specific civil registration and vital statistics system components within the framework of an individual country's existing programme. Where such systems are not yet in existence, the *Handbook* specifies the components necessary for their development and achievement.

2. Civil registration, and the vital statistics derived from this system, provide a broad and comprehensive information base for the population of a country. Programmes that involve population dynamics, the health status of the population, the protection of human/family rights and well-being of children, demography and the allocation of health services and resources all realize benefits from a registration system. The geographic distribution of vital events and the development of rates and other quantitative measures can give government programmes essential data and information. The data are crucial for planning, policy-making and the evaluation of population-based programmes. Without a registration system in place, such information becomes available only on an ad hoc basis by conducting special studies, one-time surveys, or through other sampling approaches.

3. Civil registration records are also useful for individuals within society. Individuals use copies of registration records for legal purposes to prove personal and property rights. Civil registration records of birth supply legal proof of identity and civil status, including name, age, parentage, place of birth, citizenship, nationality and legitimacy status. These in turn affect a wide variety of rights to which an individual may be entitled, especially those depending on age, citizenship or ancestry for inheritance, social and other purposes. Death records provide legal evidence relevant to claims to inheritance, of property, insurance benefits and the legal right of a spouse to remarry. Marriage and divorce records are essential records for family rights protection, establishing entitlements for tax deductions, inheritance rights, alimony and the right to remarry. The protective value to individuals of birth, marriage and divorce records has been officially endorsed by the United Nations.

4. Records documenting individual vital events serve many administrative and governmental purposes. In most instances, such records are the only official documentation of the facts related to individual vital events. Therefore, the custodians of such records have a responsibility to protect and preserve them in a manner consistent with current and future needs for information.

5. The present *Handbook* describes the daily operational aspects of civil registration and the related methods and procedures for good administration, management and ongoing maintenance. It also describes ways to use the data and information obtained through the civil registration process. The intent is to integrate the functions of a civil registration system with the diverse uses that the system offers other programmes, systems and administrative activities of government. The vital statistics derived from the records in the registration process yield the fundamental health measures and indicators that most national and local health information systems use.

6. The *Handbook* covers the broad spectrum of civil registration. It has two purposes. One purpose is to help existing programmes that may require improvements in certain areas. Second, in countries where a civil registration system is not established, the *Handbook* aims to assist in the development and achievement of such a system. The text covers forms, data collection, record processing, legal and administrative requirements and daily operational activities. It also covers relationships with other programmes, applications using vital statistics, health programme evaluation and research uses. Where it may affect the process or procedure under discussion, subsections address the infrastructure types that exist in different countries.

7. The *Handbook* contains all the management, operational and maintenance elements that are essential for administering the registration system. If legal and organizational infrastructure differences within a country can affect a particular registration component, the *Handbook* identifies options for consideration. Sometimes such differences may not affect the process and the *Handbook* does not offer options. For example, the responsible agencies for conducting civil registration activities may be located in local offices of different ministries, such as the ministry of interior, health or home affairs. They may also be located in municipalities, parishes or health centres (hospitals and clinics). In any of those sites, however, the procedures and processes must be standardized. The particular registra-

tion setting does not affect the standards that the *Handbook* proposes for the procedures it describes. Options may be cited from an operational perspective when manual or automated approaches are available. This will offer options addressing the continuation of an existing methodology or the use of technically more efficient approaches.

8. The *Handbook* aims to provide specifics describing the essential components of a civil registration system. It also describes the development of a vital statistics system, the main supplemental system based on civil registration. To that end, the *Handbook* contains details throughout on structure, function, management, operation and maintenance. This approach should cover the most significant aspects of the civil registration process and its extension to vital statistics for most existing or developing systems.

9. Good management is a fundamental tool for having sound, efficient and productive civil registration and vital statistics systems at each of the functional levels within the systems—administrative, operational and maintenance. The present publication has been prepared to meet that need.

10. Chapter I provides a descriptive summary of the management, operation and maintenance of civil registration and vital statistics systems. It also outlines the different administrative and organizational structure types that may exist in different countries, and describes the characteristics, as well as the advantages and disadvantages, of different types of systems. It bases its recommendations on the existing organizational and legal infrastructure in the country—centralized, decentralized and locally administered. Chapter I also identifies other options that can be used as interim methods to obtain registration and vital statistics information. As appropriate, it links those functions with the legal structure in place in a country.

11. The intent is to identify the key elements and relationships that need to be in place to have effective registration and vital statistics systems. The direction and orientation of the registration and vital statistics systems should address the given administrative structure that exists. In that way, civil registration and vital statistics are incorporated into the administrative infrastructure of the country without any major modifications or adjustments, which can cause delays and difficulties in the implementation phase of civil registration systems.

12. Chapter II of the *Handbook* focuses on the management requirements and responsibilities for civil registration and vital statistics systems under specific infrastructure types. The organizational infrastructures described in chapter I affect the management requirements for establishing and operating a civil registration system.

They also affect the development of the reporting and data-collection components required for a vital statistics system. Management methods, including organizational structure, planning, policy and decision-making strategies, and the use of technology for registration and statistical activities, are dependent on the type of existing infrastructure.

13. Adaptation to the infrastructure and use of mechanisms currently in place is the most effective management approach to initiating a new system or improving an existing one. Modifying a country's legal, organizational or political infrastructure to implement the civil registration and vital statistics systems would be a major undertaking. Efforts must be made to establish procedures and processes to operate each system that are consistent with the existing organizational structures. Each management factor—administration, management and technical needs—can be defined within that framework. The specific areas that chapter II addresses are for the most common country infrastructures. The chapter describes optimal approaches and options for management to consider.

14. Chapter III looks at essential operational functions and activities, and gives very specific details for carrying out the daily operations of the civil registration and vital statistics systems. It examines the specific procedures for gathering, storing and editing information under section A, "Functional components". The chapter also looks at how to respond to the public and its need for the vital records in the system, as well as how the needs of those who are reporting the data to the system are to be met. Section B, "System activities", examines how to manage paper use and confront the fraudulent use of personal documents. Chapter III ends with section C, "Civil registration and vital statistics: functional relations", the purpose of which is to discover methods of integrating the functions of registration and statistics under the various structural arrangements that are presented in chapter I.

15. Chapter IV features the maintenance functions required in a civil registration system and in a vital statistics system. It looks at how to maintain the functional components and programmes outlined in chapter III. The chapter is broken down into two main units: one looks at the operational requirements of a maintenance programme, the other examines the technical requirements of such a maintenance effort. Details of the components are described and options and variations noted, based on the infrastructure of the country's organization.

16. In attempting to integrate the civil registration system and the vital statistics system, a number of options are available. Chapter V presents those options, based on the organizational structures that exist in a country (centralized, decentralized and local structures) for carrying out civil registration and vital statistics systems. The programmatic relationship between civil registration and vital

statistics makes integration of the two programmes essential in either a centralized or decentralized organizational structure. The requirements for integration may differ depending on the administrative responsibilities associated with the programmes. Where the administration of both programmes is in a national central office, the process is directly applicable and more easily implemented. Within the centralized structure but where the programmes are separated between two agencies—for example, civil registration in the ministry of health and vital statistics in the national statistics office—the arrangement needs to be overlaid with a permanent coordinating committee with representation from both agencies. In either case, however, an integrated civil registration and vital statistics system is essential for efficiency. That type of organizational structure achieves the benefits that the *Handbook* describes.

17. The decentralized structure requires more combinations of interactivity and committee involvement. The primary role is at the state or province level, with a head of civil registration and a coordinating committee. In this structure, it is necessary to have a second committee or subcommittee of the coordinating committee with the purpose of maintaining appropriate interaction and participation with the national office that may have responsibility for preparing national vital statistics. This structure also needs to involve local programmes in the transmission and preparation of summary reports and data. For example, the local civil registration offices may submit registration information to the district office. The district office may then abstract relevant information for transfer to the head office at the state or province level responsible for preparing the data to be used for vital statistics. This office would then provide the necessary data to the appropriate national office for the preparation of national vital statistics.

18. In each of the above administrative structures, the required operational and functional activities are similar. The differences occur in terms of the interaction and coordination among the agencies and operational units involved. Chapter V defines administrative issues for the combined programme single agency model, the independent programmes dual agency model, and multi-unit structures related to the two programmes. Within the existing legal framework of the centralized or decentralized systems, the national, subnational and local programmes all require an infrastructure for interactivity and communication.

19. Chapter VI of the *Handbook* describes the application and use of the data and information from the

civil registration and vital statistics systems. The data and information collected through the civil registration programme are used in a broad range of health and health-related activities, programmes and administrative operations. These include: (a) the development of vital statistics for the tabulation, analysis and reporting of selected health, medical and demographic information; (b) research studies; (c) epidemiologic investigations; (d) administrative and management functions; and (e) programme planning, development and evaluation. These data serve multiple purposes, including trend analyses of the causes of death and morbidity, the assessment of the quality of health-care services and providers, the utilization of health resources, health status surveillance of the population, and administrative programme service areas. In many countries, such data represent the baseline for the development of new health programmes and the improvement of existing programmes. Combined with other data sets, the vital statistics data represent a national quantitative database for assessing health trends, health status and needs of the population.

20. Other uses of the data help to assess the impact of programmes directed at specific sub-groups of the population. Such sub-groups may be defined by selected demographic characteristics, geographic locations or the utilization of health-care facilities. The scope and content of the data items collected through the registration and vital statistics systems provide a comprehensive quantitative database that can be used to address a wide variety of issues. Internally, the data are useful to improve the system components of registration. External uses include those that establish personal, family and property rights and those related to research, statistical analyses and programme design. The use of the data within those contexts varies among countries, and within countries varies among different programmes and public and private agencies. Chapter VI provides some background and examples of the broad spectrum of uses. It emphasizes that the civil registration and vital statistics systems must have appropriate levels of completeness of reporting and accuracy of data elements to make their application beneficial.

21. Annex I highlights such concepts as the informant, the registration process, types of registration records and items to be included in the statistical forms (reports). Annex II provides detailed examples of centralized and decentralized structures existing in several countries for civil registration systems and their interaction with the vital statistics system. Finally, annex III provides samples of civil registration and vital statistics forms in selected countries.

I. ADMINISTRATIVE INFRASTRUCTURES: CENTRALIZED, DECENTRALIZED AND LOCAL CIVIL REGISTRATION SYSTEMS, AND THE INTERFACE WITH THE VITAL STATISTICS SYSTEM

22. The civil registration method is defined as the continuous, permanent, compulsory recording of occurrence and characteristics of vital events, as provided through decree of regulations, in accordance with the legal requirements in each country. Although civil registration is carried out primarily for the value of legal documents as provided by law, the usefulness of such records as a source of vital statistics is universally recognized.¹

23. A civil registration system refers to the entire administration, legal, institutional framework, including the personnel, registration network, procedures, record-keeping and retrieval, certificate issuing, outputs, services to other agencies, and all other activities pertaining to civil registration in a country (or state/province). The civil registration system, therefore, encompasses both the registration method and all institutional, technical and legal settings associated with it.

24. The juridical function of civil registration is to register the occurrence of acts and events that constitute the source of civil status. Such events are called vital events. The vital events that most countries are concerned with include live births, deaths, foetal deaths, marriages, judicial separations, divorces, annulments, adoptions, legitimations and recognitions.²

25. Continuous, permanent recording of vital events can best be ensured by means of proper legislation and the establishment of mechanisms to enforce it nationwide. The civil registration law should promote close integration of people into the community, and should give them clear guidelines on the type of organization adopted for the civil registration system in the country or area. It should also spell out the types of vital events that must be registered, their definitions, the designation of informants for each type of event, the time allowances for registering each type of vital event, procedures for late registration, the registrar's duties, the rights and

obligations related to registration, the penalties for non-compliance and so forth.

26. A vital statistics system is defined as the total process of (a) collecting by registration, enumeration or indirect estimation of information on the frequency of occurrence of certain vital events, as well as relevant characteristics of the events themselves and of the person(s) concerned, and (b) compiling, analysing, evaluating, presenting and disseminating those data in statistical form.³ The present *Handbook* is concerned with the vital statistics system that draws data from the civil registration system.

27. The administrative arrangement of civil registration work should be stated clearly and in detail in civil registration legislation. Depending on the judicial, political and administrative structures of a country, as well as its tradition, the arrangement can be either centralized or decentralized.

28. Regardless of the type of administration set up, the work of civil registration is carried out by local civil registration offices. For the purposes of supervision and administration, there may be subnational civil registration offices established between the national (or state/province) and the local offices. Closely associated with the local registration office are the primary and secondary registration areas/units.⁴

A. CENTRALIZED (NATIONAL) ADMINISTRATION FOR THE CIVIL REGISTRATION SYSTEM, AND INTERFACE WITH THE VITAL STATISTICS SYSTEM

29. A centralized administration of civil registration usually has an agency for directing, coordinating and monitoring the nationwide civil registration work. An office with such duties can promote national standards and uniform registration of all vital events occurring within the country and among various groups of the population.^{5,6}

¹See *Principles and Recommendations for a Vital Statistics System*, Statistical Papers, Series M, No. 19, Rev. 1 (United Nations publication, Sales No. E.73.XVII.9), para. 278.

²See *Handbook of Vital Statistics Systems and Methods*, vol. I, *Legal, Organizational and Technical Aspects*, Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.91.XVII.5), paras. 122-145.

³See *Principles and Recommendations for a Vital Statistics System*, . . . , para. 37.

⁴See *Handbook of Vital Statistics Systems and Methods*, vol. I, . . . , paras. 155-160.

⁵*Ibid.*, paras. 148-150.

⁶Countries and areas with this type of administrative arrangement are provided for in the *Handbook of Vital Statistics Systems and Methods*, vol. II, *Review of National Practices*, Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.84.XVII.11), paras. 38-63.

30. Under this type of central arrangement, the national registration agency plays not only an administrative role but also a technical one over the network of subnational and local civil registration offices. It establishes all local registration offices, provides written materials to local registrars to guide their daily work, coordinates the registration procedures throughout the system, and supervises and evaluates the registration work of the local offices.

31. The central office is responsible for coordinating with other governmental agencies that support the civil registration system, including the health services that certify the occurrence of vital events, the courts that deal with marriages and divorces, and the statistical service that compiles the registration data and publishes vital statistics.

32. The advantages of having a central registration office to administer the system may be listed as follows:

- (a) It makes possible the preparation and approval of a standard legal framework for the civil registration system, which will promote uniformity of procedures throughout the country, and will, in turn, facilitate further changes in legislation, whenever needed;
- (b) It facilitates the interpretation and enforcement of norms and regulations;
- (c) It permits the adoption of uniform procedures for recording and reporting vital events nationwide, including ways and means of certifying registered vital events, and for releasing vital records to the public;
- (d) It promotes the maintenance of direct and effective control over the entire system, which in the end translates into a better service to the community;
- (e) It facilitates the carrying out of research based on vital records kept under uniform archival techniques;
- (f) It facilitates the development and channelling of advisory services and other forms of technical assistance to local civil registrars, such as periodical training courses to keep them abreast of any changes in the system and the provision of focal technical advice for solving a particular problem.

33. In a centralized administration of the civil registration system, there are two main options for the administration of the vital statistics system. In one, the responsibility for both activities is within a single government organization. The organization might be the ministry of health, the interior, home affairs or justice, or an independent agency. In the other, the two functions are separated. Civil registration might be under the responsibility of the ministry of interior or health and the vital statistics system under the responsibility of another agency, such as the national statistical office. In turn, the vital statistics system itself can be administered in a centralized or decentralized manner. The organizational structure, man-

agement role, operational functions and maintenance requirements differ for each of these options. The sharing of responsibilities for vital statistics by two or more agencies is not recommended. Countries that find themselves in this situation should make every effort to place such responsibility under a single agency.

1. *Single agency for civil registration and vital statistics*

34. One type of arrangement for the civil registration and vital statistics systems is for both responsibilities to be placed in a single government organization. This is because of the close link between the two systems. Vital statistics come from data on combined civil registration and statistics forms, or from the pairing of civil registration forms with statistical forms filled out at the time of registration. Their completeness and accuracy depend on the data-collection and data-processing methods used in registration. It is more efficient to maintain control of the forms and processes within a single organization. For example, countries in which a single agency is responsible for both systems may use a single form that combines data for legal and statistical purposes for data collection.

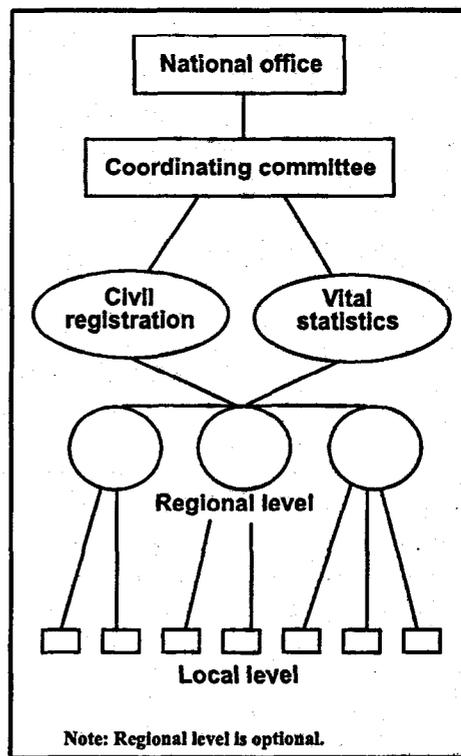


Figure I.1. Centralized system: single agency

35. The advantage here is that the agency responsible for both systems controls any modifications that affect either system, which eliminates the need to resolve differences about the systems between the agencies. It allows closer intra-agency collaboration and improves timing for making effective changes.

36. A committee with representatives from civil registration and vital statistics units within the agency can be very effective in providing guidance for monitoring and operating each functional area. When a single agency is responsible, civil registration and vital statistics daily activities undertake the achievement of the goals of the two systems. A single agency unifies the attainment of specific goals and objectives. Chapter II below describes in depth the management, administrative and operational components of this structure.

37. An advantage of the single administrative agency role is the management of the total system of registration and vital statistics. A single agency in a centralized structure can initiate, develop and achieve each functional and operational task. Single administrative control allows for the appropriate distribution of staff and other resources. In those cases where the local staff are not employees of the central agency, the agency must provide regulations and standards for the operational aspects of the system. This assures that local sites are consistent with central office protocols. The assignment of local sites and local registrars to carry out registration activities at the various local geographic locations is essential for an effective system.

38. Direct control over each component of the system enhances the ability to operate the system efficiently and cost-effectively. A single administrative agency with oversight on both civil registration and vital statistics is in a good position to accomplish such efficiencies. The design (of forms), the selection of data items, the development of coding structures, the establishment of processing methods and the choice of statistical measures and indicators are more efficiently executed within a single agency. A single administrative body can also more effectively provide services to the public, the research community and other governmental programmes.

39. In a centralized system, the primary resources for operating and maintaining the system are at the national level in a central office. The next several chapters below provide details about achieving this design. It is important to note that under a single, centralized system, the administrative agency is responsible for each operational and functional activity that the national, regional and local levels conduct. This makes the registration activities at the regional or local levels more consistent. The centralized national structure eliminates any local bias or difference in process.

40. The central agency needs to establish an organizational structure with specific operational roles clearly defined at each level. The agency also needs to establish, at each level, ongoing monitoring and evaluation protocols to assure the quality and completeness of data collection and the timely reporting of vital events. A centralized programme presents a systematic structure with all parts of the programme within a single administrative unit. This creates a unified programme, with all functioning units interrelating under one mode of operation. It provides the necessary registration services to the public, and produces the vital statistics for national, regional and local use.

41. The centralized registration authority directs civil registration throughout the country. The central agency also produces vital statistics data from the civil registration forms for births, deaths, foetal deaths, marriages and divorces. The data derived from those records and used for both registration services and vital statistics are reviewed and validated, coded and processed at the central site. This allows for standards and criteria to be used for both registration and vital statistics needs in a consistent fashion: a very important system attribute.

42. The national system may use district and regional sites to direct record flow from the local registration offices. Each level may retain copies of the documents completed for each vital event to provide services to the population. The national office, however, prepares the vital statistics derived from those forms. It then provides the information to the various levels of government entitled to receive the data. Some countries use separate forms to obtain registration and vital statistics data. Such countries may opt to use a loose-leaf multi-copy form as a more efficient way to collect the data, particularly when the civil registration and vital statistics systems are computerized.

43. Thus, within the single agency structure, the registration functions of record retention and copy preparation for public access may occur at each level of government—local, district and regional. The vital statistics component is primarily a national office activity. As district and regional offices develop the ability to prepare vital statistics data locally, some efficiency may be gained if the units abstract data from the registration forms as the forms pass through their offices on to the national office. This flow of the registration forms provides an incentive for the local units to establish a capability to use the data as well as to have an active role in civil registration.

44. Since the centralized system has both the civil registration and vital statistics functions, it becomes the single source for information from either system. Thus, other agencies, both public and private, and related programmes may seek direct access to the centralized data source. This makes the process more effective, and elimi-

nates the difficulties in resolving differences concerning various aspects of the system which could occur if the components were divided among a number of agencies.

45. The centralized structure may give rise to concerns whether there is adequate representation and attention for other programmes or governmental agencies that can use both registration and statistical information. The health sector, other statistical and research organizations, and government agencies in the social and health service areas all rely to some degree on information from the registration and vital statistics systems. Input from those disciplines is essential so that the single administrative agency will formulate a comprehensive programme to meet their needs.

46. The establishment of an inter-agency committee, with representation from appropriate programmes and organizations, can address the above concern from a more general perspective. The committee may include such programmes as maternal and child health, family planning, social services, population registers, identification services, electoral rolls, immigration and naturalization, demography and population dynamics. In this way, the needs and issues of other programmes can be included as part of the administration and operation of the registration system. Outside input can have a positive impact on the total system.

47. In a centralized system, the fact that all direction comes from above may develop attitudes at the local level which restrict relevant input going to the central agency. This can result in a failure by local officials to put forth innovative approaches that could enhance the system. To avoid that type of occurrence, it is essential that strong lines of communication are in place in both directions—from the central office to the local units and vice versa. This assures that knowledge from both levels is used to effectively manage and operate the system.

2. *Separate administrative agencies for civil registration and vital statistics*

48. Sometimes an existing country infrastructure requires that the civil registration and vital statistics functions be assigned to separate administrative agencies. Interaction and cooperation between these agencies becomes a key factor in having effective civil registration and vital statistics systems. Ministries of the interior, home affairs, justice or health or an independent agency often have responsibility for the civil registration system. Another agency, such as the national statistics office or the ministry for planning or finance, may have responsibility for the vital statistics system. This kind of structure requires a more complex organizational and operational arrangement than when a single agency is responsible for both systems. The vital statistics system may be centralized or decentralized.

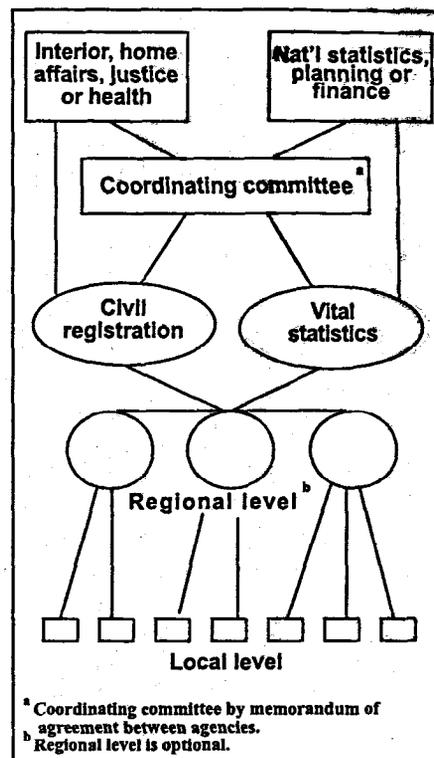


Figure I.2. Centralized system: dual agencies

49. The first concern is how to create an interactive and collaborative relationship between the two agencies. The vital statistics function derives its data from the daily operation of the civil registration system. The statistical agency should take the lead in establishing a working relationship with the registration programme. The best option is to have an inter-agency committee established by the civil registration law or regulation (or in the vital statistics law). Another option is to prepare a memorandum of agreement that designates a committee with representatives from both programmes. Committee membership should represent the relevant factors affecting the civil registration and vital statistics systems. Factors should include the operational parts of both systems, such as the forms for legal registration and documentation and for the preparation of vital statistics. Another concern of the committee is the set of rules and regulations needed to provide complete and accurate data for both programmes. Factors for the committee will also include processing methods to assure effective registration services and timely and relevant vital and health statistical information. The committee should meet bimonthly or quarterly to address completeness, accuracy, timeliness and reliability of the data for each function. Discussion should also include coding and data-entry activities, as well as problems that the processing routines of each programme identify. Chapter III below contains details on those matters.

50. The flow of the records in the separate agency structure is consistent with that in the single agency structure described in section A.1 above. The data flow from the local registration units through district and/or regional offices to the national level. The committee should coordinate the interaction with those local offices; separate agencies should not conduct that control independently.

51. The vital statistics system derives its data from the civil registration system and the combined or separate statistical and civil registration forms completed at the time of registration. The civil registration system brings in the data. Hence, contact and interaction with local units (village, district and region) should originate from the registration office. The registration system unit responsible for field activities should consult with the committee and then initiate these contacts. Chapter II below describes, as part of the registration functions, the organizational arrangement for this particular activity. In the separate agency structure, the national level maintains the legal and statistical functions. Registration offices at the local level conduct registration activities, including issuing of certificates, corrections, amendments and so on.

52. Often, only the national level of the system conducts the vital statistics functions, such as coding, data processing, preparation of tables and charts, statistical and trend analyses, publishing reports and doing related research. The national level then distributes that information to local government units. This approach ensures the consistency of the data and information for the country as a whole. Local agencies can then use such data for local programmes, planning and population-related activities. However, it is known that several countries also conduct coding and data processing at regional or subnational levels. That approach needs close surveillance to ensure standard processes throughout the country. The vital statistics agency acts separately from the registration function in the preparation and analysis of data. Vital statistics carries out those activities as a programme function separate from civil registration.

53. One advantage of separate agencies for civil registration and vital statistics is that the problems in each component are reduced by 50 per cent: registration problems are the concern of the registration agency only, while vital statistics issues are the concern of that agency. In addition, competition between the two agencies can result in more attention and interest in managing each system in an effective and efficient manner. The joint committee maintains coordination of those separate system activities.

54. Another positive element of the separate agency structure concerns obtaining support for changes and modifications. Requests for resources are more often given greater consideration by government budget offices when support is requested by separate agencies for the same activity than when a single agency seeks support on

its own. The one negative aspect is getting the two agencies to agree on the specific needs to be addressed and the resulting distribution of available resources.

55. Reaching agreement between the two agencies may be a problem on any number of issues. For example, when civil registration and vital statistics systems are both automated, there could be duplication of data entry and other processing activities. There could also be a problem in reaching agreement on the data-collection process, forms and data item content, definitions, and procedures for assessing the completeness, validity and accuracy of information. Those issues are best resolved at the time of the agreement and through the established committee responsible for addressing such issues and concerns.

56. Within a centralized system, the major difference between a single agency responsible for both civil registration and vital statistics and one where two agencies are responsible is the need for a legal mandate or official agreement and a coordinating committee. The combination of committee and agreement assures each system an operational structure that can produce high-quality results.

B. DECENTRALIZED ADMINISTRATION FOR CIVIL REGISTRATION AND ITS INTERFACE WITH THE VITAL STATISTICS SYSTEM

57. In a decentralized administration for civil registration, civil registration can be administered at the level of the major civil divisions, such as the state, province or department. In the capital city of each major division, an authority for civil registration is established to direct and monitor the civil registration work of the major division. Many countries with a federated political system, a large territory or a large population may adopt a decentralized administration for civil registration.⁷

58. Not all countries having a decentralized administration for civil registration have adopted uniform legal provisions and procedures for civil registration. Many such countries have made provisions to outline a model law and its regulations so that each major civil division may promulgate its own laws and regulations on the basis of the model. There needs to be an agency at the national level to enforce and standardize the work of civil registration and vital statistics.

59. Within a decentralized administrative structure for civil registration, the organizational options for the vital statistics system may be centralized or decentralized. An example of decentralized structure is a national Government that has an agency with oversight of the legal requirements of registration and responsibility for the

⁷*Handbook of Vital Statistics Systems and Methods*, vol. 1, . . . , paras. 152-153.

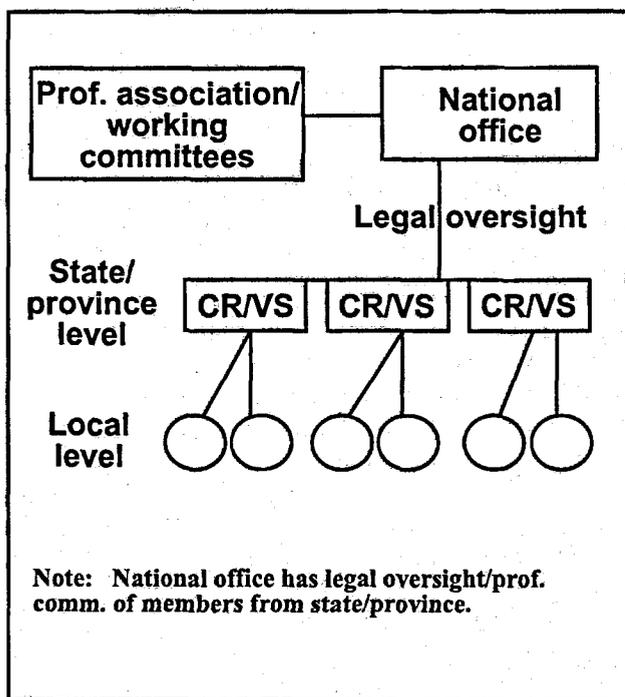


Figure I.3. Decentralized system, version 1

preparation and distribution of national vital statistics information. This structure would also include administrative units at the state or provincial level with primary responsibility for data collection and operation and maintenance of the civil registration and vital statistics systems. Argentina, India, Mexico and Venezuela are examples of countries with this type of structure (for detailed examples of centralized and decentralized structures existing in several countries, see annex II).

60. Another configuration is represented in the United States of America and Canada. In the decentralized structure, the state or provincial government has responsibility for both civil registration and vital statistics within its jurisdiction, independent of the national Government. The individual states or provinces make arrangements with the national Government to provide data, which can then be aggregated at the national level. Those data are used to prepare national vital statistics and civil information, and to address national issues related to legal, health and population programmes. A national government agency is designed for conducting the vital statistics system.

61. In either of these decentralized models, it is essential to establish relationships between the states or provinces and the national government organization responsible for the use of the national data for vital statistics purposes and national civil information. There is a need at the state or provincial level for consistency in the legal interactions of civil registration with national programmes. Such programmes as immigration and naturalization, passport control, national health and social benefits, population registers, identification services and electoral rolls may have requirements with which civil registration must be consistent.

1. *Subnational, single-level administration for civil registration and the interaction with the vital statistics system*

62. In the first decentralized model, the national Government has general oversight of legal requirements. The conduct of operations and maintenance activities for civil registration is a responsibility of the state or provincial government. The registration of vital events is administered through the state or province office. The state or province establishes its own subsidiary units or local registration offices to operate civil registration across the geographic area of the state or province.

63. The state or province administers all registration activities (recording, certificate issuing, doing corrections and amendments, storage, filing delayed records and all other legal activities). The state or provincial authority for civil registration also administers the vital statistics programme within its jurisdiction and compiles, codes and processes, tabulates and disseminates vital statistics. When the data from each state in the country are aggregated, the results yield national information for the national vital statistics system and the civil registration

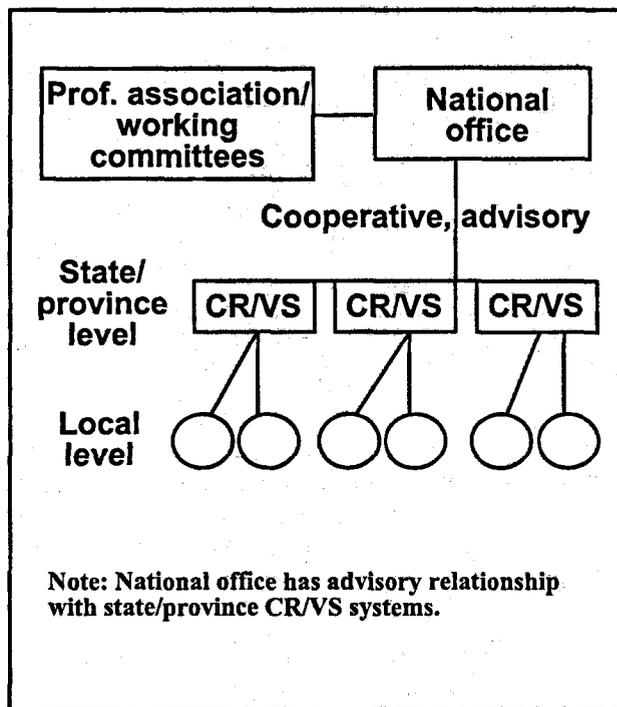


Figure I.4. Decentralized system, version 2

file. The national programme sets specific requirements to be met at the state or province level. Chapter II below describes the organization, management and operations necessary for a programme under this structure.

64. A primary consideration in this structure is the interaction with the national vital statistics office. This interactive relationship is needed to (a) standardize legal aspects of the state/provincial registration system, (b) collect data for use in the development of national vital statistics and compile the civil registration file for the country, (c) exchange current information about new technology and procedures, and (d) establish communication links for information exchange to occur among the states or the provinces.

65. Each state or province that exists in the country within this type of structure represents a single, subnational administrative programme for registration and vital statistics. It is linked with the national vital statistics programme as outlined above. However, each must also have a relationship with the other states or provinces since vital events for residents of one may occur in another area. An exchange of data on events occurring in a neighbouring state or province to residents of another state or province provides very useful and necessary information to keep the civil registration and vital statistics file updated.

66. Within this type of decentralized structure, the national vital statistics office should initiate the process to coordinate the state or province government programmes. It can thereby assure that standards are met, data are consistent and information for national vital statistics and other uses is available in a timely manner. One approach is for the national office to establish a committee with representation from each state or province. The committee should meet periodically to address any issues that arise at the local level. It should maintain an awareness of changes or developments at the national level. The committee should create an interactive relationship between state or province programmes and the national programme.

67. Other approaches established by laws may require that the national vital statistics office deal with each state or province directly or call a national conference of state/province registrars on a periodical basis.

68. Working together, the two levels can compile a national file to eliminate duplication of registration and minimize fraud and forgery of the legal vital records. The file could also provide relevant data to a population register and other government services and programmes for the population.

69. If a committee is preferred, it is probably not feasible for the committee representing national and state or province levels to meet more than once per year. In order to maintain continuity it is therefore wise to establish an executive subcommittee that would coordinate

activities and communicate relevant changes to the participating groups during the year. This will sustain ongoing communication among the states and provinces and the national office. The need for this type of interactive relationship is critical to a decentralized registration system. Independent activity on the part of one state or province can affect the results of both registration and vital statistics functions in other states or provinces or in the national programme.

70. A decentralized civil registration system that has responsibility for state/provincial vital statistics as well as certain advantages. From an individual state or province perspective, decentralization (a) permits the inclusion of data relevant to the individual area, (b) addresses legal issues that may be unique to the particular state or province population and (c) allows management and operational control appropriate to the state or province governmental structure. In addition, since the legal aspects are tied directly to the national programme the state or province may obtain certain benefits by meeting national government requirements. Such support can serve both the provincial and national programmes, while the state or province government still maintains the system necessary to meet its own needs.

71. Another advantage of this type of structure is the involvement of the national programme when difficulties arise. There is a national legal component in place to which the state/provincial government programmes must adhere. That legal component allows subnational programmes to request financial and technical support from the national programme when such conditions are not functioning properly. Furthermore, it enables a coordinated resolution consistent with each system's needs. The arrangement can provide significant benefits for states or provinces where there is not a programme in place to undertake all the activities of civil registration and vital statistics.

72. There can be disadvantages to this structure as well. The lack of coordination and cooperation of the decentralized states or provinces can lead to inconsistent patterns of data collection. It can also affect registration processes, such as recording of non-resident events or the distribution of such records to other states' programmes. The inclusion of events in the national vital statistics system also requires that each state or province maintain acceptable levels of completeness, accuracy and reliability of its data, which implies the use of standards. Given a large number of independent programmes within a decentralized system, such standardization is essential.

73. Another consideration under this type of infrastructure within a country is consistency among the state or province systems. As part of its oversight responsibility, the national Government may put in place some legal requirements. It may not be appropriate for the national

Government to mandate rules and regulations for meeting those requirements. The operational methods of collecting and processing information may also be the responsibility of the state or province. The fact that each state or province is in charge of the registration and vital statistics components within its jurisdiction makes it essential that the national programme put a monitoring and evaluation process in place. This will ensure that the state or province achieves high standards of quality, completeness and timeliness.

74. Often, the focus of the programme is on the specific conditions of the state or province, which can lead to incompatible registration and vital statistics activities for the country as a whole. Decentralized programmes require establishing channels of coordination and an interactive communication among the states or provinces and the national programme in order to avoid the development of independent activities that are not useful in meeting the general needs of the government programmes. Some specific requirements on programme management can resolve this issue.

75. State or provincial management must accept and address issues that lead to meeting national legal requirements. State or provincial management must be interactive with their counterparts to meet the standards for data collection, coding and processing for both civil registration and vital statistics needs. This assures integrity of programmes within and among the civil registration and vital statistics organizations of the country, and between each programme and the national programme. A decentralized infrastructure for civil registration, in which independent governmental units administer both civil registration and vital statistics, must accept and endorse the importance of continuous cooperation, coordination, communication and interaction to assure a successful programme.

2. *Subnational, multiple-level administration for civil registration and the interaction with the vital statistics system*

76. As an alternative to the single administrative structure for civil registration that uses its own subsidiary local offices, some countries use existing local government units (municipality, county, district, parish) to operate civil registration. In this structure, the state or province may establish statutes, rules and regulations for the conduct of registration activities that allow local government bodies to register, record and report events to higher levels. The local body will issue civil registration copies to the population and make changes and corrections to the records in their possession. Chapter II below covers the structure and operations necessary in this model.

77. To be successful under this structure, in addition to the statutory obligations the state or provincial government must establish close working relationships with the local government offices responsible for registration activities. The programme can establish such relationships through committees or periodic meetings, which should address technology, standards and legal changes or requirements, and problems and issues of concern at the local level. The needs of this type of structure differ significantly from those outlined in section B.1 above. The government units responsible for registration are not under the direct control of the state or province registration office. Hence, it is crucial to use interaction and communication techniques with local registration units.

78. One advantage of this structure is that it minimizes costs by using existing local government agencies to carry out registration functions. The fact that the sites exist, the staff are oriented to conducting government operations and the population is familiar with the local units makes this an effective process, which may also promote complete registration coverage since access to registration services is in the local area, offering convenient access to the population.

79. The use of local agencies offers numerous benefits. The local agency has knowledge of the area and the population. It has ongoing interaction with other agencies associated with local government. The local agency will establish procedures and methods for addressing local issues. Also, long-term relationships with other local government units and programmes can be used to assist in the operation, maintenance and monitoring of registration activities. There is a basic difference between single and multiple administration for civil registration. A single structure must implement all the components for conducting registration activities and providing services. Multiple administration simply adds another component to already established operational and administrative functions; it uses health centres, municipalities etc. to conduct the registration of vital events.

80. Multiple administration can also lead to some disadvantages. It may be overly burdensome to add registration activities to local units in a widely dispersed system, which could affect the quality of services provided as well as operational activities. It can negatively impact the vital statistics that under this structure are usually compiled at the state or province level. The use of a local agency which is responsible for other services may put registration in a position of low priority; that must be assessed and some incentive given to provide proper priority to civil registration. Another disadvantage is that a vital event may be recorded twice, which can occur especially when monitoring of the registration system is weak. Finally, when registrars are not well paid or are

performing their duties on an honorary basis or as part of a series of other responsibilities, deficiencies can result.

81. Using existing local government units gives the broadest geographic coverage for a registration programme. Combined with other local functions carried out by the unit, this can be a useful structure for getting a registration programme started in a decentralized environment.

C. LOCAL PROGRAMME ADMINISTRATION

82. Some countries may find themselves in yet another decentralized structure. In this structure local organizational units (villages, districts, municipalities, parishes) conduct and administer the registration process. They report events occurring to the state or province level, or directly to the national level for vital statistics purposes only. In this structure, the state/province or national government establishes a legal framework to assure quality and completeness of registration and reporting. There is no head civil registration office at either the state, province or national level. However, there is a national office compiling vital statistics from these records. Guatemala is an example of this administrative structure.

83. Sections C.1 and C.2 below contain suggestions for countries that lack a nationwide registration system.

1. *Single site or source*

84. To start and operate registration at a single site requires the designation of a unit for registration and data collection. Families may be requested to report events to a local official (village headman, scribe, police) or to a local service unit, such as a health centre. The official in either situation must maintain a register for every type of vital event. The official should also transmit information on those births, deaths and foetal deaths to the national statistical office for compilation of statistics.

85. In this process, it is a good practice to designate notifiers. Notifiers are individuals involved when vital events occur. Examples are midwives, funeral or crematory operators, and health centre managers. Notifiers fill out forms with information necessary for registration. They forward the forms to the local registration official, who then enters the information in the register. It is essential to give orientation and training to such notifiers and officials to accomplish a high level of registration completeness and reporting.

86. More developed areas may designate not only an official but also a local office as a registration centre. Such a centre may conduct other activities as well. For example, a health centre can include a registration centre, which would require informants to travel to the registration centre for the reporting of events. The centre would

record events and transmit information to a higher authority for the generation of vital statistics.

2. *Multiple local sites*

87. Another option is to designate multiple sites to conduct registration activities to support a local programme. Those sites would primarily fill in forms and subsequently transmit the information on vital events to other instances. Each village could designate certain persons to record events, including the village leader or a midwife, teacher or other individual with related responsibilities. The designated persons should transmit the information to the local registrar, at which point the records are signed and become official.

88. The transfer of records and data from such sites to a national office may face a number of difficulties. History indicates that this approach is not an effective process for registration on a permanent basis. However, it may be useful as a temporary measure in areas where rural villages are not readily accessible and there are no official sites for recording and reporting vital events.

89. A mobile registration unit for use in remote areas, where accessibility to the registration centre is limited for the population, can enhance coverage of registration. In this technique, registration staff from an organized office travel to various rural sites at selected times. They register events which occurred during the interval since the previous visit. Village scribes or individual families may report the information. The mobile unit staff sometimes obtains the data from health records. It records vital events and stores the records at the local registration office for that specific location.

90. Although the completeness, quality and reliability of information suffer under such conditions, the mobile unit technique can give insight into the vital events of the population in remote areas. It can be considered an interim measure until the capacity to maintain permanent local offices and to conduct registration activities in such areas is developed. The mobile unit can play a role in providing education about civil registration in the communities that it periodically visits.

3. *Transition of local site(s) to centralized or decentralized registration systems*

91. The extent to which local sites can be improved determines how quickly a more structured programme can be developed, either centralized or decentralized. A transition phase is needed for the development of essential elements in the system. Early in the transition, a local subregistration official must be designated, who would be directly responsible for reporting to an existing registration office.

92. This official should also be authorized to record and report events to the designated local registrar. Midwives, funeral or crematory operators, health clinic directors and other such service providers dealing with vital events can become subregistrars.

93. Next, a civil registration administrative structure is needed that is consistent with the existing national organizational structure. A centralized or decentralized structure, with a single or multiple level of administration, can provide significant improvements to the registration process. Some immediate changes that are needed include the establishment of reporting and recording standards, agreement on forms and item content, and the development of reports on vital statistics.

94. The time needed for such a transition depends on a number of elements, including the availability of resources, training, technical means, administrative settings and management staff.

D. SUPPLEMENTARY DATA FROM POPULATION CENSUS AND SAMPLE SURVEYS⁸

95. The programme characteristics described above are for the processes, procedures and operational requirements for developing effective registration and vital statistics systems under different administrative structures. When such structures are not present or are in a transition phase, population censuses can supply supplementary data and information in order to produce useful vital statistics. Even when a civil registration system is fully operational and reliable, census data can supply denominators for vital rates for mortality and natality analyses that give an insight into the health status for small geographical areas.

96. A population census can supply certain data when the registration system is not fully operational. Such data can meet the specific population and programme needs that are usually met by the vital statistics system.

97. The census may include specific questions about fertility, mortality, civil status and other areas of interest. These data are used to estimate age-specific fertility, mortality and marriage rates. In addition, the census also obtains data on individual characteristics, family composition, health, social and economic profiles, service utilization etc.

98. It is important to ensure close coordination between the civil registration system and the census programme. In most countries, the census occurs approximately every 10 years. Some countries do carry out a total country census at five or seven year intervals. However, data become less meaningful as the time period extends several years from the date of the census. Also, putting the information together to make estimates or to prepare reports requires time that can cause serious lags, affecting the usefulness of the data. A reliable registration system provides, *inter alia*, the necessary data to estimate natural population growth by geographical area.

1. Use of sample surveys for civil registration and vital statistics needs

99. The development of proper sample survey design is a second option for obtaining estimates of vital rates. Appropriate sampling plans and statistical methods can be used to make estimates of the various demographic measures and indicators. Such sample surveys can estimate mortality and fertility rates. They can also estimate the number of deaths by cause, age and gender. Furthermore, sample surveys can provide an independent assessment of the performance of civil registration and vital statistics systems. There are a number of countries where civil registration programmes do not yet exist or where events are not registered at acceptable levels. Many countries therefore use both the census and sample surveys to estimate vital rates.

100. Sample surveys can also provide data for in-depth analysis of changes that occur prior to the survey. Changes due to new health services, immunization programmes, or family planning may reduce fertility. An epidemic or the results of natural or environmental problems can also have an impact on fertility as well as mortality. Readers are encouraged to consult relevant United Nations publications on population censuses and surveys contained in the list of references provided at the end of the present *Handbook*.

2. Transition to total coverage in civil registration and vital statistics

101. In contrast to the above approaches, an effective civil registration programme provides total enumeration of vital events. The data that it provides can be used to quickly identify effects on health status of the population, even at the community level. Increases in deaths for selected causes or in premature and low-birthweight infants may reflect current serious health conditions that may trigger public health action by local or national government. Reduction in fertility rates

⁸For detailed information on the type of fertility, mortality and civil status data that can be collected in a population census, see *Principles and Recommendations for Population and Housing Censuses*, Statistical Papers, Series M, No. 67/Rev. 1 (United Nations publication, forthcoming).

from the vital statistics system may indicate a successful family planning programme in a specific geographic area. Immunization and other direct health service programmes may cause declines in maternal and infant mortality or childhood disease rates.

102. Identifying such conditions early permits such agencies to employ early intervention strategies for a quick resolution of problems. To realize similar results in the census or survey approaches requires drastically increasing the frequency of the census or survey. The registration programme offers the double benefit of developing the vital statistics component and establishing a continuous population database for legal, social and economic services.

103. During the transition period for developing a civil registration programme and vital statistics system, the national census and sample surveys are important for obtaining population, health and social information. The next several chapters of the present *Handbook* cover the specific components required to improve those systems. To attain complete coverage and reliability in civil registration and vital statistics, the focus of future programme development should be directed to the implementation of comprehensive long-term reforms that include a comprehensive review and revision of their structural arrangements, management, operation and maintenance aspects. The benefits and outputs of such permanent and continuous systems are numerous and cannot be overemphasized. Their development deserves attention and support at the highest level of Governments.

104. An essential element for meeting the goal of total coverage consists of the legal infrastructure and modifications required to successfully start civil registration and vital statistics systems. Section E below briefly describes the legal framework, as well as the management, operation and maintenance, that the system requires. A more in-depth discussion on the legal framework is contained in the *Handbook on the Preparation of a Legal Framework for Civil Registration and Vital Statistics Systems* (see preface).

E. LEGAL REQUIREMENTS FOR CIVIL REGISTRATION AND VITAL STATISTICS

105. Establishing the legal basis for the civil registration and vital statistics systems requires incorporating definitions of each element and component into the statutes, rules and regulations of the country. This must include all the administrative and technical aspects of establishing, operating and maintaining the systems. The civil registration and vital statistics statutes may be contained in sections of the law related to the specific ministry

that is responsible for registration. When more than one agency is involved, each should have specific functions defined within the laws for its agency.

106. The specific definitions for birth, death, foetal death, marriage and divorce (where applicable) and reporting time periods are essential for an effective programme. The United Nations specifies that the definitions should be consistent with international standards.⁹ The time period requirements for the registering of events must be such that the information is complete, accurate and consistent with other related functions of the system. Chapter II below gives examples of time-frames, along with advantages and disadvantages associated with each example. The law should also specify some type of punitive action should the responsible reporting sources and registration units fail to comply with requirements.

1. *Organizational infrastructure and related legal status*

107. When there is a centralized structure and the national registration office administers the registration system, the legal requirements of the national office can directly address all registration activities. If, however, the registration programme is under the auspices of another agency, such as the ministry of health, interior or home affairs, then the legal issues must be included in the sections of the national laws for that agency. The differences resulting from this diversity of administration are described below.

108. For the decentralized structure, the legal requirements are in the laws of the state or province. In cases where the national Government establishes some specific requirements for registration, then the state or province must incorporate these into their laws as well. When the national Government is not involved in the registration systems, then the state or province forms the laws stating specifications for the programme. In instances where city or regional offices control the registration process, the state or province establishes requirements for the local programme.

109. Rules and regulations are often used to address specific issues identified during the operation of the registration programme. The registration units generally develop such rules and regulations. They address legal issues, such as delayed registration, adoption, paternity or other record changes that occur after the original recording of the event. The use of rules and regulations allows for more timely operation. To amend or add new laws can take considerable time. The rule or regulation set at the

⁹See *Principles and Recommendations for a Vital Statistics System* . . .

state or province level may later become part of the laws related to registration.

110. There are specific areas that should be part of the laws at every level, including issues surrounding adoption, filiation, procedures for corrections and amendments, paternity, delayed registration specifications, legitimation and civil status. The law, rules and regulations should also cover such issues as access to the records, confidentiality of selected information (also to be defined by law), fees for record searches, copy preparation and changes, and the security, storage and retention of records.

111. The legal framework should define the required legal documents, court decisions, and other information sources acceptable for adoption and filiation. The laws should address access to the registration records for vital statistics purposes and research activities. It should define permissible use of the records by health programmes and other governmental agencies for administrative needs. The law should define specific fees for specific activities, such as certified copies, legal changes to the record and the preparation of data for research, as well as for legal or administrative uses.

112. Many countries include the above components in the laws of the existing legal and administrative structure. The first step is to obtain information concerning the current legal structure. Then an analysis should be made to determine that the necessary components are present for sound civil registration and statistics systems. If the analysis indicates deficiencies in the legal framework, then it is important to proceed to a thorough revision and seek government support to enhance the law and regulations. This may take time but is a fundamental step to streamline the civil registration and vital statistics systems.

2. *Purpose, function and utility*

113. The inclusion of the components of a civil registration system in the laws of the country or a particular state or province serves a number of very important purposes. It makes specific agencies responsible for registration activities and for establishing and maintaining reporting systems. It specifies standards and quality control conditions for the use of the records and information collected through the system. The legal framework also offers a consistent and structured basis for performing all of the tasks associated with the legal uses of the records of events. This eliminates the potential for sporadic changes

that might negatively impact the system. The legal foundation gives the programme an essential ingredient to be able to operate successfully throughout the country.

114. Another important purpose of the legal framework is to ensure that the registration system is a high-quality data-collection medium for the development of vital statistics. The legal framework for the civil registration system establishes a continuous source of information to serve a broad range of activities and programmes. Without a legal basis for the system, the continuity, quality and consistency of reporting can over time be affected by changes that have an impact on resources and staff. The fact that the law requires registration sustains operations.

115. The contents of the sections covering registration in the laws, rules and regulations serve to provide information to the population. Individuals and families can determine what steps must be taken to resolve problems in response to the registration system. The law provides the public with a description of required legal documents, information sources or court actions to address a particular issue. Without the laws covering those specific areas, it would be difficult to determine actions or strategies.

116. A legal framework for the processes and procedures of civil registration ensures comparable results throughout the country. This is the purpose of having the law identify detailed descriptions of the registration functions, thus preserving the integrity of the system and guaranteeing that legal issues, wherever they occur, will be handled in a consistent manner. Whether issues being addressed occur in different geographic locations, under different administrative conditions or for social or economic reasons, the use of the legal specifications applicable to the issue remains constant. This makes it important to carefully review items in the laws that address registration issues.

117. Establishing the civil registration programme within the laws of the country, state or province serves multiple purposes, and ensures an effective, consistent and productive system. The benefits are clear. But difficulties can be significant if only portions of the system are incorporated into the laws, rules and regulations. Chapters II-VI below present in greater detail the relationships among the various items. A review of those relationships will make more obvious the value and significance of having detailed specifications incorporated in the laws relating to civil registration and vital statistics.

II. MANAGEMENT OF CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS

A. ADMINISTRATIVE STRUCTURES FOR CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS

118. A number of programme units are required to conduct the various functions of registration and vital statistics. The specific activities for such units are similar; however, their administrative aspects differ, depending on the infrastructure that the country chooses. The most direct and effective programme unit structure exists within a centralized registration system that combines the registration and statistical activities under the auspices of a single national agency. This single national agency might be either a national office for registration or a vital statistics office.

Centralized (national) administration

119. Under a centralized administration, the administrative functions can be set from the director's office down to the day-to-day processing units within the centralized national registration network. In this arrangement, the director's office serves as the single administrative authority for the systems, and may have deputy directors responsible for civil registration and vital statistics. The advantage here is that those two functions are linked together within a single organization and are administered within a single office. This close relationship provides for continuous interaction and communication at all times. It eliminates delays and differing priority concerns within the programme.

1. *Programme units for administration*

120. Each deputy director would then further subdivide the separate offices into operational units. The deputy director in the registration office would manage units that conduct registration activities. For example, a central office with a computerized database for civil registration and vital statistics, would include several units with the following responsibilities:

(a) *Recording unit:* this unit reviews and files incoming records from the local registration offices. If there is incomplete or erroneous information, the record is forwarded to the local registration unit for updating. The unit should maintain a log for both the records that it receives and those that it forwards for updating. Once registered, the record is given a record number and sent to the processing unit. This proce-

dure should also be followed where vital events are recorded in books or ledgers, or when registration forms are separate from vital statistics forms, thus establishing a process for consistency checks and record verification (chapter V below describes how to monitor data-entry processing relative to registration and record numbering);

(b) *Processing unit:* this unit can process the incoming records in a number of ways. The documents can be microfilmed. The microfilm is then stored in an environmentally controlled area to minimize film deterioration. Generally, two film copies are made simultaneously, one for storage and one as a working copy. The unit can use other storage media, including optical disk and computer entry (described in detail in chap. III below). The processing unit is also responsible for the creation of an index for subsequent searching and record retrieval purposes. The availability of an index adds functionality to the registration system. A difficulty when countries keep records in bound books, without further processing them, is that vital records are made at the time of reporting. Therefore, the entries are not in chronological order by date of occurrence of the event. This makes it difficult to locate a record, and can lead to duplicate recording of a record that is already in the system but cannot be found. As an interim measure, the central office should prepare computerized indexes for each registration office to assist them in the searching process. Such indexes could cross-reference the records by name of registrant, date of occurrence, date of registration, record number, book number etc.;

(c) *Search and copy unit:* this unit responds to requests for record copies, using indexes (manual or automated) or sequential searching in the registers or document storage books. For records stored on microfilm, the unit would use an index to access a specific record on the film. This index would identify the event by type of event and date of occurrence. The index would present an alphabetized ordering of the records, and would associate each record with an assigned record number. The number would give the location of the record on the film for retrieval purposes. More advanced technology, such as computer-based and optical disk systems, has automated indexes that provide very fast search and retrieval capabilities;

- (d) *Legal unit*: this unit covers all the areas involving record changes, including adoption and filiation, paternity, legitimacy, corrections and amendments, personal identification and court-ordered legal amendments. The unit also addresses issues of fraud and misuse of the legal record as a legal document. The legal unit is the source for information related to issues of immigration and naturalization.

121. The activities of the four units within the centralized system result from reporting the events that the units receive from the local registration offices. The national office establishes the local registration offices and locates them throughout the country. Their primary function is to record vital events in a timely manner at the local registration office. The local registrar then sends the records to the national office, either directly or through other government offices at the district, region, state or province level. Each of these offices has the chance to abstract information for their needs prior to forwarding the records to the next level. A special form with summary figures must be used for the transmission of vital records (and statistical forms, if separate). The summary form is a check that all documents make it safely to the final destination.

122. The national office enters the records in the central registration file, and forwards copies of the records to the vital statistics office. A recommended practice is to use a loose-leaf multi-copy form that combines information for both legal and statistical purposes: one copy remains at the national office, one copy is forwarded to the vital statistics office.

123. The deputy director in the vital statistics office provides direction, develops training, periodic conferences and seminars, and maintains general oversight of the vital statistics system. The office also coordinates activities and provides data to other programmes, health units, and government offices. Such activities update the system with current information. The deputy director within the vital statistics office can establish several units to cover the following activities:

- (a) *Coding unit*: the coding unit receives copies of the records from the registration unit and codes them for conversion to vital statistics. The vital statistics staff establishes standard codes for demographic variables, health and medical items, and socio-economic variables. Those codes are made the standard throughout the system. The coding systems are kept consistent with population censuses and sample survey coding systems. The International Classification of Diseases and Related Health Problems (see para. 205 below) of the World Health Organization is the standard for coding causes of death. Another standard is the International Standard Classification of Occupation (see para. 206 below) of the International

Labour Organization. The unit should also specify geographic coding for cities, urban and rural areas, state, province and other levels of geographic interest;

- (b) *Data-entry unit*: this unit enters the coded records into the computer system, allowing quick access to the data for preparing vital statistics information. Where computer systems are not available, the coded information allows for the manual aggregation of the data for statistical use. Manual methods are less accurate and more time-consuming;
- (c) *Statistics and analysis unit*: analysis, research studies, statistical estimates and projections must take place in a unit that has the technical expertise to perform such functions. This unit would have the responsibility for compiling statistics and reports and disseminating such information to other government agencies. It would also work with other programmes requiring demographic, health and medical information. Sometimes this unit is separated into sub-units: one has responsibility for the production of general vital statistics, the other does analysis and research studies.

124. Sometimes the centralized structure has two agencies that share responsibilities, one for civil registration and the other for vital statistics. The units described above should then be located within their respective agencies. Under this structure, a director in each agency to oversee the units specific to that agency is needed; one agency will need a person to oversee the registration units, the other will need someone to oversee the vital statistics units.

Decentralized administration

125. The decentralized system employs a similar structure at the state or province level. If the decentralized model is similar to that of Argentina, India, Mexico and Venezuela (see para. 59 above), then the units for registration would be at the state or province level. The statistical units would function at the national level. If the model is similar to that of the United States or Canada (see para. 60 above), then both the civil registration units and the statistical units would be present at the state or province level. Statistical units would also function in this model at the national level. In both models, there would be a need for an ongoing interactive programme between the national Government and the state or province programmes to ensure that standards are met for the preparation of national data based on the registration and vital statistics systems.

126. The decentralized model requires national, state or province-sponsored meetings about civil registration and vital statistics issues. In countries where the

decentralized system is in place, a national professional organization consisting of representatives from each of the state or province programmes can serve to develop consistent patterns for forms, data collection and vital statistics measures. This assures the comparability of data and the compatibility of registration services throughout the country.

Local programme

127. Where either a municipality, district or region conducts a separate registration programme, the registration units function at the local level. If the local programme wishes to produce local statistics, this can be handled in specialized sub-units within the local programme. Full statistical units would operate at the national level within this decentralized structure.

128. There may be a number of other units and sub-units created within a centralized or decentralized system to meet specific needs or to accomplish special activities that can be assigned, as appropriate, to civil registration or vital statistics units. The interaction and interrelationships within and among the units and outside agencies must be addressed by the office of the director. Neglecting that interrelationship can result in difficulties, complications and inconsistent results at all levels of the registration and vital statistics systems. It is important to realize those potential problems and initiate appropriate controls early on in the implementation of a civil registration system. Such action significantly increases the probability of success.

2. Programme interaction and integration

129. Following the suggestions of section A.1 above, establish the administrative units for civil registration according to the type of organizational infrastructure in place. Whatever organizational structure is adopted, the recording unit needs to develop an index of the records. It is important to next identify interactive functions among the units. This is particularly significant in the registration system, but has implications for the vital statistics system as well.

130. Adoption, filiation or paternity determination may cause changes in a record. The changes will have a definite impact on the indexes for the original record, any subsequent modification of the same record and confidential storage of the original record. Hence, the legal unit must have a close working relationship with the processing unit. Changes of an individual's name or family affiliation result in modifications to the indexes and documents stored in the general work area. Therefore, those modifications must be shared with the search and copy unit. Such legal amendments can affect locating the record and issuing the proper copy.

131. Countries that store their records in books need to make legal modifications in both the original and the duplicate book since they are essential to the individual's record. The system must establish a procedure for making such modifications. Indexes should be created by type of event, name, day/month/year of occurrence, date of the event and record number. Further, vital records should be stored numerically within the record books by date of registration. The index links the record number to the individual's name, the date of the event and the date of registration, which provides an effective way to identify the book and record for retrieval and modification. Automation is the most efficient approach for these processes. In making a transition, start automation with the current year for each type of vital event and continue preparing indexes backwards in time until all the stored records are indexed.

132. It is necessary to integrate any change to a record with existing documents, indexes and storage mediums. For example, following an adoption it is common practice to remove the original record from the work area and place it in a sealed file. Access to the sealed file would be by court order only. This alternative works when records are stored in a loose-leaf format. A new record is created and it replaces the original record in the working file. The index which contained the original name and related family information is updated. The original name is removed, and the new adopted name and information are placed in the index. This allows search-and-copy activities to take place whenever a subsequent record request is made under the adoptee's new name.

133. Integration of unit activity is also important for other record modifications. Error corrections, court-ordered amendments and new records from delayed registration can all affect the activities of other registration units. For example, a delayed registration record is received at the legal unit for updating the file. This should be sent to the recording unit to have that unit place the new record on the incoming record log. The processing unit will perform its function to get the record into the system. The director's office should clearly define the degree to which each individual unit must be involved in another unit's activity. It is wise to prepare and distribute guidelines that make these areas of integration clear. The lack of such interaction among the units and the resulting loss of integration of the changes being made can seriously undermine the registration process and services to the public.

134. Such changes in the registration system can also affect the vital statistics components. A change in the date of birth, cause of death or place of residence affects the specific statistics for an event. In this instance, the coding unit makes appropriate code changes, the data-entry unit enters the new or corrected data and the processing unit updates the appropriate vital statistics file.

135. The vital statistics unit can also provide relevant information back to the appropriate registration unit. For example, a problem in the reporting of data on the vital records forms may become apparent from analysis of trends for causes of death, or geographic distribution of births or deaths. Notice of a possible problem should be directed back to the recording unit in the registration section. The local registration office or source of data reporting should follow up. The local source may be a hospital, clinic, health-care provider or other individual or organization responsible for obtaining the information.

136. The vital statistics unit can also analyse completeness of reporting, data quality, timeliness of receipt of records and location of occurrence of the events. This service is important to the registration unit, and also helps produce better vital statistics. Thus, the vital statistics programme and the registration programme benefit by receiving relevant statistical data pertaining to registration activities. In this way, an incentive is created for both systems to work together in order to ensure that each gets the optimal benefits for their respective programme functions.

3. *Intra-unit reporting*

137. Regardless of the organizational structure in place, a critical function for the units responsible for the day-to-day activities of registration or vital statistics is the interchange of information relevant to the respective programmes. A primary element is timing. Whenever a record change, correction or amendment is made, the modification should be reported to the statistical unit immediately. This avoids including inaccurate data in the statistical data set and compromising the final compilations of vital statistics.

138. There are other situations in which the registration system can impact the statistical file. The statistical staff must be made aware of changes that occur to legislation or rules and regulations that affect data items on vital events or the way that they are reported. Registration cannot operate independently of the closely related vital statistics components, such as coding, data entry, and reports and analyses. The staff must maintain active communication regardless of the organizational structure, whether in the same or different ministries, centralized or decentralized.

139. Depending on the organizational arrangement, the director's office should coordinate this interchange of information, or it could be effected through the interactive participation of the offices of the deputy registrars. Periodic reports from each programme shared with the others and meetings to discuss related issues among staff keep everyone up to date on the current system, allowing immediate reaction to any changes affecting the programme.

Though more easily achieved within the centralized structure, this type of interaction among the staff must be put in place under any type of organizational structure. A significant benefit accrues to both civil registration and vital statistics from establishing such interrelationships. Whether the programme is at the national, state or province level, the communication network must extend throughout the entire system. Any change at the administering office requires that the office notify local registration offices at the village, district or region level. For example, if an adoption case is processed at the state or national head office, the revised information must be sent to the appropriate local registration office. The local office then modifies the original information on the local register. This procedure applies to all other changes in vital records. If this is not done, the system falters in terms of quality of information and usefulness for related services. When the change is started at the local registration office, all other affected units must be notified to incorporate the changes.

4. *Resource allocation*

140. To conduct the activities identified in sections A.1-3 above and to meet the operational needs described in chapter III below require resources. The availability of staff, funds, supplies, equipment and other resources is a significant factor. It becomes the responsibility of the programme director for civil registration, with the assistance of his or her staff, to identify the most critical areas of the system and to allocate current resources to them.

141. It is also necessary to develop plans for distributing resources to other areas as resources become available. Planning, review and programme direction activities are continuing functions of the responsible agency or agencies administering the system in order to enable agencies to realize their objectives.

142. Ideally, all programme activities should be carried out; when resources are limited, however, it is necessary to select areas to be given first priority. Completeness, timeliness and accuracy of the records is a primary area for resource allocation. Local registration offices should be allocated the resources necessary for conducting activities that assure complete reporting. Resources must be in place to support procedures that verify and validate the data collected, the timely transmittal of records through the network, and the storage and safe keeping of records.

143. As more resources become available, they should be used to upgrade daily processing routines. Steps should be taken to phase in field activities, such as system monitoring, training of local officials, planning for improvements at the local levels and technical assistance. At the national, state or province level, linkages with other

data systems should be initiated for purposes previously described. One activity that offers a significant upgrade for both the registration and the vital statistics systems is the automation of both of those components. Once the fundamental requirements of the programme are in place, the allocation of resources towards automation can result in major improvements. Record processing, timeliness, efficiency, cost containment and productivity all benefit from automation. Entering the data into a computer-based system gives the capability to prepare automated indexes for searching and retrieval of records in very short periods of time. This service can also be extended to the network of local registration offices.

144. Automation can yield many benefits. For example, there is an advantage in the investment of resources to have the computer record contain the full name, date of event, gender, date of birth, location of the event and the registration area. It then becomes possible to issue short-form certification documents by computer. This improves the issuance of copies to the public, and saves time in preparation of such copies. In addition to automated indexes and electronic copies of records, automation can effectively integrate data modifications into existing files. Automation also makes possible the matching of records to other computerized databases. Computerization offers an efficient method for the production of vital statistics measures and indicators. Emphasis on the area of automation, when resources permit, is highly recommended.

145. However, movement to automation without the fundamental components of registration activities being performed does not produce good results. Automation of an incomplete or non-functioning programme only increases the non-utility of the programme and wastes resources. The time to invest resources into automation must be considered carefully. It can be considered once evaluation of the system demonstrates that it is achieving the basic requirements for civil registration. Readers may wish to refer to the *Handbook on Computerization of Civil Registration and Vital Statistics Systems* (see preface).

5. *Standards and policies for systems administration*

146. Administration of civil registration and vital statistics systems requires the adoption of a number of standards to assure that the programme functions are met in a satisfactory manner. Whether a centralized or decentralized system, it is necessary to establish certain standards and policies. In a centralized structure, supervisory responsibilities follow a direct line from national to local. Intermediate-level agencies may participate in the transmission of records from local registration offices to the central office.

147. In this structure, the central office requires a single set of rules for all the units in the system. Procedures for conducting registration services and eventually for the production of vital statistics have uniform content since each sub-unit receives them from the central office. Chapter III below describes procedures for conducting operational activities. It is essential, however, that the procedures for each registration function are clearly stated in a manual or other written guidelines. Printed guidelines should be distributed throughout the system. Since the chain of responsibility is linear, the approach for registration must be consistent at the local, regional, state and national levels.

148. Standards and policies must address all components of the system. Supervision of the overall system is initiated at the central office. Specific policies that address programme needs must be organized at the national level, with responsibilities for conducting each programme component assigned to the respective units at each level of the system. The central office identifies the legal requirements for reporting vital events, and specifies the role of the local registration offices in achieving those requirements. The standards should cover such areas as validating reported events through the use of other administrative documents, for example, applications for health services through vaccination programmes, clinics and family planning services. The number of events actually registered in an area may be assessed by matching with other records, such as hospital nursery logs, funeral or crematory records, or school entry forms. The central office should establish protocols for follow-up by the local unit when discrepancies occur.

149. Standards for data quality of the reported events must also be set. Procedures for verifying information collected from individuals or families, sub-registrars and other facilities are essential to the system. The standard record review protocol should include internal office edits of data abstracted from forms or worksheets for consistency of items within the vital record form, such as age and date of birth or name and gender. It is necessary to set specific dates for the transfer of records acceptable for submission, and to maintain record transfer logs and record receipt logs. These are fundamental administrative activities that are essential for assuring proper functioning of the system.

150. Other administrative standards and policies that can further enhance programme operations include periodic reports from both ends of the system, local to national and the reverse, which can serve to keep each programme level aware of system changes, problems and ways to resolve them. A routine newsletter might contain questions submitted by local registration officials and answers provided by the appropriate registration unit at the central office. The newsletter could include

information about legal requirements for release or access of records. It could address the documentation required for making changes or amendments to records. Information about fees for extended services, processing activities or technical support would assist all units in the system.

151. Activities described above are the primary responsibility of the national office within a centralized system. They can be achieved whether there is a single agency or separate agencies responsible for civil registration and vital statistics. When separate agencies exist, each would have to address the items relevant to their respective programmes, and could even prepare and issue independent newsletters. An inter-agency committee would be very important for ensuring the presentation of common and consistent activities to develop a coherent system and avoid wastage of resources.

152. A decentralized system requires a similar set of procedures and administrative rules. A major difference, however, is the need for cooperation and interaction among the multiple agencies that make up the decentralized process. When states or provinces have primary responsibility for civil registration and vital statistics, the policies and standards set by each governmental unit must be consistent. This consistency will offer the capability to aggregate national data for vital and health statistics purposes and meet certain national legal requirements for civil registration. Consistency of standards and policies are essential in the decentralized environment, whether single or multiple agencies play administrative roles. Since the independence of each state or province is fixed, programmes to meet national needs will require both national and state participation. Joint government committees, professional associations or both can aid in developing consistent policies and regulations.

6. *Inter-agency liaison and communication*

153. The elements required for achieving the various functions associated with civil registration and vital statistics must be consistent, even though some differences may exist between centralized and decentralized systems for setting standards and policies that integrate the essential elements across the systems to accomplish those functions. To effectively implement communication among all the reporting sources for vital events, it is essential to develop a programme that promotes active participation with local registration units, and to promote this programme through public relations. The *Handbook on Civil Registration and Vital Statistics Systems: Developing Information, Education and Communication* (see preface) provides a detailed array of methods and techniques for addressing this necessary component of the

sound operation of civil registration and vital statistics systems.

154. The capability to maintain communications with each of the reporting sources for vital events lies primarily with the local offices, regardless of the type of system. The local registration offices must have a firm relationship with hospitals, clinics, courthouses, private physicians, midwives, funeral directors and crematory operators. The local registrar needs communication to assure a sound basis for evaluating and monitoring the completeness and reliability of the registration process. Inspection of reports kept at these sources, periodic site visits to review records, participation at local meetings and liaison with key individuals can contribute significantly to improved communication.

155. In addition to those who report the data, the local registrar should maintain close relationships with users and potential users of vital statistics and civil registration records, such as local health services agencies, family planning programmes, immunization campaigns, electoral rolls and personal identification programmes. The local registrar may also want to provide some type of correspondence, such as a congratulatory note for a birth or marriage and a sympathy note in the case of a death. In this way, a relationship is established that involves the local registration official in community events and assists in obtaining complete and accurate reporting of vital events. By doing so, the official strengthens the demand for, and the attention to these very important sources of current population information and data.

156. The above activities establish effective communication between the local registration office and the registration area community. A second level of communication is between the local registration office and the next higher level of system administration. Depending on the infrastructure in place, this will be a district, region, state or province. In any case, it is necessary that there is a mechanism to communicate with the next level in the system. For example, local offices may meet routinely with the district or regional office to discuss activities or problems affecting the registration process. Such meetings place emphasis on running an active and effective programme. This interaction with other government agencies in the system enhances interest in the programme and promotes its efficient functioning.

157. Periodic meetings and site visits among the programme administrators at each level can focus attention on delivering an effective programme. The purpose is to provide motivation, establish appropriate protocols and integrate local operations in the total programme. These activities emphasize that the smallest areas are essential to the civil registration programme. They emphasize that all contributions are necessary to meet goals and objectives.

158. Good communication with the vital event reporting sources and among the official registration agencies is a significant component to achieving a successful programme. Bringing the programme to the public's attention is also important. Clearly stating the benefits of timely registration of vital events provides a strong motivation for the public. Use of such media as pamphlets, radio and television commercials, where feasible, community seminars and health-care provider orientation can promote the importance of registration of events. These activities can significantly improve the registration process.

159. When literacy is minimal or commercial media are not accessible or health-care providers are not informed about the system benefits, it will be necessary to adopt promotional techniques. Providing adequate levels of information to the public about the value of registering events from a legal, social and personal perspective is essential to establishing an effective system.

160. The methods used to improve registration must consider the particular needs of the population. Different areas have different cultural, social, religious and economic conditions that may affect the way the civil registration programme can operate. These conditions should be assessed when selecting communication techniques. The programme can thereby accommodate both the needs of the population and the needs of the registration system. In this way, the system can effectively serve both individuals and government.

B. MANAGEMENT ROLE AND RESPONSIBILITY

161. The present section examines the role that management must play in both intra-agency and inter-agency coordination. It also addresses the planning, policy and development responsibilities of management. It will look at management's control functions in operations, legal structure and system evaluation. Finally, it describes management's key role in public relations.

1. Intra-agency coordination

162. The civil registration and vital statistics systems require continuing and consistent management to ensure that the programme provides both registration services and vital statistics development. These activities may be initiated at the central office in a centralized system, or at the state or province level in a decentralized or locally operated system. In any case, they will determine the effectiveness of the system. At the highest level, management must establish standards for system components, guidelines for operations and protocols to address issues not otherwise identified. Management must also ensure that those norms, directives and procedures are passed on

to all administrative levels and made known to the local registrars and sub-registrars.

163. There is a need to identify national, state and local responsibilities for the legal requirements of the system. Management should conduct seminars and training sessions as a first step in meeting those needs. Staff at the central office are a primary focus for such training. They will be the contacts for answering questions and providing legal assistance on registration activities to the local office staff. Responses must be consistent with the laws, rules and regulations that the central office issues. It is management's responsibility to prepare interpretations of specific legal elements. Management must also supply definitions for data items, specify documentation for certificate amendments or modifications, and outline procedures for information-sharing among the units. Local offices should in turn supply management with feedback about problems and issues that cannot be handled at the local level. In this way, adjustments to improve the system can be incorporated into management's planning and policy development activities. Issues resolved at the local level can also be shared. Other sites can benefit from the solutions, and changes in the overall programme may be appropriate.

164. Security and confidentiality of individual information on the records and documents preserved and maintained at each level within the system is a second area requiring management decisions. It is management's responsibility to issue guidelines about storage requirements, provide rooms and cabinets that may be locked, authorize access to certain records, and release records to the public, government agencies, research institutions and private institutions. Storage of records is a critical factor to sustain quality and usefulness. Record deterioration adversely affects ability to read the record. When records are in poor condition, it is difficult to use automated equipment, such as automatic feeding mechanisms, to microfilm the records or store them on optical disk. Storage involves security issues. The storage location must be secured with locked doors or storage cabinets. For further details, readers should consult the *Handbook on Civil Registration and Vital Statistics Systems: Policies and Protocols for the Release and Archiving of Individual Records* (see preface).

165. In some areas, the local registrar has the responsibility for handling vital statistics forms as well as civil registration forms. A primary focus should be to ensure that accurate log books are maintained that show the types of forms received and transmitted, including the dates of transmittal to the central statistical office, and conform to established time-frames. If civil registration data are collected on different forms than vital statistics data, verification should be made by matching vital statistics forms with registration forms.

166. Many of the legal components of registration require undertaking careful processing and changes to the records. Modifications resulting from court actions, such as adoptions, name changes, divorce decrees and paternity recognitions, are usually performed by staff trained in the legal aspects of such matters. Those records are often designated as confidential, and only selected staff should have access to the records for changes, review or further legal action. Management should design a protocol that provides consistent and appropriate processes for this operation. The protocol should also cover documents submitted as proof for requested changes, court orders or other government records supporting the change, as well as statements from other involved individuals.

167. The release of records is another area that requires management oversight. Government agencies, individuals or other institutions may request personal information from vital records. They may request information from statistical forms, such as cause of death of an individual, legitimacy of a birth or other family information related to a vital event. Sometimes, this can have an impact on the individual or family involved. Restricting release can also result in difficulties. Management should address these issues directly, and should involve the legal office at the central level to assist in the actions taken.

168. Since a number of factors are addressed daily in the operation of a registration system, it is possible to specify some basic elements of the process. Hours of operation are set in order to provide appropriate services to the public. Management can standardize and issue the forms or registers for data abstraction and recording of events. Specifying the timing for the transfer of records to the next level of operation within the system is a management responsibility. It can also specify procedures for the receipt and entry of data into logs or indexes, and the reporting of events in both individual and aggregated formats. Specific criteria must be established and distributed by management to each level of the system authorized to issue copies of records. In this way, local registration officials have a defined basis for issuing certified copies. When a controversy arises about the issuance of copies, it should be referred to management at the central office. This approach sets a structure that avoids intimidation of local officials and gives management the opportunity to address the specific questions involved.

169. There are other activities which occur during the operation that can be identified in advance. Therefore, some degree of local autonomy must exist in carrying out the registration functions. Participation by management in a continuous programme of training and communication with local staff will help to reduce inappropriate local use of such autonomy.

2. *Inter-agency collaboration*

170. Civil registration and vital statistics systems have significant interactive relationships with other governmental agencies, programmes and institutions. Relationships occur in record matching, information exchange, validation of the reporting of events and checking for the accuracy of data. The management role for these activities is to establish inter-agency communication and procedures for achieving efficient interaction. Record matching and linkage to other health databases can provide additional information for both the registration system and the requesting programme. For example, mortality data can be matched with health registers, such as those on tuberculosis, cancer and acquired immunodeficiency syndrome (AIDS), to update those registers in terms of patient status. At the same time, such matching verifies the cause of death on the death record.

171. Matching can also be used for administrative purposes. Government or private agencies that provide social benefits to people can assess the status of the recipient and determine if there is misuse of funds or cases of fraud. Matching may determine that a benefit based on family size is being inappropriately paid. Fraud may be detected when the match shows a benefit being paid to a deceased person. The matching of birth and death files with relevant social service files can provide data to assess those events. Management plays an important role in the design of the agreements and control of use of the files in such matching projects between agencies.

172. Information exchange with other programmes and agencies can also be important in the management of the system. Establishing committees to work with appropriate programmes, such as family planning, immunization for children, hospitals and clinics, can provide valuable information to assess the completeness of the reporting of vital events. Identification of sources of independent information for monitoring and evaluation of the registration system helps to maintain an effective system. The nursery logs in a hospital or clinic, for example, can provide information to assess the quality of registration of particular data items. Through periodic meetings and communication with such extended information sources, management can incorporate a process for system integrity and oversight.

173. Such activities broaden the involvement of external agencies and programmes with the civil registration system. The potential that they provide for supporting the quality and completeness of records and data makes such involvement important. Collaboration and communication enhance the civil registration system, and sharing vital statistics data with other sources contributes to certain aspects of those programmes as well. Frequency

counts of selected vital events, trend data and population characteristics can provide significant input for other programmes and agencies. The participation of management becomes critical to effectively establishing and maintaining those relationships. Management must also create ways to share the data and information from the registration and vital statistics systems. This increased use of the records further justifies the role of the vital statistics and civil registration systems.

174. These activities are necessary for each of the organizational infrastructures that may exist. It is the responsibility of management at the national, state or province, or local level to start and maintain inter-agency collaborative arrangements. Depending on the agencies involved, there will be legal, social and economic concerns. Sharing information and conducting record matches and database linkages, data abstraction or data entry have associated costs and time constraints. Management must assess the costs relative to the benefits to be received. Management must make a major commitment to incorporating these inter-agency activities into their agenda. Such a commitment will help to achieve the full potential of the goals and objectives of the civil registration and vital statistics systems. The multiple sources of data and information that are required must become an integral part of management's concern.

3. *Planning, policy and development*

175. Management's evaluation and assessment of the registration and vital statistics systems contribute to continuing improvements to the systems. Such improvements may be in the area of staff needs, technical assistance and training, equipment for automating certain processes, legal modifications or organizational restructuring. To accomplish these ends, management must have effective procedures for programme planning and policy formulation, which may include a policy committee, working groups for planning and development purposes, or various combinations of those resources. Such groups will review and prepare the necessary background and data to address specific issues.

176. There are numerous reasons for establishing a policy committee. It can assist management in maintaining oversight of the system for needed modifications. The committee might propose the addition of new components to accomplish system changes. It can provide input from external areas that have some type of relationship to the systems. The policy committee can monitor current developments, and prepare legislation, rules and regulations for achieving designated objectives. The committee would normally have a chairperson and support staff. Staff would prepare materials for use by committee members, distribute outgoing materials and arrange for sessions and

subcommittee meetings. Support for travel, lodging and related expenses is essential for a successful group. It will be necessary to identify sources of funding for those needs.

177. Policy questions are often item-specific but may cover a broad range of issues. In civil registration, there might be questions about current procedures for the registration of events, concerns regarding the format and content of registration collection forms or a desire for legislative change to meet new needs.

178. In a centralized organizational structure, the policy committee would primarily focus on internal operations from the national level to the local offices. This is possible since control of all functions is within a single national office or shared between two separate agencies within the national structure. In a centralized structure, issues and topics for policy discussion are more internal in nature.

179. In a decentralized structure, there is a need for a broader-based committee. Issues must be addressed not only at the state or province level but also at the level of independent municipal, regional and district offices in the civil registration system. In addition, policy formulated at this level can affect other state or province registration programmes. There should be multiple state or province representation for occasions when such policy issues arise. One question that also has to be addressed is what national requirements exist. Changes that can influence registration at any level in a decentralized system have implications for the national registration information and the vital statistics system. Definitions, item content in records, coding systems used and processing are components that, if modified, can have extensive implications in a decentralized structure. The consequences of changing those aspects of registration require careful planning and evaluation prior to implementation.

180. Staffing patterns are a primary consideration in the operation of an effective system. Management has to identify and direct its human resources appropriately to meet specific objectives. A policy decision may cause new reporting requirements for civil registration that imply an increase in staff. For example, if management makes a policy decision to include marriage and foetal death reports in a system that did not previously include them, then it must provide for the necessary increase in staff. Planning should take place prior to the implementation of the new reporting requirements in order to ensure that adequate resources are available.

181. A surveillance programme of the local registration offices also requires allocation of resources by management, which is responsible for implementing the specific elements of the assessment, as determined by the policy committee. The policy committee needs to establish the appropriate allocation and distribution of resources for elements, such as anticipated record volumes,

data elements to be recorded, record content and format, coding and data processing, legal concerns with regard to the interpretation of the law, rules and regulations, accuracy of amendments and corrections of vital records, measures on privacy and the confidentiality of individual information on vital records. Other tasks of the committee are to establish policies on access to and release of vital records, means and formats for certificate issuing, and the safe keeping and the preservation of records.

182. Any new policy may require additional training, new equipment, and revised legal and organizational structure. Management should convene work groups with experience in one or more of these areas and assign them specific tasks for resolution. Planning should be related to the requirements of new operations; management then develops plans to meet those needs.

183. Plans for training, for example, should identify the components to be included. Training may be needed for the legal, administrative or operational parts of the system. There may be a need for training personnel to record and report vital events, and to monitor and evaluate systems. Plans must also include appropriate staff to provide the training. Each level of the system would have to train trainers, who would then inform staff about required activities. Training plans, including timing, resources, locations and participants, must all be in place prior to the implementation of any new policy.

184. Planning for such activities needs to involve all of the operations staff to assist in the process. Once management identifies the individual components of a new system or modification to an existing system and determines the necessary resources, the development of the implementation strategy occurs. Record-processing techniques should be developed based on the equipment and staff available. Programmes that use computers must assess the appropriate equipment, which must be compatible with existing operations. Such planning will avoid a loss of use of system hardware and software. Should microfilming be selected as the storage medium for the new records, then the plans must include specifications about the type and quality of paper to be used for the collection process.

185. As the new or modified system moves forward, attention must be given to a series of operational items. It will be necessary to develop procedures and guidelines to set the timing for the reporting and recording of events. The programme needs to identify storage sites that provide for the maintenance, security and access of records. Depending on the structure of the system, techniques must be put in place for the transmittal of records to the national, state or province, district or regional level.

186. Record-processing procedures are developed at the initial stages or when new or modified components

become part of the system. The procedures for new or modified components must guarantee consistency, utility, compliance and timeliness for the total system. New or modified management plans that result in new or modified operational strategies should address the effects on several areas of operations. They should address effects on the timeliness of registration services to the public. The plans should consider how the data items can be used for the preparation of vital statistics at state/provincial and national levels. Operational strategies should include any changes to information-sharing among programmes and agencies or to communication at all levels.

187. Each of the processes described above requires management to hold discussions and meetings and to conduct reviews and evaluations of its recommendations. Management should establish relations early with the vital statistics system and other agencies, with internal units, and with legal and administrative staff that the modified procedures will affect. It is easier to arrange such contacts within a centralized system. Within a decentralized structure, there are a much broader range and a greater number involved in the overall process of the registration system and in the development of the vital statistics system. Thus, it will require more effort to establish such relations in a decentralized structure.

4. *Management control functions*

188. In addition to the general requirements for management to maintain the overall registration system, there are a number of specific areas that require direct control. These areas are related to the legal components of the civil registration system. If not handled in a positive and consistent manner, they can have a very negative impact on the system. Maintaining confidentiality of the data and security of the records is one area of importance. Some of the data collected through the civil registration system are sensitive. Death records contain cause of death and other social and economic data that could be sensitive. Some systems use the same form to collect civil registration and health statistics data. In such cases, the birth record will contain sensitive data about marital status, pregnancy history and complications of pregnancy. When such data are on the civil registration forms, management must restrict the access and release of the information.

189. Collecting statistical data on forms separate from the registration forms reduces confidentiality concerns. However, management must still address access and privacy issues. Management will also need to expand control functions to assure adherence to timeliness, completeness and quality of data. It will need to make independent assessments of statistical data. This can be done by conducting sample surveys or integrating the data from other sources with data from the registration system. Such

assessment is necessary to maintain a quality statistical system, particularly when separate forms are used for registration and statistical data. The role of management is to implement, monitor and evaluate the results of the different processes involved. Following the assessment, it must adjust or modify processes to maintain data quality.

190. Access may be related to internal operational procedures, such as amending an original birth record following a legal adoption order. Here, management can limit the making of such changes to a legal or adoption unit. Should misconduct occur, management is then more able to readily identify the source. Care must be taken when records are sent to other units or agencies for use in the conduct of their statutorily defined activities. Examples of this would be use of the records by a social service agency to establish benefit eligibility, or by a pension agency to establish the fact of death. It is wise to develop a written statement concerning the maintenance of confidentiality and security of the records in such instances.

191. The security of the records that each level of the system maintains is also important. Storage of documents should be in areas with restricted access in cabinets with locked and secure doors. Security must be maintained both during daily operations and when the office is closed. When the office is open, records with confidential status should not be left unattended on tables or desks. When not in use, records should be stored in a locked cabinet. Some type of monitoring system is needed to verify that only authorized staff are accessing the records. This is a particular concern when transmitting records from local sites to the state or national office. In this case, it is management's responsibility to establish specific protocols. Management should monitor and enforce those protocols throughout the system.

192. Another area of concern with respect to the confidentiality and security of individual information on vital records concerns the fraudulent use of records. The potential for fraudulent use of the information contained on birth and death records covers a wide range. The identity of an individual can be changed through access to another person's birth documents. The access to resources and services can be misused by falsifying the number of children that a particular family may claim. Insurance or inheritance claims can involve the use of fraudulent death or birth records.

193. A second area for management control is the monitoring of events. Monitoring the reports from various geographic areas gives management the ability to assess the reliability and validity of reporting of events. The numbers of previously reported vital events are used to project future numbers of events. If the monitoring system shows significant differences, then management can take specific actions to determine what is causing the changes.

194. Management can use both health and demographic information from events to monitor changes. Previous reports should be used to establish a baseline. Comparisons can then be made to see if significant deviations from expected characteristics occur. Changes lead management to conducting on-site reviews to evaluate the local operations and, when necessary, to taking action to correct deficiencies. If changes are due to economic or other factors, the baseline used in that area is adjusted accordingly.

195. These control strategies form the basis for management to establish procedures for correcting the items that represent the highest levels of failure. Procedures may include the assessment of fines, the reassignment of a registration site to a more effective registration area or the requirement of additional training. Training is preferable to reassignment since the local office has the knowledge of the area covered, which contributes greatly to an effective registration system; it should be retained whenever possible. In exercising these control activities, management is closely involved with the various components of the registration system. This will lead to mutual understanding of the problems and concerns that occur in local areas, which in turn will provide management with background and insight to repair and adjust the system when and as needed.

5. Protocols for the system's legal structure

196. Within the type of infrastructure in place, it is critical to establish the legal basis for civil registration and vital statistics. The role of management is to meet the legal requirements from the national, state and local levels. Management must provide appropriate services to the population, agencies and programmes through an effective operation. It must continuously review and evaluate programme functions and redirect the course of the programme when necessary. Whether it is a centralized or decentralized system for registration and vital statistics, the statutes for civil registration must include mandates for reporting, filing and completing all the data elements on the forms. The responsible agency should be authorized to set the content of the forms. Requiring legislation for periodic adjustment to data items would delay the process.

197. Legal areas that should be covered by legislation include enforcement procedures, issues protecting confidentiality, and how to establish fees, if appropriate. Legislation should also give definitions of events to be reported, methods for making record changes, and authority for access and release of information. It should also list the requirements for all local registration offices, and should specify their geographic area of coverage. It is advisable that legislation give authority for making modi-

fications to operational aspects, which allows for flexibility in operations without the need to propose changes to existing laws.

198. A decentralized system must incorporate certain national standards into its system. Definitions cannot vary from those used by the national vital statistics system for the preparation of vital statistics. The item content of the forms used for the collection of vital events must have as a minimum the items required for national reporting. Beyond this, the state or province must establish a legal framework to obtain consistent and valid information on the reporting of vital events.

199. A common goal within the registration system—centralized or decentralized—is to have complete reporting of vital events. Complete reporting means that 100 per cent of vital events that occurred within a calendar year have been registered. In addition, the quality of the data collected is essential for vital statistics. Therefore, when the two programmes are managed by different agencies a communications link is essential. The management unit needs to have a close relationship with the national office and other state or province units. This close relationship ensures, for example, the sharing of reported non-resident events and the identification of sources of information for doing so. Continuing dialogue, meetings, training and conferences with the involved agencies and programmes make compliance an attainable goal.

6. Logistics for record management

200. Within a management unit, a series of functions must take place in order to accomplish stated goals and objectives. One significant role is the management of the record component of the registration system. The recording of events, logging records in and out when transmitted to other levels and the timing for these activities have been discussed above. The auditing and printing of the records is another set of functions to address. This should take place both within the registration unit and at the external sources of the records, and should include timing for preparation, collection, printing and processing.

201. The primary purpose of audits is to assure that legal requirements and key elements to the registration process are operating in a satisfactory mode. A secondary purpose is to have all participants in the system aware that audits are in place. Such awareness can have a positive impact on compliance by state/provincial registration offices reporting events and health-care providers. For the printing of forms, there should be a common central source, which provides better controls on the use and distribution of the forms and is significant in preventing fraud. Management should provide the necessary resources to accomplish this function well.

202. Internal audits are directed at activities within the record-processing units of the system, including adoption, amendment, coding and data classification, and index preparation. For adoption and amendment, audits examine the documentation that initiates the process. Those documents should undergo a periodic review. A sample of previously processed records can be chosen for this audit. The audit should check whether staff has followed the laws, regulations and rules regarding such changes. It should also check that appropriate documentation was presented to justify making the modifications to the original records. The management unit defines these activities and issues guidelines about them. Whether the registration programme is in a centralized or decentralized organization, the audit process is essential.

203. Data classification and coding systems are two other important areas that require periodic audits. Audits should look at completeness, accuracy, timeliness and consistency of the records. Often, demographic, geographic and social variables are collected either on registration forms or on separate vital statistics forms. The audit should check that classification schemes for the variables are consistent. For example, coding of the geographic location where the event took place or of the educational level of the individual must be the same on the birth record and the death record. If not, subsequent matching and linking of records using those variables would be defective. The quality of coding by the unit in charge is another component of the audit. A panel of experts can do a separate and independent coding of a sample of records. A comparison of this sample with the original coded records gives a reasonable assessment of the quality of the coding process. If discrepancies are large, it is time to require coding staff to attend a training programme.

204. Management must establish standards for the common data elements that are coded at the government office levels. Some countries limit such coding to the national office. Others—due to the large volume of records or for other efficiencies—code at the regional, state or province level. In either case, the process must be defined in a way that allows for auditing the activity.

205. The *International Classification of Diseases and Related Health Problems*¹⁰ of the World Health Organization provides a common code structure for causes of death. This coding scheme, which undergoes a change approximately every 10 years, is the basis for coding causes of death from death records. Its use allows for the comparison of cause-specific death rates among countries. To assure that the coding is done properly, selected records are coded separately. The codes on those records are made available for comparison after the unit

¹⁰Tenth revision (Geneva, World Health Organization, 1992).

coding staff has coded the same selected records. Comparisons are made and the level of accuracy determined. Discrepancies may lead to the need to train staff on using the classification.

206. Similar international coding systems provide a standard for coding occupation items that may be collected on the vital records. For the purpose of international comparisons, the International Labour Organization prepares and recommends for adoption by countries the *International Standard Classification of Occupations*.¹¹ Also, the United Nations recommends that countries compile industrial characteristics according to the most recent revision of the *International Standard Industrial Classification of All Economic Activities*.¹² If vital records contain variables on occupation and industry, the United Nations recommends the use of those coding systems.

207. Furthermore, the United Nations Educational, Scientific and Cultural Organization provides international standards for coding educational characteristics in the *International Standard Classification of Education*,¹³ used for coding the educational attainment and other educational variables. In addition, the coding system for vital records should match standards that population censuses and socio-demographic surveys use so as to ensure and facilitate comparability and record linkage. Industry and occupation coding is particularly important for association to cause of death, complications of pregnancy and birth defects. Correlations are possible to certain sectors of the economy or specific industries. The need to continually assess the quality and accuracy of such coding is critical since the implications can be significant for industries or occupations that show high rates for certain health conditions. Coding also allows monitoring employment areas where the potential for illness is high.

208. The extension of the audit process outside the central office's registration unit to the local registration offices or reporting sources is very important. In instances when health centres are part of the registration process, the transcription of data from the medical records on to the live birth, foetal death and death records must be accurate and complete to avoid errors that will otherwise affect the validity of both vital records and statistics. Where medical records are available in a central site, samples of those records can be used to assess the accuracy and completeness of registration data. If there is no central office compiling medical records, then field surveys can obtain such records from hospitals, clinics or other health providers to compare data recorded on vital

records/statistical records. Other sources that may serve to provide information for the audit function include administrative records for social service benefits, school enrolment records and census data. Management can establish close relationships with those services to assess the quality and completeness of vital records. Such audit activities are adaptable to systems that use separate forms to obtain registration and vital statistics data. Differences concern only the item contents of the forms. The process of obtaining the census records or other records can be conducted on a sample basis, as suggested for health records. Both registration records and forms for the collection of vital statistics, if separate, must undergo a constant and consistent pattern of review and monitoring to assure the completeness, timeliness, quality and validity of data.

209. Management audits of records within the civil registration system are an essential and productive activity. Results identify the next steps to be taken to continually improve and upgrade the components of the system. The entire process, from the initial recording of information on the vital record forms to the coding and data entry for use in preparing national vital statistics, requires a careful and consistent management approach. Lack of this makes the data, information and resulting statistics questionable and reduces the utility of the system. The related costs and time commitments are significant but the increase in quality sustains the value of the registration process.

7. Methods for system functions assessment and review

210. Management can implement a number of activities to improve, monitor and evaluate the functions of the civil registration and vital statistics systems. Management should initiate these, and supervisory staff of the units involved should conduct them. Each unit must maintain specific time-frames to meet the requirements of other units involved in the processing of records. For example, the processing time for receiving records at the central office prior to data entry determines when the data entry can occur. That in turn determines when the files will be available for preparing vital statistics reports and conducting analysis. The latter affects the availability and usefulness of the data. Such programmes as family planning, maternal and child health, disease registers and epidemiologic studies depend on prompt availability of the vital statistics data. These relationships require that management establish review mechanisms that detect and inform staff when delays are liable to occur.

211. One method is to have set protocols for transferring records from one unit to the next. Once time-frames are set, supervisors in the units maintain contacts with each other. They inform the units about any possible

¹¹ISCO-88 (Geneva, International Labour Office, 1990).

¹²Statistical Papers, Series M, No. 4, Rev. 3 (United Nations publication, Sales No. E.90.XVII.11).

¹³Currently under revision (United Nations publication, forthcoming).

delays or problems allowing the redirection of resources to support other areas of activities while the delay is being resolved. Such support is directed first to the unit with the problem. Units awaiting access to the records can perform other tasks, which maximizes the use of staff and reduces the overall delay that would otherwise occur.

212. A similar process can be applied to the transfer of records from district, region and state or province registration offices. Logs should be maintained of volumes of records transmitted, of dates and location of transfer and of the staff responsible for such transfers. This information is essential to track records when they are not received at the next office.

213. The preparation of indexes for use in record searching is another function that it is critical to review. Whether it is a hard-copy index, a microform index or a computer-based index, it is important to verify the information placed into the index. This may be done on a sample basis when the volume of records is large. Where feasible, it is recommended to do 100 per cent verification. When the index is automated, there should be data-entry software that compares the original entry with the verification entry. When a mismatch occurs, the entry is automatically halted and corrections made prior to re-entry of data. For selected data items, such as name, date and place of the event, and age or date of birth, verification should be 100 per cent. Remaining items can be verified on a sample basis. The level of acceptable error rates needs to be set for specific items. When the error rate is excessive, do a full re-entry of data.

214. Monitoring the allocation of staff resources is a key item. Staff assignments primarily determine the attainment of reasonable time-frames for the use of data and information, both for registration services and for preparation of vital statistics. A proper distribution of staff must be made to have an even flow of records throughout the system. Each unit needs access to the appropriate records for their process. This keeps the system staff operating in an effective and efficient mode. Overstaffed or understaffed units can affect processing as well as staff orientation. Another crucial consideration is the proper staffing and allocation of resources for the local registration units, which should be dealt with by management at the central office. Failure to provide adequate financial support to the entire network of local registration units will jeopardize the performance of the civil registration and vital statistics systems in terms of completeness, reliability and timeliness.

215. A fourth area to consider is processing methods. Chapter III below presents a detailed summary of such methods. The role of management is to assess the potential application of automated procedures to enhance and upgrade system operations. Manual recording of information into ledgers versus data entry into a computer

file can have a significant impact on processing. Computer entry allows for the automatic preparation of indexes. These can be printed and distributed to local offices that do not have the capacity or resources to use automated equipment. Automated indexes permit an automatic search for records and the production of short-form certifications, with very little manual work.

216. The inclusion of automation for registration functions significantly improves cost, timing and productivity. Management determines the equipment and maintenance costs, training and other needed resources. It then compares these to current methods. Both short-term and long-term efforts should be carefully considered when ascertaining the final methodological direction to pursue in processing records and data.

217. This requires thorough quantitative assessment to identify the current rate per staff member for specific functions. Some examples are the rate of characters entered per hour into an automated data-entry system, the number of records filed, recorded and indexed per staff per day, or the time taken to manually search for a particular record. One might also look at the time required to make modifications and amendments, the number of copies prepared per staff member, the number of records coded per staff member and the number of reports generated for administrative use. Management can then assess methods to improve those activities. The final results of this management assessment are then brought to the administrative unit to obtain the necessary resources.

8. *External participation in system functions*

218. Many of the functions conducted in both the civil registration and vital statistics systems involve various programmes and agencies, as either direct or indirect participants. Health-care providers, hospitals, clinics, courthouses and parishes are examples of direct participants. Social services, voluntary health service organizations (immunization, family planning or chronic diseases) and related programmes, such as school enrolment, are examples of indirect participants. To effectively use those sources, management may institute a series of programmes to involve them in activities that benefit the registration and vital statistics systems.

219. For direct participants, the registration office can provide standard worksheets, which will allow for the collection of the data that the vital records or vital statistics forms require. A hospital worksheet, for example, can serve several purposes. First, it provides a standard format for abstracting related registration data from hospital medical records and other forms, which minimizes incomplete recording or inaccuracies due to staff turnover. The worksheet, with instructions attached, can be easily used. Second, the worksheet gives the hospital a good summary

of information for their files. The same type of worksheet can be given to the other direct service providers, which provides an accurate and consistent way to obtain the data.

220. Indirect participants can also contribute to the system. The data-collection processes used in those agencies may obtain complete family information, data on births and siblings, or mortality data on specific causes of death for particular disease registers. Sharing of information and matching of data files with such programmes can provide a profile of events in a particular local registration area. Linking a sample of selected records from the indirect participant can serve as a method to validate vital record data. Independent administrative sources provide valuable information for use in the registration system. The particular needs of the system will direct which sources to use.

221. Examples would include asking for the number of children in a family at the time of school enrolment. Immunization services can also ask this question about infants. They can then provide local registrars with some indication of the number of births that should have been registered in a particular time period. The central office would make agreements to establish the data-collection forms and questions. It would also conduct periodic orientation sessions to effectively implement these activities. The central office should hold regional conferences for those directly related to the system. Representatives from the facilities and clinics should be in attendance to learn of the process and discuss issues and problems that occur. Other activities would include local and central committees working together. Support for these activities would come from the central office.

222. Often the above-mentioned activities are performed on a voluntary basis, which may reduce productivity. Greater efficiency can be attained if management of registration establishes the authority in the national, state or provincial statutes to set out rules and regulations for the review and assessment of the system functions by means of other sources of data. Management then can implement them. Validation of the data is a very important component of the system, and should not be overlooked. Established procedures are necessary to assure that assessment activities can be carried out smoothly. The sharing of data would be limited to auditing functions only; non-participants would not access them. The issue of confidentiality can have a negative impact on these operations should the data go beyond validation purposes.

223. Getting outside information sources involved in the registration system has a positive impact on the vital statistics system as well. The involvement of outside sources will make vital statistics reports more reflective of the health issues in specific areas. Vital statistics data can validate health trends, epidemiologic studies, medical

research and demographics. Maintaining close coordination and interaction with other sources of common data keeps both the registration and vital statistics functions at the best level of operation to adequately serve local, regional and state or province needs.

9. *Public relations*

224. In all of the topics considered and items described thus far, a fundamental principle for successful civil registration is the participation of the population in reporting vital events. No matter what type of system is in operation, the population must be oriented to the need, value and purpose of civil registration. Without this understanding and continuous support for reporting vital events, any system is likely to experience serious under-reporting. In most countries, reporting of vital events by the members of the family is mandatory. Often, though, the public lacks information regarding the registration process. They may not know the time period for registering events or where registration must occur. Lack of communication with the public about the value and importance of registration will result in under-registration. Clearly, if the public cannot see any value to themselves for registering an event, the likelihood is that registration will not occur.

225. A number of approaches can be taken to informing the public about the requirements and importance of registration. Dissemination of information through pamphlets at hospitals, clinics and local health service agencies and providers is an initial step towards informing the public. In urban areas, news media, television and radio can be effective for one segment of the population. Where such resources are not accessible by all the public, other means need to be used. Recruitment of local officials or service providers, such as midwives, can be effective in disseminating and explaining the information and benefits of the registration system. In many areas, literacy is nominal. It is then necessary to use means other than written materials to inform the public. Local community or village meetings are an effective source for informing people about the registration process. If community or village meetings do not occur on a periodic basis, registration programme officials should initiate them. Often, local police units are able to provide information to the population regarding registration in their area. However, this has resulted in difficulties in some political situations. It must be assessed in terms of the potential for success or failure in particular areas.

226. In rural areas, illiteracy may remain prevalent. Here, it is useful to conduct local meetings and orientation sessions. The local registration official should take the lead in accomplishing these types of activities in the registration area. Village, district or regional festivals or holi-

days provide opportunities for disseminating information. Staff from the registration office should be there both to provide written materials and to hold briefing sessions for the population. An essential component of the written or oral presentations is the importance to the individual and the family of registering their events. The presentations should cover such topics as personal identity, inheritance, family ties, legal benefits, citizenship, school enrolment, driver's licences, employment, and social and health service benefits. This then becomes a major incentive for individuals to register vital events occurring in their families. They should be asked to share this information with others in their household, village and community so that all will be informed about the system.

227. The local registration office is the key site for registering vital events in the local area. In addition to distributing materials and holding discussion sessions, the office needs to establish a protocol to contact a family when a vital event occurs. This could include a congratulatory letter for the occurrence of a birth or marriage, or a letter of condolence when a death occurs. This recognition that the family has followed proper registration procedures may be a significant incentive to improve the registration of other events. A more dynamic role of local registrars is recommended to raise population awareness of the importance of timely registration.

228. Other activities include providing information to the mother or family member at the time a child is brought in for some type of health or social services. Use of schoolchildren to take information home to their families to let families know about the need to continue with the registration of vital events may be an effective method. For newborns, the physician or midwife should know where to direct the family to register the birth. It is a good practice to hold sessions at hospitals or clinics regarding the value and benefits of registration. Holding such sessions for women in prenatal care will make it more likely that registration will occur. Similarly, when a death occurs and the deceased is brought to the crematory or mortuary, the person responsible for the services should provide information and emphasize the need to register the event. Churches, parishes and court clerks should increase the awareness of their clients about the registration of marriages and divorces.

229. In these instances, emphasize the benefits to the individual and family. Do not restrict discussion to the legal mandate or requirements. Without an understanding of what the personal benefit is, the population does not want to travel extra distances or become involved in a governmental function or report personal events. Incentives can be effective. The incentives can also be offered to the local registrar. In many cases, the local office responsible for registration is also responsible for a number of other activities. Often, the registration function is not

a part of the registrar's paid position but is added workload. Under these circumstances, the central office for registration may provide some kind of additional support, such as a modest fee per event registered or notification or an award for service etc. Such incentives can move the local registrar to make efforts to improve registration coverage, quality and timeliness.

230. There are costs associated with preparing and distributing materials, holding orientation sessions and providing incentives where feasible. It is necessary to evaluate the actions taken against the benefit to the registration system. The central office is primarily responsible for obtaining resources and selecting what approaches to use. There is little doubt that the need to entice, inform and orient the population on the need for registration will produce positive results. The direction is clear and the potential benefits to the system are essential. The resources for an effective public relations programme include staff time and costs for materials and media presentations. The value of improved registration weighed against the costs to carry out those activities is a consideration for management.

231. Countries ready to pursue public relations activities should take advantage of other programmes that are already in operation. There are a number of sources for public relations information, from both the civil registration and vital statistics systems of different countries. The results may differ according to the different populations within countries. Thus, a complete review of the proper tactics to use to start a programme of this type requires careful assessment. Approaches to conduct public relations are covered in detail in the *Handbook on Developing Information, Education and Communication for Effective Civil Registration and Vital Statistics Systems* (see preface). The list of references at the end of the present *Handbook* also identifies a number of other United Nations sources.

232. Implementation of any type of information dissemination programme to inform and motivate the population to register vital events must include a continuous monitoring and evaluation component. This component offers a mechanism for obtaining cost-benefit ratios to support the programme. A monitoring programme can provide data to assess changes in local registration districts where different strategies are used to motivate the public. Monitoring also allows the development of models for use in areas where success is small or does not occur.

233. The effectiveness of the public relations programme depends on how well the programme carries out the elements described. Promotional activities to improve the registration of vital events can provide benefits to the system in terms of completeness and timeliness of reporting, more accurate data and improved capabilities for

providing services to the population in responding to requests. Such a programme should be an integral part of the registration system. There should be trained staff to develop, implement and maintain the programme. It must be recognized that mandatory reporting specified in the laws, rules and regulations of registration cannot be considered the sole factor in getting the population to participate. The registration office may be some distance away from where the vital event occurs. The time, costs and travel conditions may be such that individuals may have no interest in pursuing the registration of the event. Only by presenting the benefits of registration, offering incentives or establishing procedures to accommodate individuals in these situations can an effective programme be developed and maintained.

234. Some or all of the above activities need to be carried out. Efforts in this direction are essential to assure the complete and timely registration of vital events. Involving the population early on can have a significant positive impact on the completeness of registration, as well as a positive impact on the population.

C. TECHNICAL SYSTEM COMPONENTS

235. A number of systems components can extend the surveillance and monitoring aspects to serve other agencies related to civil registration and vital statistics systems. These components may include the data collected on the vital records forms/statistical forms, access to the data from administrative records as supplements to the system, and the linking of the vital records files to other databases. The protocol in establishing these data for use in epidemiologic studies, the preparation of population profiles, updating population registers/electoral rolls, health and social programmes, health-care delivery systems and research etc. must include clauses on confidentiality and security restrictions associated with the data as stated for registration, which the recipient must adhere to. In addition, the agreement should state what to do with copies of vital records and/or statistical reports once the end purpose has been attained.

236. Within a centralized organizational structure, management directly controls the above data uses since all the interactive functions and services are part of the central office responsibility. The capacity and means to undertake and provide oversight for these extended activities are readily available.

237. The same restrictions and controls must be set within a decentralized structure for civil registration. It is necessary to establish guidelines, monitoring techniques, and an integrated supervisory role at each state or provincial registration system to maintain oversight. In many instances, the local offices may be independent in terms

of the administrative process. That is, the state or province, municipalities or districts, and local villages may have their own governmental structure. This independence makes the process somewhat more complicated, but with the process outlined above, they can be managed and effectively controlled at each level.

1. *Comparative analysis for selected data elements*

238. It is important to identify areas of success or failure in managing the registration and vital statistics systems. Geographic location of the event related to the registration area, changes in the reporting of events by type of event, and demographic characteristics of the registration area are all elements that are useful for monitoring the success or failure of registration. The reporting of specific disease categories through the registration system also allows for the identification and monitoring of epidemics or trends. Use of the International Classification of Diseases (see para. 205 above) provides a standard coding system for the occurrences at any time in the system. It establishes the disease status of the population in selected areas.

239. Vital statistics derived from the registration records or the adjunct statistical forms can be presented in two ways: (a) by the place where the event occurred (the place where the event is recorded); and (b) by the place of residence of the individual concerned. These sites may coincide in many instances. By identifying both sites in the tabulation plan, management can make several assessments.

240. First, the place of residence tentatively identifies the location where the disease may be prevalent. Based on this information from the vital statistics system, health or medical services can be provided to an area. The seriousness of the event, based on the volume of reporting through the registration system, may start an epidemiologic investigation for further follow-up.

241. The place where the event occurred may indicate the resources being used to treat a disease. The severity of the illness may require the person to be brought to a hospital or clinic in another location. Therefore, an event may not be registered in an individual's area of residence. This information is useful for identifying the catchment area of a hospital, clinic, physician or other health agency for assessing the impact on health and medical resources for a particular site. The analysis of the data, based on both place of occurrence and place of residence classifications, is an effective approach that helps important planning and decision-making processes to direct health and medical resources appropriately. Data use is an important part of the registration system and the management function. It must be integrated into the infrastructure of each.

242. Second, changes in natality area can be monitored from the birth record or the statistical record in a variety of ways. Age-specific fertility rates, parity, prenatal care services, place of delivery and the type of care provider indicate general patterns at all geographic levels. Programmes by other governmental agencies or organizations to change levels and trends in fertility, such as family planning programmes, can be assessed through the analysis of birth statistics in areas where such programmes are operating. If prenatal service is an item on the birth record or statistical record, it provides an indication of the availability of the service in specific areas. It can also indicate what use is being made of the service by selected segments of the population. Where the services are available but not used, agencies can take remedial action.

243. Management can assess the registration completeness (number of births registered) by comparison of fertility patterns over time. Such assessment may be used to direct improved public relations programmes to the faulty areas, plan for an increase or redirection of resources to improve civil registration, and provide information on the types of changes that are occurring (for example, if the age distribution for women differs from earlier times or from other areas). Reasons for the changes can then be determined by means of surveys of individuals, care providers or facilities. Sharing of such data and information can motivate actions in conjunction with other appropriate agencies or programmes outside the registration and vital statistics systems. The role of the systems in this regard is an area where management must exercise a high degree of inter-agency communication.

244. Combining census data with vital statistics is another source of information, including the measurement of registration completeness. The analysis is useful to calculate and assess a number of demographic parameters, migration patterns and health characteristics. Natality and mortality analyses with census data as the denominators detail the health status of the population by geographic areas. In turn, vital statistics data are used to update population estimates, natural population growth and other demographic characteristics by area. The age and sex distribution of the population, in combination with natality and mortality statistics, is used to analyse mortality and natality patterns by geographic area. The derived indicators can prompt the next steps to be taken to resolve any suspected problems in either the registration of vital events or the conduct of the population census.

245. Comparison of similar locations gives a perspective of the health situation and status of the current population in those areas. Variables that appear out of range in comparison to state or national standards or with

regard to similar areas can identify health problems. Such assessment can assist in the allocation of resources. Addressing these types of issues requires that management be aware of the value of registering events, producing quality vital statistics, and providing resources to support and maintain civil registration and vital statistics systems at an optimal level.

2. Indicators for assessing system functions

246. The above measures also help to establish a firm base for comparing the volume of records being reported in the system, the type of events (birth, death, foetal death, marriage and divorce), the site where registration is occurring and the source of reporting of events. Knowing the population and related rates of fertility and mortality allows the estimation of the expected number of births and deaths. Marriage and divorce rates can be computed from the recording of those events in areas of good reporting or from sample survey methods. Those rates can then be applied to selected population groups to obtain estimates for areas where the reporting is not effective. It is then possible to assess the completeness of the registration of events. When there are significant differences, follow-up through the use of on-site surveys can result in a determination of the problem and approaches for resolution. Such surveys may be sample retrospective surveys, follow-up or multi-round surveys that cover a series of villages or communities within a specified area or the whole country if need be. Also, a dual reporting system offers a unique design that separates the registration and survey functions and then matches registered events to survey counts.¹⁴

247. The population characteristics derived from the census can also provide baseline data for determining the expected number of birth and death events. Using the age and sex distribution of the population along with local, state or national fertility and mortality rates, it is possible to predict the number of births and deaths that should occur in the registration system. Some estimation error will occur, but where significant differences appear, follow-up should be undertaken. This procedure can also draw on such options as the dual reporting system if the completeness of registration in the country would not provide reasonable estimates.

248. The dual reporting system uses two independent methods to assess reporting completeness: (a) the civil registration reporting system; and (b) a periodic sample survey (e.g., half-yearly). Data derived from the two methods are matched, resulting in three different categories.

¹⁴See, for example, *Systems of Demographic Measurement: The Dual Record System, An Overview of Experience in Five Countries* (University of North Carolina, 1976).

ries: (a) records matched in both methods; (b) records recorded in the civil registration system but not found in the survey; and (c) records found in the survey but not recorded in the registration system. Using these data and applying the Chandrasekaran-Deming formula, a fourth category of events is determined: events not identified by either method. Combining these four sets of data, an estimate of the total number of events is produced. In either case, the potential for improving the registration system is enhanced and can be expected to result in significant improvements in the long term.¹⁵

249. A final product of this comparative analysis is the assessment of the registration of events and the sources reporting them. The expected volume of events is used as a measure of the completeness of the registration system in specific localities. The central office should prepare and distribute estimates to all local offices. The local registrar can prepare an estimate of the level of completeness for registration, particularly for live births and deaths. If the numbers of registered births, deaths, foetal deaths, marriages and divorces in a specific year are significantly different from the estimates, a local review and assessment should be done. This may require contacts by the local registrar with midwives, crematory or funeral establishments, local police units, court clerks, churches or parishes, or health-care providers. Such contacts will help to assess the situation and determine the reasons for discrepancies in the area for the particular events being examined.

250. A one-time retrospective sample survey of selected households may also produce some indication about the discrepancy in reporting. Reporting sources, such as clinics, hospitals, midwives and other health-care providers, can indicate any changes that have occurred. If the volume from a particular hospital or clinic has declined, a review of the records or logs of events for births and deaths at these facilities may give some answers. Such a review of the highest-volume sources for events can provide insight about non-compliance with registration requirements.

251. Each of the elements in section C.1 above has specific measures that may serve as an indicator on registration completeness. The general fertility rate and age-specific fertility rates can be used to estimate expected frequencies of births from a geographic location. Mortality rates can predict expected numbers of deaths. Before using those rates for estimates within specific population groups, however, it is necessary to determine their reli-

ability and validity. It is recommended that indicators to assess the reliability and validity of vital statistics be prepared at a higher level of the registration hierarchy, for example by the office in charge of analysis. This approach will ensure a high degree of confidence and consistency in the methodology of estimation.

252. Vital statistics data can be effectively used to prepare demographic indicators for the country and its subdivisions, provided that the registration of vital events is at least 90 per cent complete at the national, state or province level. If registration is less than 90 per cent complete, independent sample surveys or indirect methods for demographic estimation may be used to assess the level of fertility and/or mortality.

253. Where the vital statistics system is under a separate agency from that for civil registration, the comparison of the two data sets can determine if discrepancies exist and why. First, examine the approach taken to collect the respective data sets (e.g., a vital record is separate from its statistical record and transmittal follows independent paths, which may lead to problems; or errors can occur if transcription of data from health records is made on to vital records and statistical records etc.). The processes for both registration and vital statistics have been described above. The system maintaining the highest quality of audits and review should serve as the standard for comparison with the other systems. The most effective method should prove of value to the others in determining the completeness, accuracy and validity of the collection system.

254. One can measure the completeness of reporting from comparison to expected values. To assess the accuracy of data, conduct an independent record review of a sample from a representative set of reporting sources. Access to hospital and clinic medical records can provide a very effective means of assessing accuracy of data on vital record forms. To determine the accuracy of the demographic elements reported, a sample of vital records can be selected and traced back with families. Other independent sources of demographic information are school enrolment records or forms completed for social or health benefits, which may be useful to assess the completeness and accuracy of registration data.

255. Previously registered events may also serve as a source for checking the reliability and consistency of current reporting. A new birth record indicates the number of previous deliveries. Access to these previous records in the registration files can indicate whether the current demographic and health information is consistent with those previously reported. Comparisons of current data with previously reported events can also be a means to determine if data are reliable. Multiple sources of the same data determine the level of reporting reliability. Should

¹⁵For a summary of the process and country applications, see *Handbook of Vital Statistics Systems and Methods*, vol. I, *Legal, Organizational and Technical Aspects*, Statistical Papers, Series F, No. 35 (United Nations publication, Sales No. E.91.XVII.5).

there be discrepancies, their causes need to be determined. There may have been errors in extracting data from one source to the vital record. The questions asked by the midwife, funeral director or physician may have been misinterpreted. The item on the forms may have been stated poorly. Or there may have been inadequate instructions on entering information.

256. Data that are unreliable or invalid cause problems for the individual, the society, the nation, the registration system and the resulting vital statistics. Unreliable, invalid or missing data can render a registration document useless for legal requirements, such as inheritance, insurance benefits, personal identification, citizenship rights etc. Thus, the impact on an individual can be significant. Unless there is access to other sources of data, the individual affected can experience serious losses. Unreliable registration documents are indeed destructive to the system and the derived statistics.

257. Inability to produce complete and reliable registration documents leads to dissatisfaction and non-participation by the public. All of the efforts put into public relations for the promotion of the registration process could be lost with this type of outcome. The concept of registration requires that the local, state or national office maintain the original legal documentation that identifies all of the required civil registration items. Should the system not conform to this and not deliver appropriate documents when requested, the public would soon lose the incentive to register events. Management must address this area of concern to assure that such conditions do not occur.

258. Sometimes, data for registration are collected on one form and data for vital statistics on a separate form. In other cases, both sets of data are collected using a single form. In either situation, the quality of reporting and recording vital events has a direct impact on vital statistics. Poor reporting and recording of vital events result in poor vital statistics, affecting many of the areas described above. Deficiencies in civil registration directly affect the reliability of vital statistics. In some instances, when the registration system is questionable in terms of completeness and reliability, a country develops options for estimating vital statistics and rates from sample surveys or census data. Such options provide only limited results, and must be undertaken regularly to maintain current and reliable data. The costs, time and resources of exercising those options can have a negative impact on the registration system. Those resources, if added to the existing civil registration system, can serve to enhance the programme and improve both registration services and vital statistics. Current, timely and accessible data through civil registration are the best approach, and are essential elements of an efficient and productive vital statistics system.

3. *Training activities associated with the system*

259. A continuous training programme for management, supervisors and staff who work with the components of the system can have a beneficial impact. Involvement, whether in the centralized or decentralized organizational structure, must occur in local, state and national offices. Training should address a number of components depending on the functions in the office. Training on legal aspects of the system, on technical processes—both manual and automated, indexing, coding, data entry and verification—and on supervisory responsibilities leads to an efficient and reliable system. Experienced staff can do direct training or train trainers, who return to their organizations to conduct staff training. Training can be done by bringing in professional consultant staff. Sometimes training will be a combination of both approaches. Professional consultants may focus on the automation of the system or its components, or may offer advice about supervision and management techniques, legal aspects etc. Highly qualified staff should be chosen for training on the operational parts of the system.

260. It is advisable to train staff at every level of the registration system to become aware of the laws, rules and regulations about the civil registration and vital statistics systems. Training should also include the handling of report forms for registration and vital statistics purposes and all other forms related to systems operation. Copies of those forms should be available at each local registration office where the actual registration activities take place. Training should be the responsibility of the legal section at the state or national office, depending on the organizational structure. Everyone involved in late registrations, adoptions, filiation, court-ordered amendments and corrections, paternity, personal identification, marriages and divorces needs training about the laws, rules and regulations. Training should include identifying the person(s) in the legal section to contact for advice when issues are not readily resolvable.

261. Other areas of training should cover appropriate legal documentation for making changes and amendments, and confidentiality and privacy issues for both the staff and requesting individuals or agencies. There should be training on how to interact with other agencies, how to avoid fraud and misuse of records or related documents, and methods for the safe keeping and the preservation of vital records.

262. A continuously expanding area is new technology. Computers, automated scanners and microforms and optical disks are used for the storage, processing and retrieval of vital records. Computers are also used for the preparation of administrative, management and statistical

reports and analyses and for monitoring activities. If the system includes automation, training in the use of upgraded software used in the activities of the programme is needed. Use of software for the preparation of reports and publications is an area growing at a significant rate. Such software is becoming not only more sophisticated but also more user-friendly. Thus, training requirements may range widely in time commitment. The same is true for statistical software packages that can be used to produce statistical tables, calculate vital rates, prepare estimates and projections, draw maps and perform high levels of statistical analyses. Training time may vary widely from country to country.

263. Computer down time can cause serious loss of productivity. Trained government staff and product representatives to maintain and repair computer hardware are needed. In addition to training in the use of software, selected civil registration and vital statistics staff should receive some training on the basic elements of the hardware used. Often, minor hardware problems can be solved by resident trained staff. An inventory of basic supplies should be kept accessible for minor problems. Error messages are displayed on most equipment in use. Training should ensure that proper action is taken in response to those messages. More complicated problems should be referred to the manufacturer or technical staff. When purchasing equipment, the availability of maintenance service should be a major factor in making the final selection.

264. A transition to automated microform or optical disk equipment requires careful consideration of the advantages and disadvantages of each method and advance training. Record storage on computer or optical disk will result in minimal demand for space or controlled environment. Use of microfiche or roll microfilm requires a more controlled physical environment to protect the film. The transition to automation must address those different factors when choosing a system. Many countries currently have manual microfilm systems, and transition to an automated film system would be advantageous. The training of staff would be a necessary component of this type of transition. The operational methods would change significantly from the manual mode.

265. Optical disk systems provide additional benefits over microfilm systems. The complete document is stored on disk in such a way that storage, access and retrieval are electronic. This type of system significantly boosts processing time, storage capacity and retrieval time. It also provides a higher degree of technical sophistication. Thus, the optical disk system requires much more technically oriented and trained staff. However, its feasibility for index preparation and vital statistics production should be weighed carefully.

266. In manually operated systems, training is equally essential to be sure that staff properly perform the

activities. Abstracting and recording of data, coding of the various demographic, medical and health items, and entering the data in registers require a consistent and organized approach. Coding cause of death using the International Classification of Diseases (see para. 205 above), and also coding occupation and industry, require specific training courses and close monitoring. This training may last one to two weeks and have learning curves stretching out for a year. Software packages are available to automate cause of death and industry and occupation coding. The amount of training and the length of the learning curve are substantially decreased if one uses these packages. Training in manual operations is more directed towards routine daily activities and the processes needed to monitor and control performance of staff, both at the office administering registration and at the local offices. Training in automated systems is concerned with the use of software and equipment (for more detail on these features, see chaps. III and IV below).

267. Training for managers and supervisors is more directed towards the coordination and oversight of the operational components of the system, including compliance with legal aspects. Supervisors are trained to provide support services to meet staff needs in performing routine operations. In an automated environment, the supervisor may be technically oriented in order to serve as the contact for resolving technical issues. The combination of these responsibilities places a larger burden on the supervisory role. Training for these key individuals must address both aspects and address each within the context of the specific operational environment of the programme. The supervisor has the option to reassign staff who appear more interested in or capable of performing certain functions. To do this without creating hostility among staff requires that the supervisor undergo training in social and behavioural relations.

268. A close working relationship and interactive communication between different levels are essential to reach expectations. Training managers in these areas at each level of the programme is an effective investment. Management training supplies the knowledge and understanding of the levels of staff and supervision. The operation of the system is dependent on the relationships among staff and on achieving performance standards. Management must direct appropriate resources and services to achieve these goals. Management must be trained to respond when problems arise or operational issues are unclear or complicated. Experience indicates that a civil registration programme will have difficulties if management training is limited only to daily activities and avoids relations among staff, supervisors and managers.

269. The conduct of training programmes can use a variety of methods. Training seminars for local registration officials regarding the requirements to have an effective

tive and complete reporting system may be held at local sites to assure adequate attendance. Within the centralized structure of the system, national meetings held on a semi-annual or annual basis can serve to meet most needs. It is wise to designate separate workshops at these meetings for different units and levels of system staff. Supervisors then take the responsibility to have appropriate staff attend. This is a more direct arrangement and more likely to be successful. In a decentralized system, there is less direct control and greater efforts are required to get participation. Responses to participant contributions at the meetings is a particularly important motivator of attendance.

270. Another method of training provides demonstrations and training on specific issues to various sites. The task can be accomplished by a team of experienced staff. The distribution of training films for use at local gatherings at selected time periods is also effective. Training equipment, such as a videotape and player, can be shared among local offices so as to achieve a positive impact on the entire system by offering training on different topics of registration or vital statistics. If access to electronic media is available, schedules may be set up to transmit a training programme on selected topics. This offers access to a broad segment of the system and establishes an effective method for training at the state/provincial or national level.

271. In order to effectively implement the training programme, a continuous monitoring of the civil registration and vital statistics systems must be established. The administering office, whether at the national or at the state or provincial level, should maintain a directory of all local registrars, with full address and telephone, fax and telex numbers, if available. Two-way communication should be maintained at all times. Local registrars must be able to make contact on day-to-day issues concerning the operation of the civil registration and vital statistics systems, such as the supply of civil registration and vital statistics forms, manuals, other supplies, and potential legal and administrative functions.

4. *Information-sharing and feedback*

272. The sharing of information with other programmes, agencies and organizations and the population is an important function in managing the civil registration and vital statistics systems. The reporting sources that provide the data on individual vital events can benefit from receiving data from the systems in the form of reports and statistics for their facility. Reports from vital statistics summary data to individual hospitals give an important profile for hospital administrative use. They provide a basis for the comparison of frequencies of births, deaths and infant deaths in other facilities. They offer trend com-

parisons between individual facilities. Receiving those data also provides an incentive to the facility to be accurate and complete in the reporting process. Such feedback emphasizes the usefulness of the registration system to the originating data source, in this case a hospital or clinic.

273. Such programmes as maternal and child health, family planning, health registers, immunization and others receive major benefits from health and medical statistical profiles coming from the vital statistics system. Such data provide significant input for decision-making and resource allocation for these programmes at the national and state or province levels. Awareness of the resulting data and information from the registration programme and the vital statistics system enhances the image of the programme. The sharing of data and feedback to reporting facilities emphasizes the purpose and usefulness of the system.

274. Many governmental programmes require health data as developed from the vital statistics system. Health programmes and national disease registers can draw on vital statistics data to assess the current status of their programmes. Such data offer an opportunity to evaluate the impact of the programme on certain geographic areas or specific facilities where the programme is operational. Provision of those data establishes an ongoing relationship that makes the use of vital statistics essential to government programmes.

275. Further, dissemination of data to other sub-national programmes and government agencies can have positive effects in terms of planning or evaluation activities, and further enhances the status of a national registration programme. The production of statistical profiles, reports and analyses on various health issues is an effective way to install both registration and vital statistics as important systems to the entire health discipline. Health-care providers, government agencies and programmes and related organizations involved in the health field can find extensive use for the data. In turn, one gains the support of those agencies for implementing civil registration nationwide.

276. Various data elements are useful for programme review and evaluation activities. Fertility rates can be correlated with family planning activities under way at certain geographic locations or in specific facility or clinic programmes. Infant mortality rates by specific causes of death may identify an increase in a particular illness or indicate the start of an epidemic. Cause-specific death rates can help validate disease registers and provide trend data on how a particular disease is progressing. Maternal deaths may suggest delivery problems in local areas or complications at specific delivery sites. When programmes—either voluntary or government-supported—are known to be operating in certain locations, data can serve to effectively review the status and impact

of such programmes. It can sometimes be the basis for redirecting activities or resources. Programmes can also be evaluated over time, comparing outcomes with earlier data. In both time periods, the vital statistics system would supply the data.

277. The Government must periodically determine what health and medical issues to address and which are the major factors in the health status of the population. This then provides management with the information to redesign the civil registration and vital statistics data-collection forms to meet new requirements. Record form modifications may occur at regular intervals, depending on the variability of the health of the population. Management should structure item content to meet current and projected information needs for programmes and other agencies as these change over time. To keep pace with those developments, registration and vital statistics must be an integral part of the health and population programmes of national, state or province and local government agencies. The data constitute key elements of programme review and evaluation, descriptive summaries of health status, and quantitative analysis in each of the structures reviewed in the present section.

5. *Integration with the population register*

278. In some countries, a population register has been established. A population register records all residents of the country. The data consists primarily of variables on demographic and social characteristics. It draws substantive information and data from civil registration to update its files and to generate, *inter alia*, population and vital statistics. The register is similar to the civil registration system in organizational structure, centralized or decentralized. If decentralized, it is administered at a subnational geographic area, such as a state or province. The population register differs from the civil registration system in that it includes the place of residence of each individual and any changes thereto. The register is used primarily for government administrative purposes. The civil registration system is used for legal purposes related to the individual.¹⁶ Countries with effective population registers use the registration of vital events to update their files continuously.

279. The births, deaths, marriages, divorces, adoptions, filiations and paternities collected through the civil registration system are part of the information base gathered for the population register. This exchange offers an opportunity for both programmes to share and compare information while meeting their own objectives. The population register has proved useful for administrative func-

tions, such as the development of population policy, programme planning and evaluation, census activities, internal migration patterns, and educational, financial and social programmes. Civil registration records are used for legal documentation for personal use. The resulting vital statistics are valuable inputs for surveillance, planning, health programme evaluation, epidemiologic studies, demographic analysis, census planning, survey design and evaluation.

280. The population register and the civil registration system contain common data elements, the use of which requires a method for record linkage between the population register and the civil registration databases. Both have personal identifying information in the database, such as name, age or birth date, gender and place of residence. The linkage then becomes a task for computer matching, since the volume would make any manual approach difficult. This requires a computer system and matching software. The adoption of unique personal identifiers in the systems makes the matching even simpler. Some techniques for validation need to be incorporated into the matching criteria, but there are also software packages available to do this. The primary need is computer access.

281. There are other significant differences in the two systems. Health and medical information collected on civil registration or vital statistics forms is more detailed and specific with regard to health-care providers, the type of event and related health conditions or complications. Data in the population register, such as educational level, occupation and income, may not be routinely collected for registration purposes. It is therefore useful to link the two programmes. First, this obtains additional information for each programme. For example, population figures by sex and age from the population register are very useful for the calculation of vital rates in the civil registration and vital statistics systems. Second, it establishes the validity, reliability and completeness of the data.

282. The volume and complexity of the information required in both programmes are high. This suggests that the population register and the civil registration programme should be independent in data collection, and should apply appropriate methods to update and maintain the respective databases. If well established, the two programmes can serve multiple purposes both independently and jointly. In combination, the data elements from these programmes provide a strong information base for the planning and conduct of national and subnational population censuses and surveys. These information sources can also be used for various programme development and evaluation activities. The data elements from each can provide both numerator and denominator for a number of health, social and population-oriented projects and research studies. The population register provides, for ex-

¹⁶*Ibid.*, pp. 65-68.

ample, the ability to monitor a population for health items, such as immunization programmes, medications for specific illness categories, and defined health status indicators. The vital statistics system yields such outcomes as specific cause-of-death categories, complications related to pregnancy or delivery, and maternal and infant mortality. Together, these data sources provide comprehensive, integrated and unique assessment capabilities for the numerous programmes.

283. Most often, common data elements in the population register and the civil registration programme will be personal identifier, age, gender, race/ethnicity, local, district and possibly state residence codes, and family composition. Remaining data will be specific to the purpose of each system. Given these, the databases now offer the ability to perform data maintenance, verification checks, comparative analyses of data quality and completeness, and expanded uses for analytical and administrative purposes. These components must be addressed through established communication and discussion between the programmes. A joint committee to continuously review the needs and quality of the two functions should be the responsibility of the management offices in each area. A formal relationship through a memorandum of agreement between the programmes provides the necessary assurances that each programme contributes to and benefits from use of the information.

284. Sometimes confidentiality may restrict use or access by other agencies or programmes. These factors must be identified and included in any arrangements made between the two programmes. Where confidentiality is the main issue, a unique personal identifier can replace the name and other personal information in each database. The unique personal identifier concept makes the data accessible for many important uses, and still maintains confidentiality for the individuals. The identifier can be developed using several technical approaches. The most effective approach for a confidential unique personal identifier is the use of a mathematical algorithm to encrypt the personal data items. A number of algorithms exist, with independent "keys" that create the unique personal identifier. The key provides the only mechanism whereby the identifier can be de-encrypted. A security unit within either programme or in a separate agency may be selected to maintain the key, which would only be accessed under very restricted conditions.

285. A second approach to maintaining confidentiality is encoding the personal data items. In this case, a more direct method is used, whereby selected characters for a number of variables are combined to produce a unique identifier. For example, the first and last two letters of the surname and of the given name, along with the coded gender (1 = male; 2 = female), and two digits for the month and four digits for the year of birth can be used

as an encoded variable for identifiers in the databases. Other methods can be used, and an assessment of uniqueness and matching effectiveness between the two systems should be conducted. Acceptable levels for statistical uses of the two data systems would be in the 80-90 per cent range for unique identification and matching success. The joint committee of the management team working on the integration efforts for the population register and civil registration system should undertake these assessments.

286. Where the civil registration programme is operating at a level of at least 90 per cent completeness, the programme can be the basis for a population register if that is an interest of a particular country. A feasibility study must be conducted to determine whether the civil registration records would be suitable for starting a population register. Information on vital records includes individual characteristics, residence location and limited family information. Follow-up through the registration system could produce the additional information needed for a population register database. The policy, planning and decision-making processes for government at all levels benefit from the information that becomes available. Also, public and voluntary agency programmes would have access to an effective database to review, evaluate and direct resources for particular service functions and activities.

287. The value of civil registration and population registers for legal, statistical and administrative purposes at any geographic level of a country is significant. These systems require constant monitoring and updating in order to maintain a high quality of information. The two systems provide the capability to prepare specific rates for each type of vital event, since denominators can be obtained from the population register and numerators from the civil registration system. Completeness of reporting is a very important item that can be shared by both systems, as can the accuracy of reported events. Natality and mortality rates are readily available since the population data are continuously updated in the population register and the occurrence of vital events in the civil registration system. For statistical purposes this is an advantage, since in many instances only population estimates based on previous census data are available for denominator use, along with numerators from civil registration. When the census is conducted only periodically, the interval between the censuses can vary from 5 to 10 years: the longer the interval, the less reliable the population estimates and the rates based on those denominators.

288. Processing strategies and coding and indexing features are critical to an integrated approach for the civil registration system and population register in countries where both exist. The use of computers to effectively integrate the data items requires the provision of record copies or, where possible, machine-readable magnetic

tapes or disks linking the data. Management needs to address issues of confidentiality and security when hard-copy records are transferred to either the registration or the population office for processing. At the processing centre, standard coding procedures need to be set for both systems in order to have comparable information. Indexes provide access to individual records for updates, corrections and changes in either an automated or a manual mode. They need to be standardized for compatibility. By assuring that these arrangements are made, management can promote the use of the information for a variety of purposes and set all of the requirements with which the data users must comply.

289. The population register and the civil registration programme have common features, as well as unique data elements and distinct purposes of operation. Combining them into a single system could result in a large and complex operation, with considerable restrictions on the number of data items and information maintained, particularly if the country has a large population. Separate systems, integrated through record linkage and using standard data elements, codes and processing, enhance the functionality and usefulness of both systems. Interactive participation, cooperation and communication by each programme can realize mutual benefits for quality assurance and analysis.

III. OPERATIONAL FUNCTIONS AND ACTIVITIES

290. The present chapter looks at the very specific details of carrying out the daily operations of the civil registration and vital statistics systems. Section A, "Functional components", examines the detailed procedures for gathering, storing and editing information. Section B, "System activities", examines how to respond to the public and its needs concerning the vital records in the system. It also considers the needs of those who are reporting the data to the system, and discusses how to manage paper use and confront the fraudulent use of personal documents. Chapter III concludes with section C, "Civil registration and vital statistics: functional relations", which displays methods of integrating the functions of registration and statistics under various structural arrangements explored in chapter I above. The section ends by considering how data are brought into the system, how they are stored within it, and how they are checked for accuracy and completeness.

A. FUNCTIONAL COMPONENTS

291. The present section describes the procedures for registering a birth and a death occurring in various settings. Also considered are special processing requirements, matching registration records, and operating units for processing record changes and responding to mail requests. Section A concludes with procedures for monitoring record processing.

1. How to register vital events

292. How to register and transmit a record of a vital event from where the event occurs to the civil registration and vital statistics system depends on two major factors that cause a variation in the process. One is the type of vital event involved. That is, whether the event is a birth, a death, a foetal death, a marriage or a divorce will make a difference in the registration and transmission process. Second, the type of structure of the system—whether the system is centralized, decentralized or a local programme—plays a key role in the registration and transmittal processes.

293. The present chapter considers these two major factors in examining the registration process. Another presentation of the same ideas is contained in the *Handbook of Vital Statistics Systems and Methods*, volumes

I¹⁷ and II.¹⁸ The reader is encouraged to refer to those publications, which may more closely match the situation in a particular country. For convenience of access, some highlights from the two volumes are reproduced in annex I below, and examples of reporting forms from various countries are continued in annex III.

Hospital birth under a centralized system

294. In this situation, it is best to use the medical record function of the hospital for the reporting of the event to the local registrar. Information is gathered from the mother using a birth notification form (or a medical certificate form) to supply answers that will be placed on the official registration record. If the reporting document includes statistical data, it may ask for medical information about the prenatal history of the mother. It is best to obtain data from records submitted to the hospital medical records unit by the patient's doctor just before the expected delivery date. The completed document should contain a certification by the hospital administrator or that person's designee that the birth did take place as stated in the document. This provides the evidentiary proof that a birth has occurred on that date.

295. The hospital then sends the notification form to the local registrar, who reviews it for accuracy and completeness, then prepares the registration record (if different from this notification form) and signs it. The local registration office retains a copy of the birth record and files it so that the registrar can issue copies of it. This copy at the local office may be a photocopy, a carbon copy or an entry in a bound book (remember, the entry in a book would require the preparation of a separate statistical birth form). Then the original record is forwarded to the national registration office (authority) for review, indexing, processing, issuing of certificate copies, storage etc. If the national office also operates a statistical system and uses a combined civil registration and vital statistics form, the civil registration office can forward the birth record once it is computerized or microfilmed. Alternatively, the local registration office can (a) submit a statistical form for each vital event or (b) key the data into a computer

¹⁷Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.91.XVII.5).

¹⁸Ibid. (United Nations publication, Sales No. E.84.XVII.11).

and transmit it to the national office on-line or off-line, as resources allow.

296. Some countries may wish to have the local registration office within the hospital or health facility where the birth takes place. This option speeds up registration, and improves accuracy, timeliness and completeness of registration. In this case, the reporting of vital records and statistical forms is made directly to the national authority for civil registration and vital statistics systems. Also, the birth record and the statistical form can be on the same form (e.g., a loose-leaf multicopy form).

Home birth under a centralized system

297. Here, whoever is attending at the birth completes the notification form. The usual order of preference is to have the document completed by a midwife (or a traditional birth attendant, if literate) who is present at the delivery; by the father, if he is present at the delivery; by another person present at the delivery; or by the mother, if no one else is able. This document is brought to the local registrar, who prepares the birth registration record and signs it. If those attending at the birth are unable to complete the notification form, then the mother, the father or a close relative should report the event within a stipulated period to a local registrar, who prepares the official birth record. The original is transmitted directly to the national registration and vital statistics authority, and a copy is retained for the local registrar files for issuance of certificate and other registration functions.

298. It is important to ensure that a birth is registered within the time stipulated by the registration law. In general, the shorter the time allowances the more accurate the information contained in the birth record. Time allowance for live birth may range from the date of occurrence up to one month. However, according to the size of the jurisdiction in question, an informant may not report a home birth for a considerable length of time after the event, which would fall under late registration procedures (see paras. 333-336 below). Keeping the number of delayed registrations to a minimum limits the possibility of introducing errors into the statistical reporting of births. A centralized system that has many home births should take energetic measures to assure reporting of such events as soon as they occur. Active involvement by the local registrar within the jurisdiction will help to make the population aware of the need for timely registration.

Hospital birth and home birth under a decentralized system

299. Registration is handled in a similar way in a decentralized system. The difference is that the local registrar transmits the original vital record directly to the state or province registration office instead of the national of-

fice. Then the state or provincial registration office forwards the information to the national office for the production of vital statistics for the country as a whole.

300. The foregoing examples have mostly assumed that the legal and statistical information are captured on the same document, a loose-leaf multicopy form. For purposes of record flow, this is the better choice in countries with developed civil registration and vital statistics systems. It is possible that national considerations may require the use of a separate statistical form for gathering data. If this is the case, then care should be taken to allow the legal and the statistical information to be joined at some point. A common document number is one useful method to match records. The name and date of the event, when included on both records, can also be used for computer matching. The use of separate documents to collect the legal and statistical data complicates the document flow and the workload of the local registrar. Separation should be avoided if possible. If, however, local need demands separation, then give increased care to the document flow.

Registration of deaths

301. The registration process for deaths is described below. An initial consideration here is to examine how a death is handled in the jurisdiction in question. It may be typical to have a professional mortician, funeral director, medical examiner or a coroner system throughout the country. That is, a coroner or medical examiner reviews every unattended or sudden death. In some other instances, the family is responsible for notifying authorities about the death. Depending upon such circumstances, the method of registering and reporting deaths will vary.

Dispositions of bodies handled by a funeral director

302. If a funeral director or professional mortician handles most dispositions, then it is typical to place the responsibility for filing the death notification form on the funeral director. In this situation, the funeral director obtains the necessary personal information from a close relative of the decedent or somebody living with the deceased, and obtains the cause-of-death information and death medical certification from the attending physician or coroner. The funeral director would present a completed death notification form to the local registrar, who completes the death record and signs and issues a burial/transit permit (sometimes called a final disposition permit). The latter allows the funeral director to proceed with final disposition of the body. A later section describes the burial/transit permit in greater detail.

303. In some countries, no funeral director or professional mortician is involved. There are, however, local registrars to whom the family presents the information

surrounding the death and from whom it receives an authorization for burial. Such local registration offices are usually in convenient locations and open 24 hours a day. They serve the same function relative to the burial permit as the funeral director in other countries.

304. Procedures such as those described here usually set specific time limits for obtaining the medical certification of the death and for filing the completed death notification form with the local registrar. Generally, such requirements specify that the physician or coroner must sign the certificate before burial, cremation or removal can take place. That requirement guarantees that all necessary information about the nature of the death is obtained while the body is still available for testing. Depending on the cultural practices surrounding death and final disposition of the body, those time limits can vary. If it is normal cultural practice to dispose of the remains quickly, then a time limit of 24 hours may be imposed. Normally, where a professional is handling the final disposition, the time limit for obtaining the certification of the cause of death does not exceed 72 hours. The time limit within which the complete notification form is to be filed with the local registrar may be five days. The local registrar completes the death registration record and forwards the original to the national registration office in a centralized system (or to the state or provincial registration office in a decentralized system). Reporting to the higher level should be made within a stated time period that is adhered to rigorously.

Deaths handled by others

305. If it is not usual for a funeral director or professional mortician to handle final disposition, then there may be several other methods for obtaining the necessary death facts. The physician attending the decedent for the illness that led to death may specify the medical certification of the cause of death. If the death occurred in a hospital, the physician attending at the institution will normally supply the death certification. For traumatic deaths (suicide, homicide, accident) the coroner, medical examiner or investigating authority supplies the cause-of-death certification after completion of an examination of the facts surrounding the death.

306. A member of the family or someone close to the deceased individual must supply personal facts about the decedent to ensure accuracy. Those facts are generally reported separately from the certification information completed by the physician or coroner. The personal data are provided to the local registrar. However, coordinating the filing and eventual matching of these sets of information in a timely manner is not an easy task. Many factors will influence the choice of procedure for doing so. For example, how is the hospital system organized? Are many individuals brought for care from rural areas to a central

hospital in a large city? When an individual dies far from his residence, the family may report personal data to a local registrar geographically remote from the point where the medical certification information for the death is completed. Common information about the decedent's place of residence on both the death medical certification and the death registration record will become particularly important in this situation for matching the separate records.

307. There will also be situations in which death occurs in rural areas, mostly at home, where neither a physician nor a coroner is available. In such instances, an arrangement should be made between the local registrar and the local law enforcement authority. The law authority assumes the coroner's duties, and the local registrar gathers the necessary information from a close relative of the deceased to complete the remainder of the death record. Sometimes, the local registrar may need to assume both roles to guarantee the completeness of the death record system.

308. Another item to be considered is whether the death record is required for the processing of legal claims for insurance or inheritance. This is quite often the case in developed countries or in large metropolitan areas of many countries. If this is the case for most deaths, then it will encourage families to report the occurrence of a death and provide the data promptly and as completely as possible. Another technique that is used to promote accurate death registration is to require an institution where a death occurs (e.g., hospitals, clinics, nursing or elderly care homes) to prepare listings of deaths occurring in the institution each month. Those lists can then be used by the local registrar to determine whether the death was reported and the death record prepared.

Some important considerations surrounding the completion of the death record

309. It is important to get the cause of death correctly certified by the coroner or the attending physician as quickly as possible in order to avoid the loss of information crucial to health statistics. Time limits are specified for this reason when a professional mortician or funeral director handles the burial. The same need for prompt certification holds when the disposition is not under the control of a funeral director. Occasionally, situations arise in which the physician or coroner needs more time to ascertain a proper cause of death. Toxicological tests may be necessary to the determination. An autopsy may delay completion of the death record. In such cases, good practice requires that the coroner or physician file a certification listing the cause of death as "pending autopsy results" or "pending toxicology" or simply "pending". This promotes getting a timely report of the death into the system. A system should then be set up to follow up on such pending certifications. If the certifier cannot imme-

diately determine a cause of death, it is important to fill out whatever is possible in the death record close to the time of death. There is too great a chance that a later filing will be forgotten.

Using a burial/transit permit

310. This method can be of help to enhance completeness of death registration. The method allows for an additional check to guarantee that the physician or coroner places a certification of death on the death medical certificate in a timely fashion. A permit is usually issued by a local registrar once the death record is correctly completed, including the signed and completed cause-of-death certification. The crematory or cemetery requires the permit before final disposition of the body. This system will be truly effective only in jurisdictions where the cemetery or crematory is properly fenced and guarded and a sexton or some similar individual is on duty to collect the permit. A variation on the issuance of the permit by the local registrar is to use a self-issuing permit. This is accomplished by having a carbon placed behind the section of the death record that lists name and date of death as well as the portion where the signature of the certifier is placed. The carbon copy can then be used as the burial/transit permit. It will show that the physician or coroner has completed a medical certification of death. This variation solves the problem of a local registrar or recorder not being available during non-business hours or on weekends and holidays. However, the death record must be completed with the local registrar on the next working day.

Indexing, storing and retrieving records

311. Births, deaths (including foetal deaths), marriages and divorces are remembered by date of the event. Consequently, the basic unit used for indexing, storing and retrieving vital records is the calendar year of occurrence. This is possible when loose-leaf records are used to compile the register. A sequential number is assigned to each record when registration takes place. The same numbering system applies to the local and central registration authority. For each calendar year and for each distinct type of vital record, such as birth or death, the numbering begins from one and continues until all events in that type of vital record and for that year have received a unique number. According to the sophistication of the system, the number assignment may be by numbering machine or by computer. Typically, the numbering of paper documents is by numbering machine.

312. One of the purposes of the numbering is to make it easy to retrieve the document from its main file by using a cross-index that is alphabetical by name of the registrant. The record number is also the control number.

Management can trace down each record, thus minimizing losses in record flow or the misuse of blank records.

313. During the time that the cross-index is being developed, it will not be easy to retrieve unsorted records. If there is a long period between the assignment of the record number and the production of a cross-index, sorting measures must be in place. The loose-leaf records would be sorted by place and date before numbering. Thus, a hand search could locate the record prior to the production of the cross-index. It is better if one can produce an index containing the registrant's name, date of event and record number within a short time. Then the necessity for sorting the records is done away with, and a great saving of time and effort is achieved.

314. The above discussion assumes that the records are in loose-leaf form. In instances where the events are recorded in registers or bound books, the retrieval process involves added complications. In such cases, it is also possible that the record is sequentially recorded by date of registration, as opposed to the date of the event. For such instances, a cross-index will make possible the location of the proper page, volume and year of registration for a specific record. Lack of a cross-index will require that the individual seeking to consult the record remembers the registration date. The experience in countries using bound registers without an index is that many events are registered twice. This happens when an individual cannot recall the registration date and the record is not found. It is then registered again, producing a duplicate registration. This is obviously an undesirable result that affects the accuracy of registration and vital statistics.

The record number

315. The record number is composed of several parts. For deaths, the number may have for its first three digits the final three digits of the year in which the event occurred. A unique number whose digit count will depend on how large a file is anticipated during a calendar year follows the first three digits. If the average death count is 20,000, then a five-digit number would suffice. Births may use the same scheme of a three-digit number for the year of the event, followed by a unique number composed of the needed number of digits.

316. The numbering system is to be used for each year. A book register should be opened on 1 January and closed on 31 December, whereas a loose-leaf file can be compiled by a certain number of records (e.g., 200 records per volume).

Storage of vital records

317. Paper documents by type of vital event should be stored in files by record number in an area protected from the elements and the threat of destruction from fire

or other hazards. Standards must be in place for use in the registration authority and at each local registration office. At the registration authority, once the documents have been committed to the computer then the computer file becomes the main file. The paper document file can serve as a back-up. If storage of paper documents becomes a problem due to a lack of space or if the paper is subject to deterioration due to climate, then it might be wise to commit the copies to microfilm. It should be noted that once two back-up systems are in place, it becomes burdensome to maintain the paper-based system. Any corrections or amendments made to the active systems would also have to be made to the paper system, or it would soon be out of date. To maintain the paper-based records as an archival (but not an active system), the records can be placed at the national archives for permanent storage. This latter option can be implemented only if the laws pertaining to the legal document permit reproduction from other than the hard copy form. Optical disk storage or a second computer file are other storage options that can be considered for back-up use. Availability of resources, downtime levels of the computer system and other local considerations will determine the best combination of storage options.

Retrieval of registration records

318. A document is retrieved from the system by looking in the index. Use the registrant's name, the date of the event (or the date of registration if book-based), place of the event by local jurisdiction and parents' names as indicators in the search. When the proper registrant is located in the index, the searcher is led to the correct year and the correct record location within that year by the record number. This process is the same whether the record is looked up in a paper index, a microfiche index, a separate computer index, or a master computer file that automatically retrieves the full record.

2. Special processing requirements for registration records

319. The present section will look at some special processing requirements and methods used to amend records, process adoptions, and process legal changes to records. Most of these methods are concerned with birth records, but there are some changes that must be processed for deaths as well. Some countries may also maintain amendment procedures for marriage records, for example, to note when a marriage ends in divorce or judicial separation.

Amendment of records

320. First, consider making amendments to records, that is, fixing records that have been filed with incorrect

information. The first distinction to be made is that there are several levels at which corrections are made. The levels are time-relative. Some mistakes can be caught almost immediately when the record is first processed in the local registration office. Call this level the early query level. There is a second set of errors that are also dependent on some person outside the office supplying additional or corrected information. This second set cannot usually be caught immediately, although many such errors become apparent during the first year of the record's existence. Consequently, it is advisable to separate methods for making amendments during the first year of the record's existence from those made further along in the existence of the document. This same time distinction for records relative to the one-year mark can also be useful in the filing of a delayed registration of birth.

321. The local registrar can be empowered to take care of early query corrections. Perhaps on inspection of the birth record it is noted that a parent's date of birth is listed with the same year of birth as the child. This is an obvious clerical error. A telephone call to the hospital or a note to the informant can generally help the local registrar to obtain the correct information. The record can then be corrected before copies are issued, before it is committed to the local and central files and before a microfilm copy is made. It becomes much more difficult and time-consuming to correct records after copies are issued or the record has become part of the central computer or microfilm file or paper-based register. It is important, therefore, to have review systems in place that catch as many errors as possible as early as possible.

322. Front-end edits will catch many clerical errors. In a computer-based registration system, such edits can be made on birth records that are filed using electronic software entry systems at the hospital. In cases where the paper record is completed at the hospital or by the registrar, care can be taken at initial entry. The record must be carefully checked for consistency errors, spelling errors and omissions before it is committed to the local and general file and the processes accompanying that acceptance.

323. There are two reasons for singling out current year corrections. First, making the correction or including the omission during the current year will affect the completeness and accuracy of the statistical data that the system generates. Again, the discussion assumes a loose-leaf record for both legal and statistical purposes. Second, if the records are microfilmed as a back-up system, then it is good to get as many records as possible complete and accurate before filming. Once the record is filmed, then there are two sets of files (at least) which must be amended to reflect a correction.

Kinds of amendments that generally fall into the current year category

324. One major group would be paternity establishment (recognition, the legal acknowledgement, either voluntary or compulsory) of the maternity or paternity of an illegitimate child. The particular laws governing a country (or state or province) will cover how paternities are established. Some jurisdictions will allow the addition of a father to a record by affidavit of the unwed parents. Other jurisdictions may require some sort of court or legal action to establish the paternity. In any case, a method to add the father's information to the birth record must be developed and used countrywide.

325. The simplest case is where no previous information concerning a father appears on the record. Here, with the appropriate legal requirements met (affidavits or court determination), the information can be added directly to the original record. Copies of the required legal documentation are placed in a file. This file must be connected to the birth record by use of the unique record number already assigned to the birth (see sect. A.1 above). If the information from a paper record has already been stored in an electronic master file, care should be taken to add the father's information to the computer file as well as to the paper document. When making changes to current year records, remember that it is important to the statistical system to get as many demographic facts about the father as possible.

326. Sometimes, another man's name and information may already appear on the birth record as father. Perhaps the mother was married at the time of birth but the husband was not the natural father. Perhaps there was a court contest concerning who was the father. In such cases, it is necessary to prepare a new birth record reflecting the new facts of parentage. Place the original record in the file with the associated legal documents used to establish the amendment. Seal the file with the unique record number used as a cross-reference to the newly filed birth record. Note that the new birth record must bear the same number as the original birth record that was sealed. Do not assign a new number (this is a method applicable to loose-leaf type records). Also, management must ensure that the amendment is made in both the local and the central files, particularly if both are empowered by law to issue certificate copies.

327. For current year records, it is important to make sure that the information is changed on the statistical file if it had been entered there before the correction of the paper record. Other amendments during the first year may include addition of first or middle names for the child, changes to parents' age or birthplace, or perhaps spelling corrections. According to the type of system that is in place, these corrections can be made in several ways.

Simply cross out the incorrect item and type the correction above it. Or create a new record reflecting the new information. A third option is to directly enter the omitted items. Care should be taken not to use correction fluid. These fluids will not stand the test of time and will chip or flake off in years to come. However, if the paper record is going to be replaced within a year or two by a micro-filmed or computerized record, then use of the fluid is not as perilous. Choice of method is largely a matter of convenience. In legal name changes obtained after a person has already established one identity trail, the cross-out method might be preferable. In that way the individual can establish connection to the previous identity. That method may also be more suitable for birth records kept in book registers.

328. Adoptions form another major class of record changes that should be considered here. Again, countries (or states or provinces) will vary concerning legal restrictions about adoption. Most jurisdictions will have a provision for sealing from view the pre-adoption facts of birth, and keep the adoption as a confidential matter. Preparing a new birth record reflecting the new parents' birth facts accomplishes this for the birth record. Generally, the place and date of birth of the child are left the same. Give the same unique record number that was on the original record to the new record. The original record and the supporting legal documents surrounding the adoption are sealed using the unique record number as a cross-reference. This is important in case it is necessary to retrieve the original if the adoption is later annulled or if it is necessary to refer to it for administrative purposes.

329. Processing current year adoptions will vary somewhat from the instances considered in paternity recognition or establishment. The computer and index files need to be adjusted so that they reflect the new names rather than the pre-adoption names. However, the demographic information in the computer should not be changed. For health statistics purposes, it is the characteristics of the natural or biological parents that are of interest.

330. Some record systems will be based on dual sets of bound-book records kept at a local office and at the registration authority. Make sure that both sets of books reflect all amendments. To simplify the task, give the authority to make the amendments to only one of the two jurisdictions, preferably the one where registration takes place. If the national office is the one to make amendments, then it would have the responsibility to notify the local office of the change. In turn, the local office would have the responsibility to reflect the change on its copy of the record. Certified copies must be issued from the new record to reflect the adopting parents' names.

331. It is more likely, however, that the local registrar would initiate most amendments. If the amendments

are made first at the local level, then it is crucial that the local office notifies the registration authority of the changes. It is particularly important that changes made during the current year are noted quickly. Such changes will affect the statistics published for that year.

332. So far, the present section has considered early query corrections and amendments during the current year. Still to be considered are corrections made after the current year is closed and the data concerning it have been abstracted to a finalized statistical file. The major difference in the amendment procedure after the current year is closed is that one does not need to make corrections to the statistical file. The same type of amendments as those that occur during the first year will continue, hopefully at a much reduced level. Where the correction affects some item that will appear on the certified copy, then make the correction to both the original file and all back-up files containing that record. It is not necessary to correct the closed-out statistical file. Section A.4 below will go into more detail concerning methods for making these corrections to the various back-up systems.

Delayed birth registration

333. Delayed birth registrations form another class of records that should be considered before leaving the topic of amendments and corrections. Delayed birth registration is really neither an amendment nor a correction. It will be considered here, however, since it is similar to the corrected record in that specific documentation is required beyond what is normally required to file an original birth record. Registering a birth after the legally stipulated time for its registration has elapsed is generally broken down into several chronological categories. If the delayed birth is filed within one year of the date of birth, the procedure is simplest. Sometimes a physician or midwife was present at the birth or the birth was at an institution, but for some reason the record was not registered in a timely manner. In such cases, completion of the birth record by the appropriate attendants and by the local registrar is generally acceptable.

334. If the birth was a home birth, the record can usually be completed with the help of the local registrar during the first year. After a year has passed, it is usual to require additional proofs of the facts of birth due to the legal nature of the record. One might require affidavits of those present at the birth. A medical record during pregnancy or a record of a subsequent pediatric visit would prove a pregnancy took place. A utility, tax or rent bill may serve as proof of residency at the time of birth. These requirements not only guarantee the accuracy of the information supplied but also prevent the filing of a false birth record for fraudulent purposes.

335. For longer delays, such as one year or seven years, the placing of a delayed record of birth on file requires several substantial proofs of the facts of birth. In some instances, it may require judicial procedures. The filing of a delayed record so many years after the event is a service to the citizen who otherwise would have to supply alternative proofs of birth to various requesting agencies throughout his or her lifetime. Thus, in designing the list of required documents for late registration of a birth, the registration law should require as a minimum the documents that the most stringent outside agency would require. The registration office lists on the delayed birth record the specific documents presented as proofs and guarantees their authenticity. Thus, the citizen only needs to go through this procedure once. To be less stringent in requirements would be a risk to the integrity of the registration system.

336. Delayed registrations filed more than a year after the event are not generally included in the vital statistics for the year of occurrence. If there is a large percentage of such cases, vital statistics can be distorted. Public relations campaigns should try to keep delayed registrations to a minimum so that vital statistics data do not suffer.

3. Matching registration records

337. The purpose of the present section is to consider the reasons for matching records and the options for accomplishing the task. The section will examine the matching of infant death records to birth records; look at what is to be gained by matching; and suggest methods for matching. Finally, it will look at statistical matching and linkages.

338. The matching of infant death records to birth records was first developed to detect unlawful uses of birth records. People wanting to obtain a false identity would apply for a copy of the birth record of some infant who had died and would now be about the age needed for the false identity. In that way, the dishonest person could obtain a true birth record and not worry about accidentally obtaining the record of someone with an undesirable identity trail. To counteract that process, vital record offices began matching infant death records to the corresponding birth record. The office would then mark the birth record with the word "deceased" and list on the birth record the number from the death record. Most vital record systems still follow that practice today.

339. Not long after the practice of matching to catch dishonest people began, statisticians saw how that practice could enhance statistical information. Matching the two records yields from the birth record a wealth of information about prenatal and maternal history that the data collected to complete the infant death record do not

contain. Data generated from this match are so enlightening that many vital statistics offices now construct a separate database containing the matched infant death and birth record information (a loose-leaf record for legal and statistical purposes is presumed).

340. Since the birth records and the death records are stored in totally separate databases, methods for making the match must be developed. Methods will vary according to other choices and exigencies in a particular system. Even in a single office administration for both civil registration and vital statistics systems, a combination of methods to complete the match are generally used. Therefore, the present section will explore several methods from which a particular country (or state or province) can choose a set most amenable for designing the system in its jurisdiction.

Hand matching

341. Hand matching of the infant death record with the birth record is applicable in several situations. If the number of infant deaths is small, the hand match may yield the matched records more quickly than waiting for computerization to make an electronic match possible. Also, if the infant death and the birth occur in the same hospital (often the case in neonatal deaths), then quite often both records arrive for processing at the same or almost the same time. In a local registration office, the numbers are often small enough and the time elements close enough that the local registrar can easily accomplish the manual match.

Electronic matching

342. Electronic matching methods should be preferred. In a system with many records, this will be a great help. Deaths under one year of age can be selected by computer program. Then, list these to a printed page for a subsequent manual match with the birth record. Alternatively, use a computer matching procedure to run the death file against the birth file. Again, size and other system configurations will decide the choice of method.

Edit methods

343. Edit methods for making sure that the number of matches is maximized serve a second purpose: as a completeness check on death record and birth record filing. For example, the office could run a computer printout of all births with very low Apgar scores or with extremely low birthweights, and then follow up to ascertain whether a death record was ever completed. For those without a death record, follow back to the birth institution to find out whether there was a medical success with the infant, or whether there was a failure to prepare and file the death record.

344. Similarly, the time invested in making the infant death match to the birth record can also serve as a check on birth record filings. An infant death record implies that a birth took place. If the infant only lived a short time, it sometimes happens that the filing of the birth record is overlooked. The matching process will discover these failures. As mentioned previously, most systems that match infant death and birth records create a separate database from the matched records. It has been found that this database is used frequently for research purposes. Many offices computerize these databases. In others, copies of the documents are manually joined. When some data from the two records are not computerized, a combination of electronic and paper matched databases can be established.

Statistical matching of records

345. Statistical matching is an activity that is becoming more and more common in vital statistics offices. Matching takes place not only within the birth and death record systems housed in the vital statistics unit but also between vital statistics databases and those of outside users. A birth defects registry may want to match its records or records it has received from a handicapped children's programme against the birth file for completeness checks. A cancer registry may wish to match its survivor records against the death record system. The voter registration unit or jury selection bureau may wish to purge its records by matching against the death files. Outside researchers following a cohort will need to match cases lost to follow-up against the death files. A study of health costs may wish to match social service or medical billing records against the birth or the death system.

How are these matches to take place?

346. With the computer, it is generally possible to get a high match rate to the birth and death records because of the type of data they contain. The office should design matches to maximize the type of data contained in each system. For instance, surnames can be used if it is expected that both systems will contain the same surname and if spelling is not anticipated as a major problem. Date and place of birth often yield high match rates. If both records contain a unique identifier, such as a person's identification number, a social security number, then this will help the match rate. The matching can take place on any number or combination of variables. The thing to remember is that the more accurate and complete the data in the system, the more useful the system will be for doing record linkage.

347. In decentralized systems, in which many independent jurisdictions collect and process their own data, it is important to consider some other relevant points in

the matching process. For example, consider the case of a child born in jurisdiction A but transported for special care to a hospital in jurisdiction B, where the child dies. In this case, the infant death record will be filed in jurisdiction B (by place of occurrence), where there will be no matching birth record since the birth took place in jurisdiction A. A larger problem beneath the surface of this matching problem is that the type of statistical analysis that these jurisdictions can do is limited. Each can only analyse vital events occurring in its jurisdiction. Jurisdiction A will not know about the death that occurred to one of its residents while in the hospital in jurisdiction B.

348. The solution to both problems is an inter-jurisdictional exchange of birth and death records for statistical and matching purposes. Records that are thus exchanged do not become part of the registered births or deaths of the recipient jurisdiction. However, the records are added to the statistical file so they may be used to compile resident statistics and so that matches of infant death and birth records can be completed.

4. *Specific units and staff for processing record changes*

349. As a follow-up to section A.2, the present section will look at the specific units needed to process changes to records. It also considers the staffing needs for such a unit in a national registration office (central authority) or in a state or province authority that administers registration. The number of staff needed will of course be dependent on the record volume. So rather than look at the number of staff needed, first consider the type of staff needed. The tasks that the unit assumes will dictate this, so the present section begins by looking at the type of tasks that the unit will do. For the purposes of illustration, the following example assumes a system of amendments to registration records conducted at the national registration office (or state or provincial registration office) where requests for amendments are received, for example, by mail.

350. The work of the unit includes some clerical tasks. To process the change to a record, the record must first be retrieved. The office should have staff who have as their basic job the retrieval of records. This recommendation will ensure that the more specialized staff members needed for processing the changes do not use their time in retrieval. It may also be worthwhile to have fee-processing take place before giving the specific request to the change-processing unit. This can be done by the cashier who normally processes fees. The office can separate requests not containing fees or containing insufficient fees, and send an appropriate form letter to the customer requesting the fee. This separation process can take place at the time that the office opens and sorts the mail. The request for an additional fee can be made a part of the

other form letters used by the change-processing unit. Customer requests not containing the proper fee should, therefore, be forwarded to the change-processing unit for action. This is because it is possible that other omissions, such as insufficient documentation or insufficient information, may also require a response to the customer. It is preferable to request fulfilment of all omissions with one letter to the customer.

351. In summary, the mail desk which processes all correspondence should open and sort all correspondence for changes. Letters not containing the correct fee should be separated and forwarded to the change unit. The cashier should process and receipt letters with the correct or partial fee before forwarding them to the change unit.

352. At local registration offices, the clerical tasks outlined above may often be non-existent. Perhaps the system does not collect many fees and there is therefore no need for a cashier. The office may be small enough that the record retrieval is done by the registrar who processes the changes. In such cases, the processes remain unchanged but are combined so that one person does multiple tasks.

Legal interpretation tasks

353. Interpretation of the vital records laws is a primary duty of the staff of the change unit. The staff must understand the laws, regulations and policies surrounding the legal changes that can be made to the vital record documents. It is this requirement that determines the level of staff for the legal change unit. Another consideration is that the staff in this unit should be familiar with the records and the filing system. This staff must make decisions about sealing records and making sure that all files related to a particular record reflect the approved change. Consequently, a major source of staff for these positions is through promotion from the entry-level functions of the vital records bureau.

354. Some countries may require the notarization of signatures for some changes done by the change unit. If many customers appear in person to have changes made to their records, it is a good idea to have change unit staff trained and legally authorized as notaries public. This may not be possible in countries that require public notaries to be lawyers.

355. Although most of the legal changes to records will be within the realm of training and expertise of the change unit staff, there are bound to be some changes that will require special interpretation and treatment. Rather than have staff stalled by a particularly cumbersome request, it is wise to have a unit supervisor or other upper-level reviewer to whom the unusual problems can be referred. How to do this is again dependent on volume,

but the presence of such a function is crucial to maintaining work flow for the change unit.

Organization of the unit

356. How the unit is organized depends on volume. It is conceivable that a single individual could handle all the changes. Special review cases would go to the individual's immediate supervisor. Then again, there may be such a high volume that 10 people will feel overworked. For example, a registration volume of 75,000 births and deaths per year with a file covering 30 years or more of records could anticipate the need for a staff of three or four. Since the size of systems will vary, the categories of changes that the office must process are discussed below. Perhaps one person can handle all categories. On the other hand, perhaps the volume will require two or more in each category.

Categories of change

357. The types of changes have already been examined from another perspective in section A.2 above. They can be broken down into four categories: simple paternities, court-ordered paternities and legal name changes, corrections and adoptions. In addition, some countries may handle annulments of marriage, legal separations and divorces that require annotation on the corresponding marriage record.

Simple paternities (acknowledgements)

358. Simple paternities are those in which the mother is unmarried and the mother and natural father agree to have the father's information added to the birth record. Processing will vary by jurisdiction but will be no more involved than the filing of an affidavit by the couple attesting to the parentage and agreeing to the name of the child. The legal depth of these changes is relatively low, but the volume of changes is usually high.

Court-ordered paternities and legal name changes

359. Court orders call for staff familiarity with the processes followed by courts in the jurisdiction. Once the processes are understood, they become routine. Volume is lower on these cases, but the change process is generally more involved.

Corrections of errors

360. Errors made on the original book or file can vary from spelling errors to the very tedious errors of a death record that lists an incorrect spouse. It is the unpredictability of this category of change that is demanding. The volume is usually medium, but flexibility is a strong attribute for the staff assigned to this task.

Recording of adoptions

361. Recording adoptions may appear at first to be simple routine. Staff members who handle this portion of the work in the change unit must deal with many very interested and intense individuals involved in the adoption. Attorneys, adoptive parents, courts and adoption agencies will make up the customer list for this staff member. In addition, the staff must handle carefully the files that they are going to change since most jurisdictions provide a high degree of confidentiality in the adoption procedure. This is probably the most time-consuming effort per unit of accomplishment in the legal change unit.

362. This section will now note some final considerations that have to do with fees. Of the different units that deal with processing activities, the unit dealing with legal changes is the most expensive. Staff costs are higher because of the complexity of the procedures and intricacies of the law. If funding is on a fee basis, the unit may very well cost more to operate than it is collecting. Do not let this be a temptation to delay processing until the fee is paid. This will play havoc with the work flow of the legal change unit and leave the bureau with a file that one knows is incorrect. The advice here is to process changes immediately. If the fee is not paid, flag the record for collection before a certified copy is issued.

5. Processing of mail requests

363. In countries where mail services are efficient and reliable, requests for changes can be made by mail. The processing of mail requests on a daily basis is a critical function of a civil registration office. A consideration of some logistics that can make daily mail processing an efficient operation is set out below.

Receipt

364. Receipt of daily mail should include an operation that will date-stamp arriving correspondence. This allows the development of a system to keep track of the time it takes to respond to a customer request. Automatic machine stamps are most suitable for this operation because of the volume of correspondence that arrives on a daily basis in the average civil registration office. To distinguish incoming records from local registrars from other correspondence, it is helpful to have the registrars send birth and death records in special, easily recognizable envelopes. This will keep incoming records separate from daily public correspondence.

365. Another important item to be considered is money-handling. The cashier should immediately remove any fees accompanying a request and enter them into the accounting system. In some offices, it is the practice to have the cashier's office of the major department perform this function. Other offices have a sub-cashier working in

the civil registration office who deals only with the fees coming in with vital record requests. This decision is made individually, and is usually a decision of the organization's comptroller. Having the sub-cashier in the vital records office saves time in processing the correspondence. The comptroller will probably go along with this practice if one assures the comptroller that the individual receiving the money will not process the order or deliver the final product. This is good practice and a standard audit control procedure.

366. Whichever receipt method is chosen, one should remove the money immediately and mark the order with the amount received and a corresponding receipt number. Here again, there are two choices. Some offices find it convenient to put the receipt stamp directly on the correspondence. When this is done, the next step is to use a pen to highlight the important facts in the letter, such as the date of the event, the name of the registrant, the place of the event etc. This highlighted letter is then used by the searchers to look for the record.

367. Other offices find it more efficient to place the receipt stamp on a standard order form and have a typist transfer the information from the letter to the order form. When this is done, the order form is usually designed so that part of it can be used as an insert for a window envelope. It is then possible to forward the certificate to the customer without retyping the address information. If the office does not use window envelopes, use an additional typed envelope to carry out the procedure. The correspondence and the receipted order form, if one is used, must be retained until released by auditors when they have completed their annual audit.

368. The next task is to sort correspondence. In considering the orders directed to the special change unit, it was suggested above that the cashier could do the sorting. This is dependent on the daily workload. If the operation is small, it is quite possible to have the cashier ring in the money and sort the orders. A larger operation will probably need a full-time cashier and an additional person or persons to sort the mail. The sorting procedures involved in requests for corrections, legal changes and adoptions have been considered above. Another major group of requests will be for delayed registration of birth. A specific individual in the office usually handles these requests, which often contain many pieces of documentation. They should be sorted out at this point and forwarded to that individual.

369. Two major types of correspondence will compose the remaining mail. First are complaint letters or letters of inquiry concerning previous orders; these should be sorted out and forwarded to a designated supervisor. The second type will be new requests for certified copies of individual records; these will require an additional step in sorting. If the birth and death files to be searched are

arranged chronologically by date of the event, the requests should be similarly sorted for non-electronic searches. This sort applies when the records are on paper or microfiche and are to be reached by consulting a non-computerized index. If the records can be located by a computer search, however, then this additional sort is unnecessary, since the computer will not care in what order the searches are entered.

370. Accounting methods to keep track of the money received and ensure that appropriate work is done for the money received are touched on above, and will be prescribed by the fiscal section of the department. There are, however, other accounting methods that need to be in place. These are accounting methods to track workload and turnaround times for processing orders. The cashier's register can be a source of information about how many orders the office receives per day. In addition, weekly or monthly date checks on orders being processed by particular area (e.g., birth request, death certificate request, adoption change) will give an idea of the turnaround time for processing orders. To do this, one must compare the date stamp placed on the request when it arrived in the office with the date on which the request is completed. In compiling these figures, it is advisable to count only working days so that the number of weekend days or holidays in a month does not skew the data.

371. These work-flow data are quite important in a processing system such as vital records. The length of time will vary from place to place and culture to culture, but there is a specific length of time beyond which customers will not wait silently for their certificate to arrive in their mailbox. Inquiries will increase when the turnaround time begins to exceed this interval. This will place the operation in a downward spiral, since answering these inquiries will further lengthen the turnaround time. It is good sense for someone to monitor the work-flow data to avoid such a situation.

6. *Internal monitoring tasks for record processing*

372. Each of the three components (certification, registration and statistics) has several internal monitoring tasks for its programme operations. Several have already been mentioned for certification. The one mentioned immediately above—monitoring turnaround time in responding to the classes of customer requests—is one example. Another is the audit control that guarantees that no one person acts as cashier and supplies the product. Another fiscal control is a daily balancing of the cash register monies with the register tape. Time should be allotted at the day's closing to making sure that this procedure is followed.

373. Sometimes paper records are stored in cabinets so that a single record can be removed at a time. This is

often the situation with the most current year or two of records before microfilming. One must then have an orderly system that accounts for missing records. Placing coloured cards in the spot where the record has been temporarily removed works nicely. The colour of the card shows which staff member is using the record. Since some criminals use birth records to establish false identities, there is a whole series of internal monitoring routines for guarding against fraud. Store records in a secure place, especially during non-office hours. No records should be left in unlocked cabinets, on desks or in non-secure areas overnight.

374. Laws and regulations often dictate that birth certificates are issued only to the registrant, the registrant's immediate family or a legal representative of one of those individuals. Methods should be in place to follow this rule. The application blank can ask the applicant to list the maiden name of the registrant's mother. This has proved to be a good screening question. If the applicant does not know this information or puts down any incorrect information on the application, suspicions should be aroused and identification demanded before the record is issued.

375. Another protection against fraud is to mark the birth records of people who are known to be deceased with the death record number and a notation that the individual is deceased. The matching of infant death records to birth records was mentioned above as a good procedure. If a jurisdiction has the resources, it is a good protection against fraud to match death and birth records for older ages. The process is easier for the years before the ages when most deaths begin appearing. Annotating deaths under 40 years of age seems a possibility in most jurisdictions.

376. Registration of birth is also subject to fraud. The same home birth registered in two different jurisdictions could make the parents eligible for social service benefits from both jurisdictions. Using false documents to establish a delayed birth record is another favourite criminal technique for getting a false identity. Procedures for cross-checking between jurisdictions and verifying documents presented as authentic can counteract these avenues of fraud.

377. Internal monitoring of the database being created is also an important registration component function. Computer range checks on data items should be in place on regular edit runs. Select for further check a mother whose age is out of the normal range. Babies of exceptionally low or high weight should also be selected for further check. Sex-specific diseases should have checks so that, for example, males do not die in childbirth and females do not die of prostate cancer. There should be a series of computer checks on the unique numbers assigned to the vital records. Are there duplicate numbers? Are

there any numbers unaccounted for in the set? Running tables monthly can also be helpful. Spot checks of the tables for unusual counts or totals or inconsistent totals will often point to system problems that one must address.

378. Because registration and certification have already checked the data before they go to the statistics unit, the quantity of statistical monitoring is low. One should note, however, that when this unit runs the year-end statistics, it usually turns up inconsistencies that must be checked and corrected. Just the fact that this unit is generally running different programs than were run in monthly checks is enough to guarantee that previously undiscovered errors will make their appearance.

379. Monitoring of marriage records for fraud can also take place at the central registry. Cross-checks to uncover marriage of an individual to different persons in different jurisdictions can take place here.

380. The other major monitoring efforts which fall upon the statistics unit have to do with data use. Data are collected to be used. Therefore, data use by outside users should and will be encouraged. Monitoring the proper data use by these outside researchers is a statistics unit concern. Are proper confidentiality agreements in place? Do the users understand these requirements? Are appropriate protocols in place to ensure that this research project needs these data and will use them appropriately? Some major examples of monitoring done by the statistics unit are review procedures, obtaining confidentiality agreements and human subjects committee reviews. A human subjects committee focuses on both proper data use and the individual research subject's rights.

B. SYSTEM ACTIVITIES

381. Section B looks at ways to respond to the public's need for vital records; it also looks at the needs of those who are reporting legal, demographic, or statistical data into the system; and it considers record flow and prevention of fraudulent use of the documents in the custody of the vital records bureau.

1. *Services to the public*

382. Services begin with programmes to preserve records. At the time of a vital event—birth, death, foetal death, marriage or divorce—the average person cannot make certain that someone has carefully recorded the facts surrounding the event. Therefore, the registration of the vital events occurring in the jurisdiction is the bureau's first service to the public. The registration process has already been covered in section A above, so it is not necessary to repeat those services here. Registering and recording the facts, however, do not complete the programme that one might label preserving records.

Preserving the records includes steps to protect the records against disaster.

383. A programme to preserve the records might include a microfilm storage design to protect against fire, flood or even nuclear disasters. Archivists favour a programme that microfilms records to yield two "archival" copies and one "work" copy of each roll of film. The archival copies are made so that one can make diazo prints from them. An archival copy, then, allows future copies of the film to be made even after the paper is destroyed or disintegrated. The work copy is the diazo copy. Emulsion on the diazo copy is not a surface emulsion as in the archival copies. Therefore, the diazo lends itself to use in a microfilm reader. One should not use archival copies this way since the reader will scrape the film's emulsion and thus cause severe damage to the image.

384. Why two archival copies? This is advised so that one copy can be stored by the archivist in an area remote from where the working copy is stored. Then, every 10 or 20 years as use demands, new work copies can be produced. The storage of the film remote from the work copy also protects it against fire or flood destruction. Store the second archival copy at some protected location even more remote from the work copy and first archival copy. In some countries, there are companies that store such films in underground remote locations. This is protection against a nuclear disaster that might destroy copies both at your office and at the archives storage area.

385. An alternative to microfilm storage is optical disk technology. The initial expense to use this technology is much higher than microfilm. However, this type of system allows the retrieval of an enhanced electronic picture of the original document and the subsequent printing of a very clean, clear and sharp copy. It is a system worth considering for countries that can afford it. Separate disks for remote storage can be produced to afford the same protection outlined for microfilm. As a new technology, optical disk storage is lacking in standards and in historical demonstration of longevity of preservation. For these reasons, it is wise to seek the advice of the jurisdiction's archivist about the optical disk type of system. Another drawback to the optical disk system is that it does not store your vital statistics data on the same medium. It provides good graphic reproduction of documents but is not a storage and retrieval medium for statistical data.

386. Both the systems described may be replaced by dual computer-based original and back-up systems. If this is a fresh start in the creation of the preservation programme and the resources are available, one should consider this alternative. To have a completely computer-based system will require not only duplicate tape or disk copies of the data but also some hardware duplication. This is necessary to allow the efficient production of

certified copies on demand. Should the primary computer system go down, it would be necessary to have a back-up system to continue prompt copy service.

387. If one wishes to keep a system that is in place and gradually introduce a more efficient system, then one can develop a combined system that has elements of two or more of the systems discussed. Using microfilm as a back-up as one gradually changes to a computerized system of issuance is common. A dual system combining computerization and optical disk technology can offer the best qualities of each system.

388. Production of certified copies of the records that have been carefully registered and preserved is another major civil registration office activity. This service can vary from abstracts hand-copied from a paper record to computer issuance of the record in a choice of formats. The size of the jurisdiction's file, the level of demand from the public and the availability of resources will motivate the response in this area. Some common copy issuance programmes that can be adopted both at the administering agency for civil registration and at the network of local offices are described below.

389. If the central bureau's master file is on paper, then one can make the certified copy by copy machine. With a microfilm master file, one will use a microfilm reader/printer to generate the certified copy. In either case, the searcher will be guided to the record by some type of index system, as previously described.

390. For either system, the programme will need to devise a method of placing the certification statement on the copy. Some statement must guarantee by signature and official seal that a record on file in the office was used to make the certified copy. There are many methods of accomplishing this. One can place a mask containing the certification statement on the copy machine with the paper record. The machine will thus produce a copy containing the statement. This mask usually would contain the signature of the registrar, so that it would not be necessary for the registrar to sign each individual copy issued. Some offices use a rubber stamp to add the certification statement. In the case of copies produced on a microfilm reader/printer, it is possible to place a certification statement on the machine so that it will print on each copy made. The machine manufacturer should be consulted about this possibility. Perhaps the office has a microfilm reader/printer that prints on pre-cut sheets or is using a copy machine to copy from paper originals. Then an alternate method is possible. A standard form containing the pre-printed certification statement is used. In all these methods, it is usual to affix the official seal with a manual device or—if resources allow—an automatic machine. Some countries use special pre-printed seals on intaglio embossed paper. The date of issuance is also affixed to the document.

391. If the master file is computer-based, it is possible to develop programs to search the file electronically and to have the computer issue the final certified copy. Such systems usually use computer papers that already contain the certification statement, the signature of the registrar, and an intaglio printed official seal. This is an efficient method of issuing copies. According to the size of file involved, it is not unusual to have an office decrease the time necessary to find and issue a copy from 15 minutes to less than 1 minute by installing such a computer-based system.

392. Some local registration offices may find that copy machines and possibly electricity are not available. In that case, it is wise to use nationwide or statewide standard forms. The form could still include control numbers and special printing techniques that discourage counterfeiting. Remember that certified copies of vital records have legal value and are regarded as official documents to prove the occurrence of vital events.

393. Another consideration in a copy issuance programme is the format that one is going to offer the customer. Many offices offer full copies of the record, as well as computer copies and wallet-size copies. Of course, the more options offered the more systems are needed. If the system is computer-based, then it is easy to offer both the full-size computer copy and a wallet-size computer copy. All it takes is an additional computer program to generate the wallet-size copy, and usually an additional printer on which the wallet-size paper can be kept loaded. If there is a back-up microfilm system, then offering a full copy of the original document is possible, although it is very labour-intensive and time-consuming.

394. A format that has been popular with customers is a laminated wallet-size card. The equipment to issue such a card is easily obtained. A caution to be observed in using the laminated card is that it defeats the fraud prevention technique of a raised edge printing on the paper used for the document. Although the laminated card will last longer, the ease of obtaining equipment to produce it makes it more subject to counterfeiting. The wallet-size card with an intaglio border printed on banknote stock paper is more vulnerable to wear and tear but less vulnerable to fraudulent production.

395. Another decision point for the copy issuance programme is the format under which orders for copies will be accepted. The typical method of having customers personally come to the office to obtain a copy is probably the least efficient way of accomplishing the task. However, nearly all jurisdictions offer this service. The inefficiency arises out of the inability to batch orders by year when individuals arrive randomly. Computerized search and issuance have removed this as a problem. If the jurisdiction's system is not computerized, however, this inability to batch requests will be very time-consuming.

396. All of which may lead one to encourage requests by mail. Such requests can be sorted into batches so as to make the search process more efficient. Mail requests bring with them another set of challenges for the copy issuance programme. Perhaps the customer did not enclose the correct fee. Perhaps insufficient information is given in the letter. The copy issuance programme will need to develop form letters and accounting procedures to handle these situations.

397. In countries with widely available telephone systems, civil registration systems will have to decide whether to accept orders by telephone. An immediate problem here is collecting the fee for the copy. A method that has worked successfully in many offices is to allow the customer to charge the cost of the order to a credit card. If there are not many customers in the jurisdiction who have credit cards, then abandon the idea of accepting orders by phone. If this option is considered, it may be well to work with a company that can help to process credit card orders. Without the help of an expert, it may be more of a problem than the service is worth.

398. The civil registration system needs a delayed registration programme for members of the public whose events are for one reason or another not registered on a timely manner. It can be applied to any type of vital event. The most common cases are delays in reporting births for registration. The registration law and regulations should provide the steps to handle these cases, including fees. There might also be long periods of delay. For example, a customer 45 years of age may request his birth to be recorded. This sets the delayed registration programme in motion to care for the needs of this individual.

399. For long periods of delay and because of the legal nature of the birth record, a judicial procedure is advisable to prove the facts of birth. To accelerate the process, the following would be helpful: an old school record, a baptismal record, a voting record, a hospital record or a combination of these records that shows the individual's facts of birth. Before the judicial order, the local registrar proceeds to record the birth. The system should have the fees established for delayed registration. A scaled fee is recommended according to the length of delay.

400. When delays are short—say, one week to less than one year—then the local registrar should be trained to handle those cases. The proof needed can be one or a combination of those listed for long delays, to which fees must be added.

401. The programme should allow some individuals to file a delayed birth, marriage, divorce and death registration. The documents required to support filing a delayed registration and the process itself are covered in section A.2 above.

402. Individuals trained to recognize other documents required for filing the delayed birth, marriage, divorce and death records and trained in methods to decide the authenticity of the documents should staff this programme. The filing of false birth records through the delayed programme is a favourite method of those seeking fraudulent identification. Unless the programme is designed to thwart such attempts, it will lose its credibility and external agencies will begin to refuse to accept the delayed certificates.

403. Delayed registration programme volume will depend on the completeness of the files and the size of the jurisdiction's population. There may be few enough of these filings to be just part of one person's workload, or there may be enough demand to require several clerks to handle the load. The process is tedious and time-consuming. Normally, a special fee should be charged for the service.

404. An amendment programme is also a necessary part of the vital records response to the public. Vital records are dynamic documents that require correction and change. Addition of a father's information, preparation of new documents in cases of adoption, updates to reflect legal name changes, corrections of erroneous information and annotations on the records are all actions that would fall under the amendment programme. Section A.2 above has outlined the specific methods to be used in the special processing that this programme requires. A special fee for these time-consuming and detailed activities is usual.

405. One must also have a programme to respond to internal uses of the records. It is probably better to say that one needs two programmes to respond to internal uses. There are internal uses that will generally need a response from the certification unit of the bureau, and there are other internal uses that will more properly need a response from the statistical unit. Some requests will require the intervention of both units, so the programme to respond to internal uses of the records is really one that crosses the general functional lines outlined for the separate organizational units.

406. Supposing that the vital statistics function is located in the department or ministry of health, then some examples of the types of requests to which this programme must be prepared to respond are as follows. The cancer registry will generally require copies of death records for patients dying from cancer. This will aid them in bringing follow-up to a close and in preparing survival rates for individual types of cancer. The birth defects registry may ask the statistical unit for a computer dump of records of births with risk factors for birth defects. Although research shows that the birth record is a poor document for picking up any but the most obvious birth defects, the record remains the ear-

liest notification of birth defects, and is thus highly used by registries. Programmes designed to track the immunization of infants often use birth registration documents. Sometimes a sampling procedure is used to check how many two-year-old children have received appropriate immunizations. In some jurisdictions the new birth record is used to notify the parents immediately of immunization needs and to follow up to make sure that appropriate vaccinations are received. More and more jurisdictions are now reviewing all deaths of children. To do so generally requires the production of death and matched birth records for the review committee. If the vital statistics function is located in a ministry other than health, there will be different but analogous examples of internal demands for data.

407. From a statistical point of view, internal use of the vital records data includes the production of an annual statistical report concerning birth rates, death rates, leading causes of death and so on. Another part of the programme for internal uses needs to deal with appropriate ways to make the data available to researchers within the department. Data should be available to researchers in the maternal and child health programmes, the epidemiology programmes, and the planning and evaluation sections of the department.

408. To these internal uses of the vital records data, the programme must also add the ability to respond to external users of the data. This involves reviews of the right to the data relative to confidentiality and privacy concerns. It also involves review of research protocols to assess the value of the proposed research and the researchers' qualifications. Involved, too, is the development of efficient methods of sharing the data with approved external users.

409. Some external uses may be mandated by statute. For example, the demographer in the jurisdiction may need data to prepare population estimates. There may be a statutory requirement that death records must be linked with voter records to purge the voting rolls.

410. The programme for internal and external use of the data is a varied one that must respond to many different requests from a wide assortment of users. It is an important programme that emphasizes the reason that one spends sizeable resources collecting data properly so as to successfully use them to operate many services that society requires.

2. *Field programme*

411. The field programme is a cornerstone of the development of good civil registration and vital statistics systems. Organizationally, the field programme is usually the outreach part of the recording unit that was mentioned in chapter II, section A.1, above. It has many

advantages. This section will examine those advantages and the components that make up an energetic field programme.

412. The field programme is a necessary component of the management of the registration services and efficient operation of the system. This is true for both a centralized system and a decentralized system. This can be seen clearly if one looks at the individuals that the field system will be designed to help. They are the local registrars, the morticians, the hospital medical records personnel, the coroners, the physicians, the midwives, court personnel and any others who might be involved in recording or reporting a birth, death, foetal death, marriage or divorce. In either a centralized or decentralized system, reporting is made to local registrars who register the events. Also, the other individuals will be part of the system and will need the services of a good field programme. In a centralized system that carries out registration at the central office only, e.g., without local registrars, the field programme becomes even more important to the efficient operation of the system.

413. The components of a good field programme are several. An initial product of the field programme is the set of instruction manuals needed by local registrars and by each of those who supply notifications to the system. These should be very careful and thorough outlines of what local registrars and each of those notifiers has as his or her responsibility. Since the majority of civil registration systems rely on local registrars, it is wise to begin the instruction manual production with one for this group, because the local registrar must be aware of the entire array of activities for correctly registering vital events. The instruction manual should include preparing and filing the records, handling legal requirements to prepare the records, their safe keeping, issuing certificates, making amendments and corrections, transmittal of vital records to the registration authority and collecting data for statistical purposes. The local registrars need to be familiar with the laws and regulations governing civil registration and vital statistics in the country or state or province, and copies should be made available to them. An important part of the manual will be the description of their duties and responsibilities, since they are the cornerstones of the registration system. Because vital records are legal instruments, local registrars must have solid knowledge of family law so that they will be able to efficiently participate in the process of family organization to which civil registration contributes. The local registrars should be provided with all necessary instruction to make them competent to solve several registration-related matters, including the possibility of modifying the vital records in those cases provided by law, without the need to consult the authority for civil registration (director-general, registrar-general etc.)

414. The manuals for notifiers (morticians, coroners, midwives, hospital personnel, physicians, court clerks, marriage officers) will be specific to the responsibilities of those individuals. The funeral director or mortician manual, for example, will deal only with the requirements for filing death notification records. On the other hand, the physician manual will need to have sections on completing cause of death and cause of foetal death, as well as sections on completing birth records. All of the manuals should contain copies of the specific documents for which that notifier will be responsible. Besides specific instructions on how to complete each item, it is also necessary to explain why the item is important and how it will be used. Such explanations help elicit more complete and accurate responses.

415. Preparation of the manuals is a time-consuming task but repeatedly pays real dividends. To continue reaping these dividends, it is essential to keep the manuals updated. Manuals must reflect change in forms or in administrative policies as soon as they occur. Consequently, a loose-leaf manual is suggested, which can have new pages or updated pages inserted in appropriate places without having to reprint the entire document.

416. A helpful adjunct to the instruction manuals for keeping your local registrars and notifiers informed is a monthly or quarterly newsletter. The newsletter is a handy device for many things. It can keep people up to date on changes and alert everyone to any common errors that are being detected. It can also provide a medium in which problem questions can be asked and answered, and can offer motivational material, such as timeliness reports or helpful hints from local providers. The newsletter can also list notifications of educational meetings or seminars throughout the jurisdiction.

Visits to the field by programme staff (inspectors)

417. Field visits are a crucial part of the civil registration programme. The visits not only serve an educational objective but also serve a motivational objective. Programme staff visits to the field serve the very important motivational objective of letting the local registrars and the providers in the field know that they are an important part of the civil registration records team. Periodic checks of the local registration offices should be part of the annual work plan of the system's administering office to verify that local registrars are recording and reporting vital events in strict compliance with the law. Since these visits to the field are costly, careful planning is necessary to maximize their benefit while keeping their frequency within resource limitations.

418. There are several types of visits. Routine visits should be made to ensure strict compliance with laws and regulations, that such items as manuals are being kept

up to date, that registry files are being maintained in order and in secure fashion, and that reporting of vital events runs smoothly. Routine visits also answer any problems that may have come up in the particular area. When staff make these routine visits, they should try to visit with not only local registrars but also as many key providers in the area as possible. That is, visit the local registrar but also pay visits (or make calls) on any midwives, morticians, coroners or hospitals in the area. If a physician is having any problems with reporting vital events, this is a good opportunity for a visit.

419. Initial visits are made when a new registrar, coroner, mortician or medical records personnel appear on the scene in a particular area. The sooner someone gets out to help with on-the-spot training, the easier will be the transition for the provider and for the office.

420. Educational visits need more preparation and are more formal in nature, and may involve a full team of trainers from office staff. Examples of this type of visit are regional seminars and annual meetings. Both are worthwhile investments of staff time. One employs the regional seminar if the geography of the jurisdiction is such that it is easier for a particular group of individuals from one section of the jurisdiction to gather for in-depth training. For this type of seminar, several can be held in different geographical areas during the year, responding to the particular needs of that area. On the other hand, one uses the annual meeting to bring together as many local registrars and providers in the entire jurisdiction as is possible. This allows an opportunity for free exchange of ideas and experiences that can be very beneficial to general communication throughout the registration system.

421. Although it may not be possible to include immediately all the components listed above in the field programme, it is essential to work towards a programme that includes each component in as much depth as possible. The dividends to the general health of the civil registration system will be very quickly visible.

3. *Coordination activities*

422. Whether the structure is centralized or decentralized, coordination activities must be built into the civil registration and vital statistics systems from the start. This is true whether or not the civil registration system is in a separate agency from the vital statistics system. It is in the very nature of the vital statistics function to use the local registrars, providers and notifiers, and in some instances even the same record, to collect information for legal purposes and for statistical uses. This demands close coordination and collaboration among the various components of the civil registration and vital statistics systems. The certification unit, the registration unit, the

statistics unit and local offices must coordinate activities for an efficient operation. In centralized systems or the single agency option, leaders of the three central office units (certification, registration and statistics) should meet together on at least a biweekly basis to discuss matters of an overlapping nature. It will often be discovered at these meetings that changes planned by one unit may drastically affect another unit in ways that without open discussion and coordination would never have been anticipated. When the units are in separate agencies, periodic meetings should be held. Coordination efforts should be as strong as possible. Some specific instances where coordination is crucial will be outlined here, but these are hardly the only such instances. Therefore, regularly scheduled meetings of the leaders of the three units with the total management of the bureau are highly recommended.

423. The design and use of collection forms is an area where all three units of the civil registration and vital statistics systems must be in close coordination. Some jurisdictions will have documents for collecting legal information separate from those used to collect statistical information. Other jurisdictions may use a single document. In either case, the certification and the statistics sections must have input into the initial design of the collection instruments to guarantee that the information that they need to collect is on the instrument(s). The registration unit needs to be intimately involved in the structuring of the instruments. This will make the data collection as easy as possible and the transfer of the data to the master file most efficient. Similarly, all three units must be involved in any changes to the collection instruments. The certification unit will need to worry about any change that might affect the completeness of coverage. The statistics section will need to worry about any change that might bias the data. Registration will need to worry about how the change will affect data input to the master file.

424. Certified copy issuance requires coordination between the certification unit, the registration unit and the local registrars. To be able to locate the records for which certified copies must be issued, the certification unit is dependent on the production of quality indexes by the registration unit. Whether the jurisdiction produces its index on paper, microfiche or an on-line computer system, its production is a result of the work done by the registration unit in getting the data into the system. This includes not only data entry but also the proper training of the producers of the data in filing them completely, accurately and in a timely manner.

425. As the local registration offices also issue certified copies of the vital records, additional coordination efforts are called upon from the registration unit. It is the registration unit that trains the local registrars. Therefore, it will fall upon that unit to make sure that common rules

and procedures for certified copy issuance are followed in the local office and in the central office. The use of common paper for the copies, as will be seen below, is an important fraud deterrent. Coordination in this area is a crucial task of the registration unit.

426. Burial/transit permits were described in the preparation of death records part in section A.1 above. Their proper use depends on the coordination of the registration unit and the local registrars or local providers of death data. The permit makes sure that cause-of-death certification is signed and the death record prepared before final disposition of the body. It is also a check on whether the coroner has been notified about cases within the coroner's authority. The registration unit has the task of training local registrars, coroners and funeral directors to make certain that the permit system accomplishes these goals.

427. Paternity statements, adoptions, amendments and delayed registrations require coordination, first between the certification and registration units with local registration offices, and then later between the registration and statistics units.

428. For jurisdictions where many births occur in the hospital, a technique for getting fathers listed on birth records in out-of-wedlock births is to have the paternity affidavits (or whatever documents the jurisdiction requires) available at the hospital at the time of birth. This requires coordination between the certification unit, which generally has responsibility for the paternity forms, and the registration unit, which is the usual contact with the hospital personnel (it is assumed that the hospital has been appointed a subsidiary local registration office for births, foetal deaths and deaths). Further coordination is necessary between these two units to make sure that no matter when or where the paternity documents are completed, the information is then added to the master file of births and indexes. These two units must coordinate adoption changes, error corrections, addition of information, legal amendments or late registrations of vital events to maintain file integrity.

429. Many jurisdictions in developing countries will have a large number of births occurring at home. In such instances, the local registrar should obtain information concerning the father from the mother of the child.

430. When changes of the type described are made to current year data, the registration unit must also coordinate with the statistics unit to make certain that the appropriate changes are reflected in the statistical file. For example, in an adoption the statistical file will want the natural parents data as opposed to the adoptive parents health data. Meanwhile, the certification unit will need the adoptive parents data to be reflected in the legal portion of the information.

431. It will be important for the registration and statistics units to coordinate at the yearly close-out of statistical data. This is to make sure that all changes have been reflected and no duplicate records appear because of adoptions, amendments or paternity additions.

432. These are just some of the major areas requiring close coordination. Not all of the areas where coordination is a key to a successful system can be enumerated. However, it is recommended that the leaders of the three units meet with management at least every second week for the specific purpose of coordination of efforts.

4. Graphics for registration record flow

433. The present section will present a graphical look at how the registration records flow through the system. The examples depict a combined form for registration and statistical purposes.

434. Figure III.1 depicts the flow of the birth record in a centralized registration system that also administers the vital statistics system. The recording will most often begin at the hospital and will flow in paper or electronic form, first of all to the local registrar who completes and signs it. The local registrars keep their file copy and forward the original to the central office. According to the number of home births in the jurisdiction, some birth records will begin by being completed by others. The box lists the individuals in the preferred order for completing the birth record (or notification form as the case may be) in a home birth.

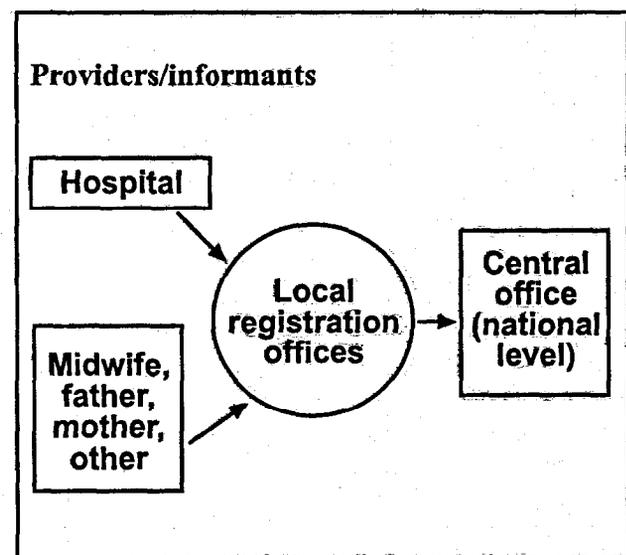


Figure III.1. Birth record, centralized registration system

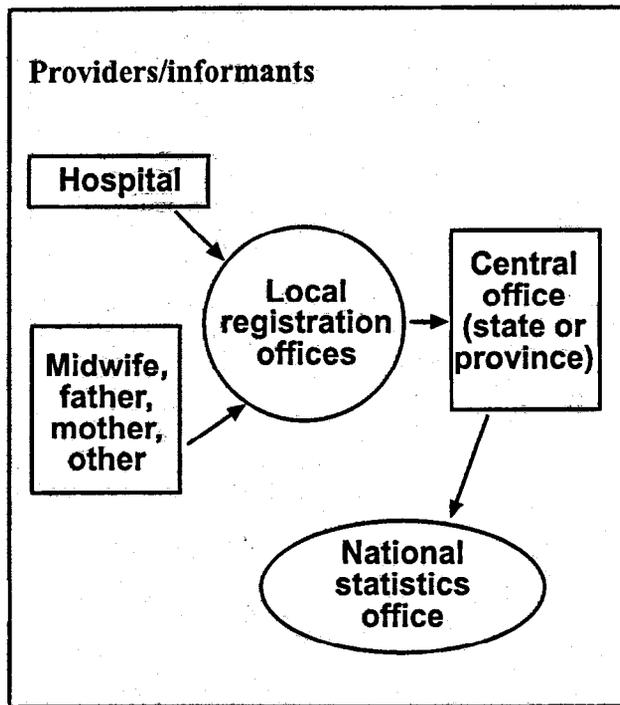


Figure III.2. Birth record, decentralized system

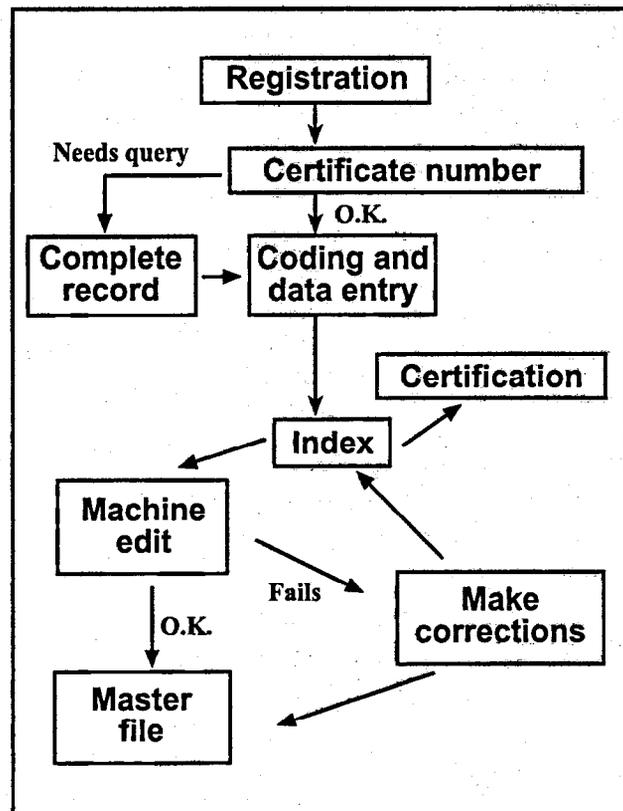


Figure III.3. Birth record flow in central office

435. In a decentralized civil registration system, the difference in the record flow, as figure III.2 shows, is that the record must reach the local registrar before going to the administering office in each state or province. Systems that have separate documents for legal and statistical information will of course show some variations from the flow shown in the chart. Where there is electronic transfer from the hospital, the flow may be changed. In such instances, it is often more efficient to have the electronically transmitted vital records flow directly to the administering office, with a return flow from the administering office to the local registrar. However, the chart as shown covers the overwhelming number of cases in existence.

436. Figure III.3 shows what happens to the birth record once it reaches the central office, which also administers and produces vital statistics. In this example, it is presumed that the birth record gathers both the legal and the statistical information on the same document. The registration unit receives it, and immediately numbers and visually reviews it for completeness. If a query is necessary to obtain more information, it is made before the vital record is advanced to data entry. Any manual coding is also done at this time. When the vital record is separate from the statistical report, there will be work-flow variations from the chart. In a well-coordinated programme, data entry must be alphanumeric so as to serve the legal and statistical purposes. An electronic or paper index is

next produced and forwarded to the certification unit as well as to each local registration office. Computer edits for accuracy and consistency are made, and any corrections needed are made before the electronic record is finally stored in the master file. Verification needs to be made in 100 per cent of the records by a separate data-entry group.

437. The master file remains a dynamic file during the current data year of collection and beyond. Usually, one should run monthly edits on the data to do frequency checks and to detect any systematic errors that might be creeping into the data. Any errors detected are corrected immediately.

438. Systems that run these monthly edits will greatly simplify the final close-out edits at the end of the data year. Run the close-out edits and correct any persistent errors, then make and finalize a statistical abstract file. This statistical file will be used for computing the year's vital statistics. No further changes will be made to this file. On the other hand, the master file will remain open for future changes, such as adoptions, paternities, corrections, changes of name and legal separations of marriage. Figures III.4 and III.5 display these functions graphically.

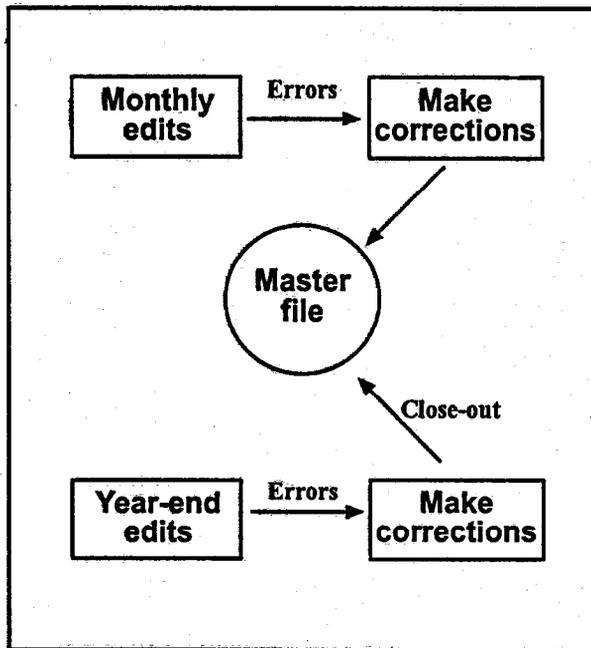


Figure III.4. Edit and close-out of master file

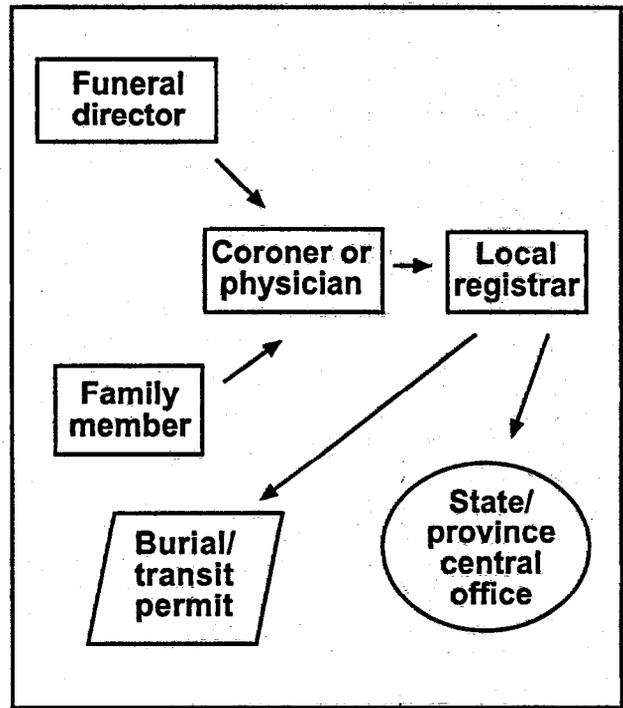


Figure III.6. Death record path to central office

439. It is appropriate now to look at what differences exist in the path that the death record takes as it makes its way through the civil registration system. The death record will begin its path in the hands of either the funeral director or members of the decedent's family if no funeral director is involved. The coroner or a physician must sign it or a separate form to attest to the cause of death. If the jurisdiction has a local registrar-based burial

permit system, then the death record must be brought to the local registrar to complete the registration process and obtain a burial/transit permit. If registration is in a centralized system using a burial/transit permit, then the permit may be the self-issuing type. This type has a second page on the death record that becomes a burial/transit permit once the coroner or the physician affixes his or her signature.

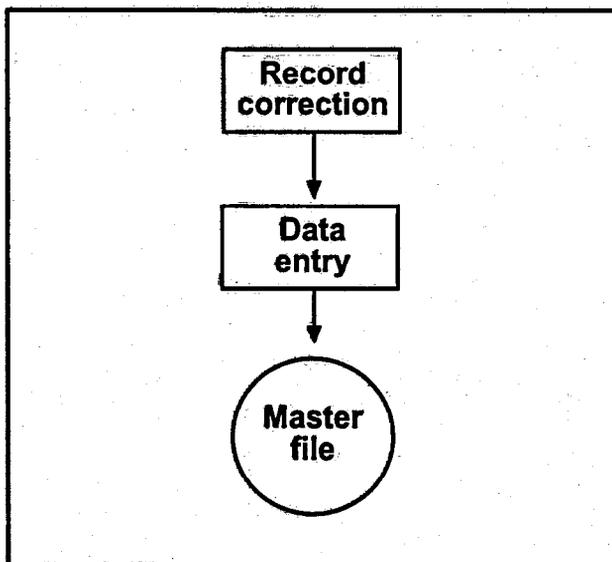


Figure III.5. Ongoing correction of master file

440. Figure III.6 shows this path graphically, using the decentralized model with a local registrar in the flow. If registration takes place in the state or provincial office only, then the box containing the local registrar would not appear. The death record would flow directly to the state or provincial office when the coroner or the physician has completed the cause-of-death certification. Every jurisdiction should require a burial/transit permit to ensure that a death record has been made and no omission occurs.

441. Once the death record arrives in the state or provincial office, it goes to registration, as did the birth record, and it follows the same path that the birth record followed, as was shown in figure III.3. One difference in the processing of the death record is the need to code, *inter alia*, the cause of death listed on the death record.

442. A trained nosologist, using the latest International Classification of Diseases developed by the World Health Organization (see para. 205 above), assigns the code for the cause of death. The use of the Classification

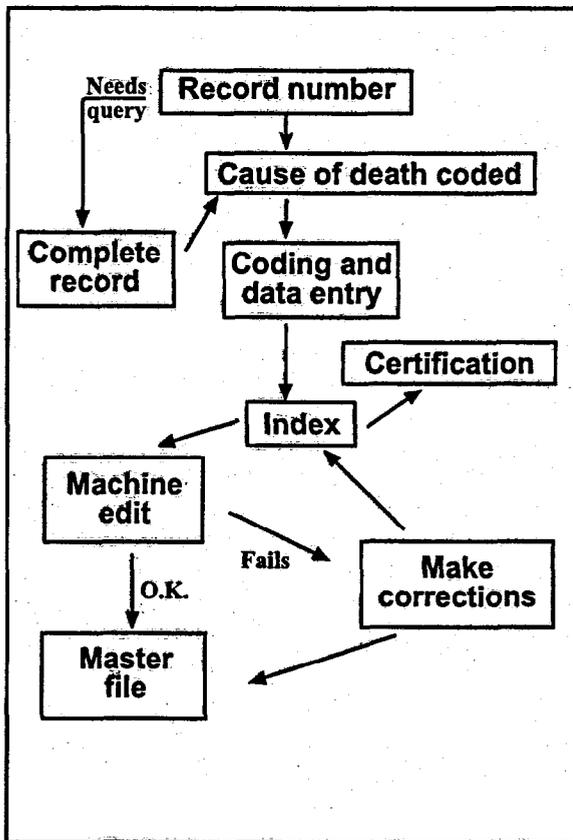


Figure III.7. Death record, International Classification of Diseases code

ensures international comparability of death statistics. Figure III.7 shows one place that this coding could take place. Once the death record is numbered, it goes directly to the nosologist. The nosologist then makes any query that is necessary. Codes are assigned to the record, and data entry (including the cause or causes of death) is effected. One drawback to this procedure is that queried records fail to get into the index immediately. Some systems, therefore, may develop a computer system that permits all the information other than cause of death to be entered immediately. The Classification codes are entered later once they have been assigned. This requires that the record be run through the data-entry process a second time to attach the death codes to the computer record. For small systems, it is probably easier to use the flow that the diagram outlines. Hold the queried records in a temporary file where one can find them easily without an index. If immediate demand for the record is low, this works well. Choice of method here depends on the local situation.

5. Surveillance programmes

443. Confidentiality and privacy of vital records, and protection against fraudulent use of the records, is the topic of the present section. First to be considered are

methods and techniques to protect the issuance of certified copies from fraudulent or even criminal purposes. The birth record in particular is subject to such abuse because agencies so often accept it as an identification document. In many countries, the birth certificate is the document that is used to establish identification cards. Hence, it is necessary to avoid treating vital records as public documents. This will help to prevent misuse of the vital records. Certificates should be issued only to those with a legitimate right to ask.

444. From a management perspective, the difficulty in operating an efficient surveillance programme is how to walk the line between protection of the records and customer service. Citizens who have a legitimate need for a copy of their birth record would like to be able to obtain it with as much ease as possible. Thus, the vital records office responds by accepting requests in person, by mail and in some instances by telephone. Given these responses to the public's desire for good customer service, how can the records be protected from falling into the wrong hands?

445. One method that has been used successfully for years is to have questions on the application blank which call for information that only the registrant or a person close to the registrant would normally know. For example, ask for the maiden name of the mother of the registrant. In general, a good technique is to screen application blanks carefully. If the applicant leaves requested information blank or puts down incorrect information, then there is reason to be suspicious and further inquiry should be made of the applicant. The registrar should have the right to demand further proof of identification in any case where the application suggests that one should be suspicious.

446. Some civil registration systems check requests by mail when the return address is a post office box. Although this does not necessarily mean that the request is fraudulent, it is a red flag that should call for a further look at the quality of other answers on the application blank. Some individuals seeking to obtain false identification through the use of another person's birth certificate will use a return address that looks like an apartment number but is in reality a private mail service drop. The address "556 Fourth Street #34" may in reality just be a private mail drop box at a private mail drop business at 556 Fourth Street. Checking advertisements to discover these private mail drops can help alert staff to suspicious addresses.

447. Use of security paper to print certified copies can be a deterrent against counterfeiting of documents. There is available paper with intaglio printed borders (raised borders, such as are found on traveller's cheques) from a limited number of companies that have the equipment necessary to produce such documents. The docu-

ments can also be obtained with latent images. These are hidden images within the border design that appear to the eye only when the paper is held to the light at a certain angle. Machinery available to the common counterfeiter cannot duplicate such images. Although the intaglio edged paper is more expensive than common copier paper, it has the additional benefit of producing a very handsome document.

448. Use of security paper solves some problems but creates others that must also be faced. Since the security paper keeps the criminal from fraudulent use, the next avenue open to him is to steal some blank security paper. Consequently, it is advised that when using security paper, have a control number pre-printed on each blank document. This allows audit tracking of paper use, and will quickly reveal if someone has stolen any blank form. A second problem to be faced when using the security techniques described above is that employees become targets of those seeking false documents. In such a situation, it is only fair to warn employees that someone may approach them, and to instruct them on appropriate responses to make and procedures to follow. Stamps and signatures of authorized persons in the registration office must be protected by security measures.

449. Other areas of vulnerability for misuse of the documents in a vital records office concern sealed files, delayed filings and release of data to other authorized agencies.

450. Keep files containing information of a confidential nature, such as original documents in an adoption, in carefully controlled locked files accessible only to those authorized persons in the registration office who have a need to use those documents.

451. Often the path criminals follow to obtain false identity is to file a delayed birth record, using false or altered records as proof of the facts of birth. It is important to check for authenticity of documents submitted to support a delayed registration of birth. A check with the church from which a baptismal certificate is issued, or with the hospital from which a medical record is supposed to have come, can often turn up information that shows that the document is not authentic. Most checks will show documents to be authentic. However, the fact that the office checks all such documents will strengthen the credibility of the delayed document that the office issues.

452. It is not unusual for another agency that needs to verify birth facts to telephone for verification. This can also prove to be an avenue open for the criminal to learn information necessary to bypass screening checks on your applications. The technique to use in this instance is not to release the information to the caller immediately, but to request a call-back number for the applicant. For legitimate requests, it will be clear upon call-back that the

agency itself has been reached, and the information can then be released.

453. There are two final techniques that have proved successful in guarding against misuse of certified copies. The first is to mark birth records with the word "deceased" when one knows that the individual is dead. The second is to develop a fraud alert letter, warning other involved agencies when fraud or attempted fraud has taken place.

454. The idea of matching infant death records to the corresponding birth record has been mentioned before as a statistical technique for analysing infant deaths. This also serves as a fraud protection method. Some individuals seeking false identities will attempt to assume the identity of an infant who died in a year when the criminal wants to establish birth. The individual will thus avoid the possibility that some undesirable identity trail already exists for the person whose identity they are about to assume. Some offices expand the marking of birth records "deceased" to include any deaths of which they are aware up to age 40 or so. After age 40, there is a large increase in the number of deaths and the matching process becomes almost too difficult to consider a worthwhile technique when the population size is large.

455. A quarterly letter to other agencies that might need to be on the lookout for individuals who are seeking false identity is a good idea. The letter will make use of the data obtained in the surveillance programme. It will be well appreciated by the other agencies, who may in return offer aid to the vital records surveillance programme.

456. Research use of the data must also be considered in the surveillance programme. Here, consider not only the question of confidentiality but also the separate question of privacy.

457. Researchers will need to have access to individual birth and death records (on paper or on the computer) to meet the objectives of their studies. The data are collected to be used for such studies, so access certainly is to be encouraged. On the other hand, if one collects the data under a guarantee of confidentiality, then one must protect that guarantee.

458. A useful technique here is to develop a confidentiality agreement that the registrar and the researcher must sign and that clearly outlines the restrictions on use of the data. One such restriction might be, for example, that findings are released only in aggregate form. One might want to allow for computation but restrict from publication cells containing data items smaller than a certain size, for example two or smaller. A protocol describing the objectives, methods and scientific merit of the proposed research should always be required.

459. In research projects that require that the researcher contact the registrant or the registrant's family, the issue of privacy arises. There are at least two additional requirements to put in place here. First, besides the protocol, the statistics section should require a review of the proposal by the appropriate human subjects committee (sometimes called the internal review board) of the institution to which the researcher is attached.

460. The second requirement is necessary in almost all follow-back research proposals. It requires the registrar to contact the proposed research subject in advance and request permission to release the individual's name to the researcher. This is most often accomplished through a "negative consent letter". That is, a letter from the registrar informs the individual of the proposed research. It offers a period (perhaps two weeks) during which the subject should respond to the registrar if he or she does not wish to participate. If the individual does not respond during the specified period, then the registrar releases the name to the researcher.

C. CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS: FUNCTIONAL RELATIONS

461. The present section examines the integrated programmes in vital statistics and civil registration. It also looks at the components necessary for close coordination between the registration and statistical activities, examining in particular methods for maximizing communication throughout the units of each bureau. The section ends with a descriptive graphical presentation of flow of data and information between programmes to meet specific needs, including record linkage and quality control of the database.

1. *Integration needs for record use in civil registration and vital statistics systems*

462. In a combined centralized system that has responsibility for both civil registration, including the issuing of certified copies of vital records, and the production of vital statistics, all three major components (registration, certification and statistics units) must be present at the central level. Some local offices in such a system may also have all three components, but more often than not the local offices will contain only registration and certification functions, or perhaps only the registration function.

463. There are permutations that can take place among the three major components, depending on the infrastructure chosen (purposely or a result of historical development). There are also several variations that can exist between the central office and the local registrar on both statistical and registration levels.

464. Certified copies of vital records may be issued at both central and local levels. There are at least three common options of structuring this. In one option, the local registration office keeps a copy of each vital record it registers and forwards the original to the central office. The central office will then have originals of all events registered in the jurisdiction, and can issue a certified copy to any citizen requesting a copy of his or her document. The local office can also issue copies of any type of event that occurred in the geographic area covered by that office. This system has worked best in jurisdictions where the society was not highly mobile, and where there was a predominance of events taking place in the local area where the individuals resided. The certified copy is easily available from an office near one's home in such an arrangement. This option requires maintaining duplicate systems of records and their updating. For example, the central office records an adoption or makes a correction to a record. The central office must then send a copy of the change to the local office that is maintaining the duplicate of the paper-based record. As this is a time-consuming process and prone to error, close monitoring is needed to ensure that both central and local files are exactly the same.

465. In another option, the local registrar issues certified copies only during the period that the original vital record is in the possession of the registrar. Once the document is forwarded to the central office, citizens must apply there for a copy. This system works well for copies of death records, which customers often need very close to the time of the death. It also avoids the need to maintain duplicate paper-based records. There is only one paper-based record at any time. The major disadvantage in this system is that it slows record processing. Perhaps the local office needs to collect a fee or do a service. It is probable that the local office will want to keep the record as long as possible to obtain more fees or be of better service to local customers.

466. Computerization offers a solution to these difficulties. Consider the situation in which the central office computerizes its records and issues copies from the computer. The local office can be linked to this centralized computer system. Thus, the local office does not need to keep a duplicate system. Instead, both local and central offices issue copies from the same computerized file (database). In this structure, the local office is encouraged to get the record to the central office as quickly as possible so that it will be computerized and thus available from the system to be issued. This system is advantageous to the citizen who moves from the residence where the event occurred. The record will still be available from the local office at the new residence, since each local office will have access to all the records in the total jurisdiction. Individual records work better than records kept in bound

books for this option. In fact, individual records can be forwarded to the central office monthly, while books may be sent yearly.

467. The age of the personal computer has also brought variations in structure between central office and local office concerning statistical output. Many local offices now wish to generate data specific to their individual localities. To do so by entering the data from vital records before forwarding the records to the central office is inefficient from at least two viewpoints. First, the data-entry time slows the arrival of the record at the central office. Second, the process duplicates what will be done at the central office. It also introduces the possibility for errors by generating two sets of data that may not agree. The more acceptable structure for this situation is to have the data processed centrally and make a download to the local office for its use. In employing this structure, central offices find that the transfer of the analysis workload allows the central office time to offer software or statistical technique support to the local areas.

468. Authorized agencies outside the vital statistics and civil registration systems will use the information that the systems generate. Design the structure to administer these services, and make sure that issues of confidentiality and privacy of individual information are complied with. The computer has brought with it the ability to link files and thus generate new information not available in either individual file. Similarly, in the vital statistics system, design the infrastructure to handle the confidentiality and privacy issues involved in sharing the statistical data (these are described in detail above, as are the technical processes necessary to link such data). Each case will present its individual problems, but one should design the structure to respond with creative solutions. In this way, the efforts to collect and process the data will be maximized by the resulting output.

2. *Coordination of civil registration and vital statistics functions*

469. Vital statistics and civil registration functions are quite varied, and therefore coordination of functional relations assumes a high degree of importance. In a centralized structure that handles both civil registration and vital statistics, close coordination among the three major components and the general management of the system is very important. Examination of the functions of each component has shown that there is an interdependence that permeates the daily operations of registration, certification and statistics. Consequently, the functional coordination should begin with weekly or biweekly meetings of the component chiefs with the general management of the agency or agencies. Each chief should have an opportunity during the meeting to present any plans under consideration in his or her unit, particularly any that

may affect another unit. Also, management has the opportunity at such meetings to offer any information that all components need and to stay informed regularly about what is happening in each unit. Such meetings also tend to build a team feeling, and broaden the perspective of unit chiefs, who are immersed each day in the operations of the particular component under their charge.

470. Depending on the size of the vital statistics and civil registration systems, it may be well to take these weekly or biweekly meetings another level lower on the management organization. That is, each of the component chiefs may find it advantageous to hold meetings within the component's management to keep those individuals informed concerning what is happening in the other interdependent components.

471. In a decentralized structure, such coordination can be the work of a central committee. The committee will consist of representatives of each function, and will meet on a regular basis, as conditions allow.

472. None of the major components of vital statistics and civil registration systems exist in a vacuum. Civil registration and vital statistics systems must coordinate with other functional units throughout their portion of government. To do this effectively, members of the vital statistics and civil registration staff need to serve as members of various committees throughout the government. For example, if there is a birth-defects registry, it is important that a member of the staff attend the major organizational or board meetings of the registry. This will help to coordinate what input the bureau provides, and to find out if there are any ways in which the registry can be of help to the registration system. Since the registry will most likely be the recipient of information from other sources besides the birth record, it probably can serve as a check on the completeness and accuracy of data on the birth record.

473. Review committees are another source of coordination with other health agencies. It is recommended that members serve on committees that review maternal deaths or perinatal deaths. Such attendance will alert these committees to some uses of the vital statistics data and the civil registration system. In all likelihood, the attendance at the meetings will also broaden the perspective of the staff member and alert the staff member to the needs of other areas of the health field.

474. Besides coordinating with other agencies in the health field, it is also important to coordinate the vital statistics and registration programmes in the jurisdiction with similar programmes on a national or international level. Having members serve on committees and belong to associations of professionals brings new ideas and new methods into the organization. Such attendance also opens opportunities for coordinating the work of the jurisdiction with other jurisdictions.

Use of standard nomenclature and common codes

475. The adoption of standard nomenclature and common codes is also a crucial part of the coordination of functional relations. It is important that infant mortality means the same thing in one jurisdiction as in the neighbouring jurisdiction. The use of definitions from the World Health Organization (WHO) is a good way of accomplishing this. Also, use definitions of live birth, death, foetal death, marriage, divorce, and associated concepts taken from the *Principles and Recommendations for a Vital Statistics System*,¹⁹ as reproduced in annex II below. Similarly, the use of the latest *International Classification of Diseases and Related Health Problems* (see para. 205 above) for coding causes of death is a necessary step towards coordination and harmonization. Using widely accepted standard codes is only part of the coordination needed. It is also the task of the vital statistics and civil registration systems to make sure that the professionals who use the terms are doing so in a consistent manner. Distribution of pertinent definitions to physicians is very helpful.

476. The responsibility for staying current in the use of codes is also important. To be able to compare data with other jurisdictions, it is best that all are using the most current codes.

477. Another area of responsibility in the use of codes is in the uniform application of the codes. It is important that the nosologists applying the Classification codes for death have training in the universal methods of translating the literal causes listed on the death record into an underlying cause-of-death code from the Classification. Such consistency is necessary to make the data comparable to data throughout other jurisdictions. This effort to coordinate the activities of individual nosologists is being alleviated by technology. Selection and coding of underlying cause of death by computer software are becoming more common. The problem then reduces itself to the comparability of the software programs used. For example, the National Center for Health Statistics of the United States of America has developed the Mortality Medical Indexing, Classification and Retrieval System, which produces Classification codes from verbatim cause-of-death information entered by the coder.

478. A final issue requiring coordination concerns legal and access issues. There may be restrictions on the issuance of certified copies of vital records. A coordinated effort can make sure that all outlets issuing certified copies of vital records apply restrictions in the same fashion. Similar coordination applies to the release of confidential data for use by researchers. Develop rules and regulations

that allow use, and apply the same rules in all cases. Coordinated development and application of these rules/regulations and procedures will eventually make the control, release and use of these documents and important data a more effective operation.

3. *Inter-component communication*

479. Vital statistics and civil registration systems should take care to nurture communication. This not only refers to the component coordination efforts that were covered in section C.2 above but goes even further to require that each office implementing registration, certification and statistics activities reach a level of understanding of the other components' needs and responsibilities. For example, when the certification component completes a new record following an adoption, it must be aware of the importance of communicating to the registration component. It must communicate exactly what changes have been made to the document so that the registration section can have those changes reflected in the master file. In turn, the registration section must be aware of the needs of the statistical component concerning the changes that the adoption causes to the database. Although it may not concern the statistical section that the child's name or the parents' names have changed, the statistical unit will be interested in the demographic characteristics associated with the birth. Although the adoptive parents may be of different ages than the natural parents, the statistical section would not want this reflected in the statistical database. For statistical purposes, the data on the natural parents are what the statistics section needs. At the same time, the certification unit wants the age of the adoptive parents to appear in the copies of the certificate that it issues. The registration section must be aware of these disparate needs on the same data item and construct the database to respond to both.

480. Although this is a particularly poignant example of the need for communication among system components because it involves all of the components, it is not the only instance that makes communication essential. The discussion above of the delayed registration programme and the correction and amendment programme supplied other examples of the necessary communication from one component to the others.

481. If the registration section is to run a successful field programme to increase completeness and accuracy in reporting, it is essential that each of the other components discuss exactly what each question on the vital records is designed to obtain. For example, a question on the death record asks for the education level of the deceased. The statistics section knows that this is an important variable which it uses as a substitute for asking income level. It is important that this be communicated to

¹⁹Statistical Papers, Series M, No. 19, Rev. 1 (United Nations publication, Sales No. E.73.XVII.9).

the registration component, which in turn must explain this to responders, local registrars and other collectors of information.

482. Examples of the importance of communication are many, too many and too varied to list here. The point to be made is the importance of the inter-component communication. Management must encourage cross-communication and even cross-training among the components to have efficient systems that produce the quality work of a team. The more each member of each component knows about the workings of each other component, the better will be the level of cross-checking and use of the functions of one component to aid the other.

483. One should also realize that more attention must be given to maintaining open lines of communication when the jurisdiction uses distinct documents to collect the legal data and the statistical information. It is crucial in such an instance that information collectors communicate frequently concerning flow, accuracy and completeness of the separate collection systems.

484. There are also a number of jurisdictions in which the central registration and the vital statistics components are located under separate ministries. Efforts to maintain open communication in such situations are essential and can pay many dividends. Duplication of effort can be held to a minimum when each ministry knows what the other is doing or is planning. Furthermore, redundancy of registration data will be minimized and overlapping and inconsistencies in data files avoided. In such structures, coordination can best be achieved by establishing an inter-agency committee for civil registration, vital and health statistics that operates on a permanent and continuous basis. Mutual cooperation and collaboration are essential among the collectors of data and producers of vital statistics. It is in the interests of countries to establish such committees and to give them all necessary support. The committees will have an advisory role as well. If well designed, a single database at the civil registration authority can serve the statistical, health, electoral rolls, identification services and other purposes.

4. *Graphic representation of integrated functions for civil registration and vital statistics systems*

485. The present section presents in graphic form integrated functions which are found in centralized registration and vital statistics systems. The section will not attempt to portray graphically all of the possible networks that exist in the systems but rather will present two primary examples which can be extrapolated to other applications.

486. The linkage of infant death and birth data will be the first example considered. Many of the elements

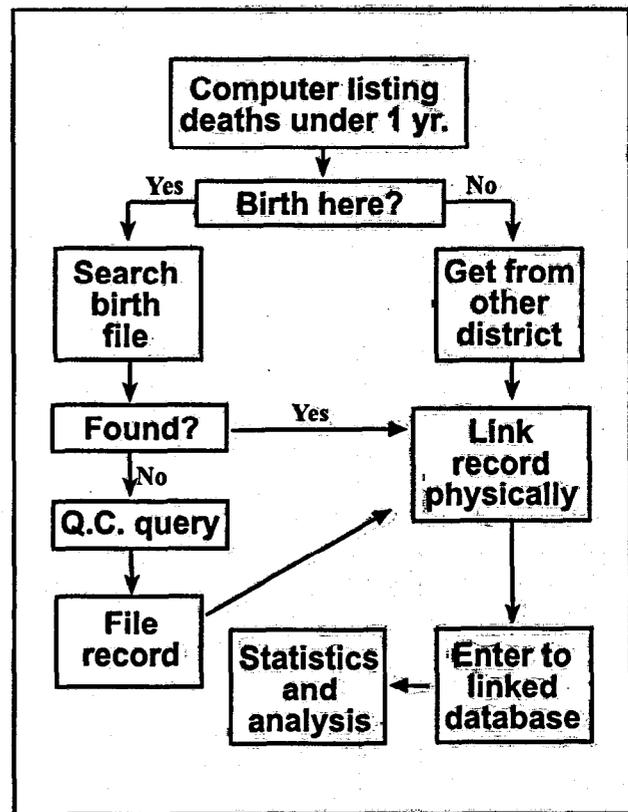


Figure III.8. Infant death-birth linkage

here are transferable to other research applications. The linking of each infant death record with its corresponding birth record is one of the most basic linkages undertaken by the civil registration and vital statistics systems, and has therefore been selected as a model.

487. Figure III.8 illustrates in graphic format how the process takes place. If the jurisdiction is small enough, the entire process can actually take place manually. It is assumed in the illustration that the jurisdiction is of sufficient size to be computerized and thus has the computer listing capabilities available. Indeed, where the diagram indicates that records should be linked physically, it does not mean to rule out computer linkage. It has been discovered, however, that often researchers in this area do make use of the physically linked files as well as the linked computer database. It is for this reason that the graph portrays the physical linking. Should it prove more efficient in a particular jurisdiction to link the records by computer and there is little or no need for the physical copy, then the box in the graph can be substituted with "Link records by computer". This might be true particularly in other linkage applications, in which the researchers would have no need for the physical records, such as linking birth and death records to medical care costs.

488. The process as described in the graph begins with a listing of all deaths occurring in a jurisdiction to children under the age of one year. A next question which must be answered is whether or not the birth of this infant occurred in this same jurisdiction as the death. It is quite possible that the infant died in one jurisdiction but was born within a different jurisdiction. If it is found that the infant was not born in the same area, then it is necessary to contact the other district for birth information. This should be the situation in only a few of the deaths. If the birth did occur in the same area as the death, then the birth file can be searched for the birth information. Now the question to be faced is whether or not the birth record is found in the jurisdiction's birth files. Often, in cases where the death occurred very close to the time of birth, a death record is filed but a birth record is not. The matching process is a good check on this oversight.

489. When this occurs, a quality control query should be initiated to place a birth record on file. Then the birth and the death information can be linked. The more normal path, of course, is that the birth did occur here and the record of birth is on file here, and therefore the link is immediately possible.

490. Once the linkage takes place, the data can be entered to the linked database (or the records can be linked electronically) and the process of statistical analysis can begin.

491. A second example of an integrated function in the civil registration and vital statistics is the relationship with the local registration area. Issuing a certified copy of a vital record is used as an illustration. This illustration can also be extrapolated to simulate many of the interrelations between a central registration office and local registration offices. The figure shows three progressively simpler examples of the ways in which the issue of copies can be handled by the local and the central offices. Figure III.9 illustrates the case in which the local registration office keeps a copy of the original record. In this situation, both the local office and the central office can issue certified copies from the record in their possession. As can be seen from the figure, the requirement with this process is that when a record is amended, a notice must be forwarded to the local office to change the back-up record retained there (or the amendment can be made first at the local office and a notice forwarded to the central office to amend the record kept in the central file). This implies extra labour, and it is also prone to slippage in reporting change, which can result in two different records on file in two different places for the same event. For this reason, extreme care is needed to keep the two vital records exactly the same.

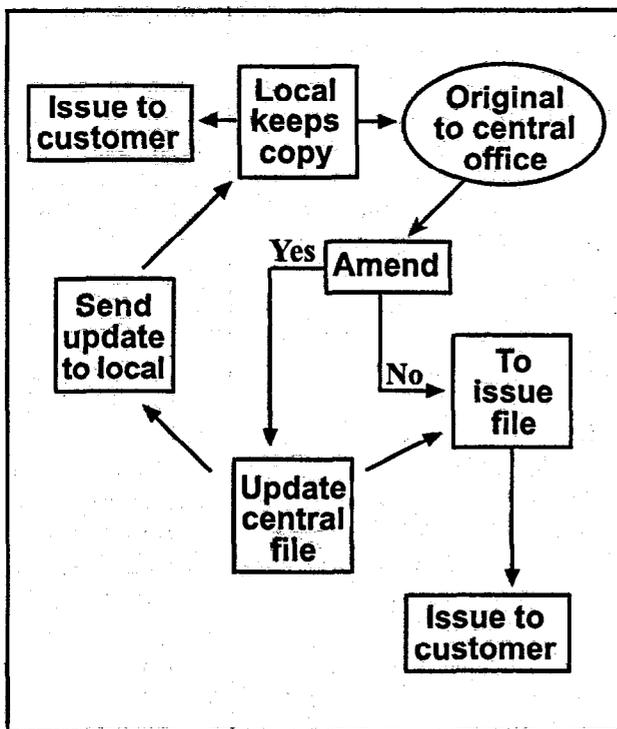


Figure III.9. Certified copies when local office keeps record copy

492. This is a labour-intensive model for the local and central interaction in this area. As one can see by examining figure III.10, a substantial portion of the work flow disappears when the situation is only slightly adjusted. The adjustment is to have the local registration office issue certified copies from the vital record only so long as the original is in the possession of the local registrar. It is also assumed here that the registration is on loose-leaf forms. What this option removes is the necessity for the central office to notify the local office each time that an amendment occurs to the record (it is assumed that amendments are handled at the central office). This has the effect of removing some duplicated effort and also removing a major possibility for the existence of two disparate records of the same event. Unfortunately, it also cuts in half the number of places at which a citizen may obtain a copy of his or her record once it has been filed at the central office. Good communication channels and/or postal services which are well organized and reliable are required for the receipt of applications for certificates. If not, this option can be burdensome for the customer.

493. The final example in this series is a model that depends on a computer linkage between the local registration office and the central computer file (see figure III.11). In this case, the local office files directly with the central office. The record is put on file in the computer

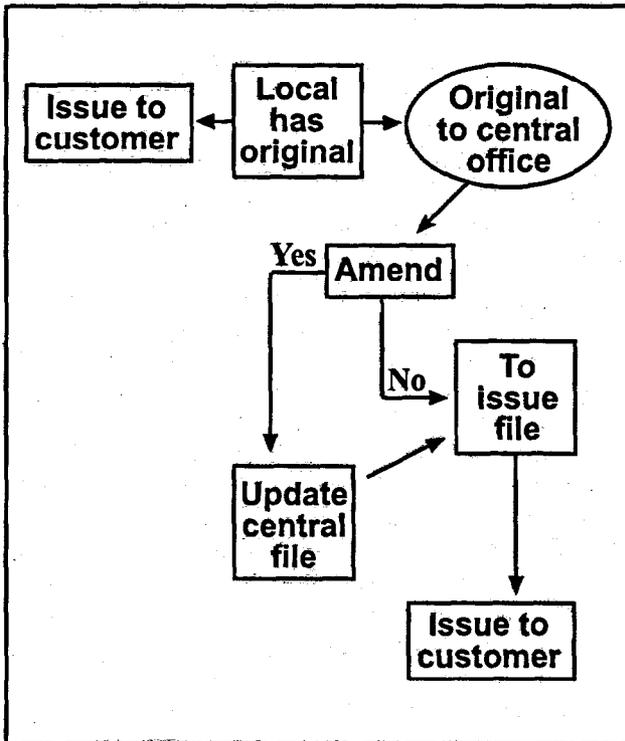


Figure III.10. Local-office issues only while original is retained

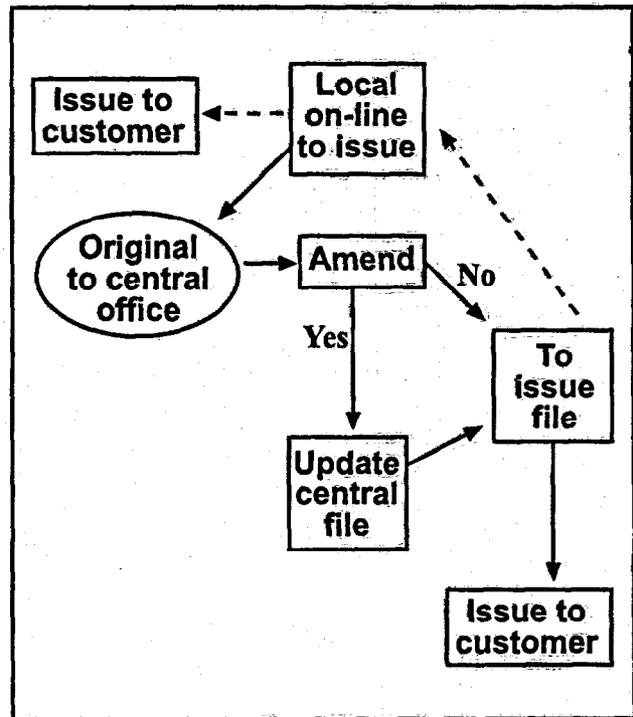


Figure III.11. Copy issue when local office is connected to central system by computer link

and each office has access to the record immediately. The correction loop is eliminated since both offices are working from the same file. The local office has added flexibility, since it now has access to not only local records but also records of births occurring throughout the entire jurisdiction. The customer gains, since he or she can now obtain a record locally for an event which occurs any place

in the entire jurisdiction. The technology to install such a system is available now, and the advantages to user and citizen alike are certainly strong enough to recommend it highly, if resources permit. In a fully computerized system, it is important that confidentiality and privacy of individual information on vital records be closely monitored to ensure that intruders do not access the system.

IV. MAINTENANCE OF CIVIL REGISTRATION AND VITAL STATISTICS COMPONENTS

494. The present chapter covers the maintenance of the functional components and programmes outlined in chapter III above. The chapter is broken down into two main units, one that describes the operational requirements of a maintenance programme, and a second that examines the technical requirements of such a maintenance effort.

A. OPERATIONAL REQUIREMENTS

495. The topics covered in the present section are concerned with the maintenance of established systems described in chapter III above. In particular, the section is concerned with the operational requirements of maintaining effective and reliable systems. The operational requirements of a maintenance programme include the modification of records in registration files; verification methods; internal review of systems functions; monitoring stored records; back-up and support systems for civil registration and vital statistics; and the maintenance of field operations.

1. *Modification of records in registration files*

496. Section A.2 below discusses the various types of amendments and corrections that the civil registration system must be capable of making. The present section examines the methods for making those corrections to the file, and the ways to maintain the integrity of the file and create a trail for the change that is made. The discussion focuses on how this is accomplished for each type of medium in which the records are stored. That is, the section looks at making corrections to paper-based files, microfilm files, and computer or optical disk files. If the original file is a computer file and the back-up file is on microfilm, then both need to be corrected.

Hard copy files

497. Hard copy files are the first type that are considered. Hard copy means files that are maintained in the original paper format. There are several ways to make the required change to such records. The first possibility is to prepare a completely new record. This is done, for example, in the case of an adoption where substantial change is made to the birth record and there is a need to ensure

confidentiality. The procedure employed is to remove the original birth record from its place in the file. Using the facts contained on the original, in combination with the changes accomplished by the adoption order, a new birth record is prepared. The new record shows the names of the new parents and the child's adopted name. The new birth record should bear the same unique file number as the original. The new record then replaces the original in the birth record file. The original record and the order of adoption are then placed in a sealed file. This file can only be opened by the order of a court or for administrative needs of the registrar. The sealed file is assigned a number of its own, and this number is placed inconspicuously on the new record. This will allow the registrar to locate the original record in the case of a court order to open the sealed file or in case the adoption is annulled at some future time.

498. This procedure preserves the integrity of the file since only one record remains on file for the adopted individual. The original record has been removed and placed in a sealed file, while the new record bearing the unique birth record number is now maintained in its place. Meanwhile, the association of the sealed file number with the new record now in the file permits the registrar to trace the process back to the original document should this ever be necessary.

499. A second method of correcting hard copy files is to make an addition to an existing record in the file. This is often used to add the name of a father to a record after the parents of a child born out of wedlock are married, or after the father acknowledges paternity and requests that his name be added to the record. In such cases, the original record is retrieved from the paper copy file, and the father's name or other missing information is added to the record. The record is marked "amended", and the date of the amendment noted on the record. A section of the record can be designed for amendments. In the case of a paternity affidavit, the affidavit itself should be permanently preserved in a separate file in case any question arises later about why the name was added.

500. A third method, often employed in the case of a legal change of name, is to simply cross through the original information. The new information is entered in the same space above the crossed-out information. This is often employed in legal name changes in order to guar-

antee an identity trail connecting the original name to the amended name. Also, an annotation in the corresponding section of the record should be made and dated.

501. A fourth method is to use "white out" fluid, such as is used in correcting typing errors. This method is discouraged since the fluid will dry out within a few years and begin to chip off, revealing the original information. If the paper record is one of short duration and will be converted to microfilm or some other more permanent medium within a short time, then the correction fluid method is not as big a worry.

502. It should be noted that the above methods are illustrated as favourable for particular types of amendments or corrections. This is not to imply that the particular method can be used only for the type of amendment used in the illustration. The registrar may determine which is the best method to use given the circumstances in the particular jurisdiction.

503. The methods described work most easily when the hard copy records are in loose-leaf format. If the records are in bound books or bound ledgers, additional steps may be necessary. When missing information is to be added to the record, there is no additional problem. When a new record must be prepared, the bound books will require additional steps. It is common to use either a section of the record or the back of it for annotations.

504. Consider the example of an adoption when the original is in a bound book or register. The new record will have to be placed in a new book. It will be cross-referenced in the birth index to indicate its location in the book for new certificates. If the original record is a single sheet in a bound book or one of many entries on a single page, a copy of the original can be made and placed in the sealed file. The original can then be obliterated or access to it can be controlled by adjusting the birth index. This process is described in more detail below.

Microfilmed files

505. Doing amendments and corrections to vital records kept on microfilmed files presents a different set of challenges. For example, in the case of an adoption where it is desirable to replace the copy in the file with a new record, how can it be done with a microfilmed record? In the past, some chose to punch a hole in the microfilm where the original record resided. In addition to the tedium of accomplishing this task, the punched hole also weakened the microfilm, which would subsequently break where the hole had been punched. Similarly unacceptable was an attempt at splicing in the new record. This not only weakens the film in the area of the splice but often damages adjoining records on the film.

506. What has finally emerged as a method for correcting or amending microfilmed vital records is to create

a separate roll of microfilm which contains the amended vital records only. The original record is left in its place on the original microfilm roll. What must be developed next is a method to keep a searcher from accidentally going to the original record that still remains on the microfilm. The method should send the searcher to the location of the amended record, which is now on the new roll of microfilm. The roll containing the amended records is referred to as the "relocation roll". Each amended record, as it is assigned to the relocation roll, is given a relocation number. It may be called, for example, the "R" number. It is this "R" number that allows the searcher to locate the amended record on the relocation roll. The "R" number replaces the unique birth record number in the index to the records (but not on the amended record itself, which retains the original unique number). The original number, therefore, no longer appears in the index. This prevents the searcher from accidentally going to the original record rather than the amended record.

507. To illustrate the procedure, consider this hypothetical example. A child born as John Smith is adopted by Mary and George Brown. A new record is prepared that shows the new parents' names and the child's new name as John Brown. The unique record number which appeared on the original record is used on the newly prepared paper record. This new record now becomes the official birth record for John Brown. A copy of the original record for John Smith is printed from the microfilm and placed in the sealed file with the adoption order. The number of the sealed file is placed in an inconspicuous place on the amended record. Thus, the registrar will have a path back to the original record if this is ever necessary in the future.

508. The newly prepared amended record showing John Brown with his parents Mary and George Brown is now placed in the relocation file and assigned the next sequential "R" number. It might be, for example, the 1,678th amended record. It would then be assigned the number R1678. Using the "R" as a part of the number will alert the searcher to look for the record in the relocation files. The number is placed on the record where it can be used to search the microfilm roll, perhaps in the lower left corner. It also becomes the number which now identifies the record in the birth index. The original number is removed from the birth index and replaced in the index by the newly assigned "R" number. When a sufficient number of "R" records to fill a roll of microfilm have been accumulated (perhaps 2,000 or 2,500), then the set of relocation records is filmed and becomes the next roll of microfilm in the relocation file. Of course, there should be separate relocation files for live births, deaths, marriages and divorces.

509. This technique works for any amendments that need to be made to the microfilm file. To keep the relo-

cation file from growing too large too quickly, it is wise to make as many corrections to the paper copies as possible before they are committed to microfilm. For this reason it is common practice to maintain the files as paper files for one or two years before converting to microfilm.

Computer and optical disk systems

510. Computer and disk files can be amended in an on-line mode. For example, to accomplish the changes necessary to reflect the adoption of John Smith described above, a copy of the original record would be made and stored with the adoption documents in the sealed file, and then the corrections could be made on-line to the computer file. The computer file index that is generated by the record would automatically be changed, so in the case of the computer file there would be no necessity for "R" numbers or for a separate operation to change the index. The sealed file number could be attached to the computer record to link the amended record to the trail leading to the original record if it should ever be needed.

511. Optical disk technology allows for an amended record to be scanned into the same place that the original was stored. The original is retained on the same disk, and can also be easily retrieved. This process can only be accomplished if the disk is not completely full. Thus, to employ this method it is necessary to allow enough empty space on each disk to accommodate anticipated amendments to the records stored on the disk. Otherwise, the amendments must be stored on another disk and will need to be located using a scheme similar to the "R" number method described above for the microfilm amendment method.

2. Verification methods used for reported data

512. The present section presents verification methods that can be used to assure the accuracy, validity and completeness of reported data.

Registration completeness

513. There are several methods that can be used to examine the completeness of civil registration. Here, completeness refers to the presence in the file of a report for each vital event that occurred, as opposed to the internal completeness of each document. Matching infant death reports to corresponding birth records is a method which, although designed for a totally different purpose, can also be used as a check on file completeness. As described graphically in chapter III, section C.4, above, when an attempted match of an infant death record to a birth record fails, it is necessary to obtain the filing of the corresponding birth record.

514. Conversely, the birth record can be used to verify the completeness of the infant death reports. The viability data on the birth record (e.g., APGAR score,

birthweight, birth anomalies) can be examined to determine whether it should be anticipated that the infant would not survive. If it is determined that the probability is in favour of an infant death and no record is on file, then a follow-back should be done to find out if the infant did survive or if an oversight had occurred and no death record was filed. When neither birth nor death has been filed, a field survey, e.g., a dual record system, will be necessary to uncover the omission.

515. Completeness can also be monitored through the requests for certified copies of birth and death records. If application for a copy is made and the record cannot be found in the file, then a follow-up through the system should be done to determine whether the record was not filed or if it perhaps did not make it through the entire system.

516. Yet another technique for assuring the completeness of the file is to do computer frequency runs by geographical area and by health facility, whenever the latter is part of the registration network. The population of a particular area, along with its prior history, can yield a general estimate of how many births and how many deaths (foetal deaths, marriages, divorces) should be anticipated per month or per quarter from that area. If the frequency run shows any substantial variation from the predicted values or "0" values, there should be an immediate check to the reporting local office. Has there been a failure of the local registrars to report to the central office, or has there possibly been a shipment of vital records lost? This same technique can be applied even more finely by examining anticipated versus received reports by registration facility. Close interaction between the central registration office and the local offices is required for an efficient monitoring and evaluation system.

517. A final suggestion for checking on the completeness of reporting is to match with other administrative records which deal with the same events being recorded in the vital records files. As mentioned in chapter III above, some jurisdictions receive lists of deaths occurring in institutions on a monthly basis. A check against such lists will assure that a record was received for each event. Perhaps there exists a list of casket sales for tax purposes. If so, a match against that list will offer a completeness check on the death file. Perhaps the health department does genetic screening tests on all newborns. If so, here is an administrative file which can be used to check the completeness of the live birth file. The type of other administrative files available will vary from jurisdiction to jurisdiction but they should be sought out and used as completeness checks.²⁰

²⁰For more details on ascertaining registration completeness, see *Handbook of Vital Statistics Systems and Methods*, vol. I, *Legal, Organizational and Technical Aspects*, Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.91.XVII.5), paras. 356-440.

Accuracy and validity

518. Another area for verification is the accuracy and validity of the data contained within each report. These are important qualities of a database if it is to obtain the credibility necessary to demonstrate its usefulness.

519. In general, the method to be used here is to seek out other record sets that contain some of the same data as the birth and death records. An obvious source would be the medical records at the various institutions or practitioners' offices where the reports are completed. It is not usually feasible to do this check for every document, so a sampling frame should be developed to check the birth and death records against the information in the official medical record. Subsequent analysis of the data from the sampling can yield information about any weak spots in the accurate transference of the data to the birth or death record.

520. The accuracy and validity of the cause-of-death information on the death record should be checked. In addition to matching with the medical records outlined above, there are several other methods to be suggested for cause-of-death verification. Autopsy records are a good source for running samples to check on the accuracy, validity and completeness of reporting of cause of death. Another technique is to be sure that a copy of the completed death record is included in any review of death made by the staff of an institution. The review of deaths is not an unusual practice in large hospitals. There is also the possibility of doing cross-checks between birth and death records for infants. If the birth record lists no serious anomalies and the death record attributes death to an existing anomaly, then something is wrong and should be investigated.

521. Finally, frequency checks can also be used in the verifications done for accuracy and validity. The computer can show excessive use of a particular cause of death by a physician, or unusual patterns attributable to system problems or input errors. There are a wide variety of verification techniques for completeness, accuracy and validity of the files. The more that can be employed the better the files will be and the more useful they will be for research purposes.

3. Internal review mechanisms for systems functions

522. The present section outlines some internal review mechanisms that should be put in place to maintain smooth daily systems functioning and detect any aberrations as quickly as possible. The mechanisms need to be in place in all parts of the systems—registration, certification and statistics. The section examines internal review mechanisms at both the management and staff levels. It looks first at those needed in the registration area, next at

those needed in certification and finally at the mechanisms needed in the vital statistics section.

Registration management

523. Registration management should look at monthly frequency runs from the master files to review the completeness and accuracy of the files. The number of events of each kind that should be reported during a particular month can be anticipated based on previous history and population levels. Similarly, a set of variable ranges can be developed (e.g., age of mother, birthweight, number of deaths by cause), and when the frequency is outside the range or in some cases when the specific variable—such as the mother's age—is outside the expected range, a query should be initiated. The frequency checks each month can also be used by management to monitor the number of missing or unknown values. A higher than anticipated count of missing or unknown values could signal some failure in the reporting system. The system failure needs immediate attention by the field training team.

524. Data entry is another area within the registration function that requires close monitoring by management. Appropriate keystroke levels should be established for operators, and the maintenance of levels should be monitored along with a check on error levels. Error levels can be obtained through the verification process, that is, the process whereby one operator enters the data originally entered by a different operator in a verification mode. The verification process itself is important to the maintenance of accurate data entry. It is also useful as a management review mechanism for failure in performance level. Registration records require 100 per cent verification to ensure that files are kept free from errors, owing to the legal value of vital records.

525. The computer can also be used to supply management with a record of the timeliness with which data are being reported from the field offices or suppliers. Are the prescribed time limits for completing the cause-of-death certification being met? Are local registrars reporting events to the central office in a timely manner? Are hospitals forwarding the birth data to the registrar on time? By collecting dates on the record and entering them into the master file, monthly or quarterly runs can be done to evaluate the timeliness of those processes. Reports back to the registrars, hospitals etc. can often dramatically improve the levels of timeliness. Without internal system review, the timeliness of reports can often fall victim to other competing concerns.

526. The registration component often has obligations to forward copies of the data file or portions of the data file to other users. Birth and death data may be scheduled to be shipped at specific intervals to the juris-

dition's demographer or to the health ministry. Perhaps death data are needed on a regular basis by the voter registration authorities to purge its lists. Management needs to have systems in place to ensure that each of these data transfers takes place when it is scheduled to take place. This has added importance when an invoice for the shipped data is to be prepared and subsequently forwarded for payment. An internal log of either a manual or electronic nature, depending on the shipment mechanism, should be established to keep management apprised concerning these data transfers.

Registration staff

527. Registration staff are responsible for one of the most important internal review mechanisms: the tracking of the newly registered records. In initial processing, the registration staff transfer information from the vital record quickly and accurately to the master file. The record must be handled by many employees at many different points in the process. It is important, therefore, that there be an internal system to track the whereabouts of any given record at any given time. The records are assigned the unique central registry number upon receipt in the registration section, and are filed in order by that number as indexes are prepared. This is in addition to any local registration number that may have been used to track records at the local office. A system must be developed to track records (or books) removed from the central paper file while the processing is taking place. A successful method is to have employees place a card in place of the record (or book register) any time it becomes necessary to remove a record (or book register) temporarily from the file. The card may be colour-coded to indicate which member of the staff has removed the record (or book register). The card should also indicate the date on which the record (or book register) was removed. Since this internal tracking system is of a temporary nature during the early stages of the record's long-term storage at the office, the manual system has proved sufficient to the task. It has also proved valuable in guaranteeing more efficient use of employees, who without such an internal monitoring of record location might be forced to waste long periods of time not knowing where to find a record to which they must apply some process.

528. As has been seen throughout the presentations within the present *Handbook*, the vital record is a dynamic document that is often subject to the need for change or correction throughout the lifetime of an individual and even after death. Many of the correction procedures occur during the period when the record is in the registration-processing mode. The computer should be used to check that changes submitted to be made to the record are

accomplished. There should be two parts to the change process for the records. In addition to the entry of the required change into the system, a monitoring report should be generated to indicate that the change has taken place. This is particularly important in the registration area, where the majority of changes are processed in batch mode. When the change is made in an on-line system, the change can be immediately viewed. This visual check serves as its own monitoring system. A computer-generated report, however, should be in place as an internal monitoring mechanism for changes processed in batch.

529. There are two key places in the registration-processing section when a reminder file needs to be in place. One is in the query process. It is often necessary to send a query to a physician concerning the cause of death listed on the death record. The query process should include a reminder file that will alert the nosologist if no response has been received from the physician in a reasonable period of time. Otherwise, the daily flow of records to be coded may cause the nosologist to neglect following up on the query in question. The second situation in which a reminder file system should be in place is somewhat similar. This is for records that arrive in the office with cause of death marked "pending" or "pending autopsy results". A final record should be filed with a complete cause of death within a month. If not, the reminder file should alert the registration staff to query for an updated record so that processing may continue.

Certification management

530. Certification management has a responsibility to respond to the public with efficient customer service. To do so requires having in place internal system review mechanisms that will yield both work flow data and revenue data. Monthly work flow data should be collected by management from each service area. How many adoptions, corrections and paternities were processed? How many certified copies were processed by mail? How many done over the counter? What was the turnaround time for each of these services? That is, how many workdays did it take to service each type of customer request? This type of information is necessary for management decisions concerning where to best use the human resources in the section. It alerts management if a seasonal overload of business requires the addition of temporary help in a particular area of the operation.

531. Management also needs monthly information concerning the amount of revenue generated. This information is particularly important for comparing revenues generated in the current year with the same time period in previous years in order to make decisions about required changes in the workforce and in fees for the various services.

Certification staff

532. Certification staff are responsible for a number of areas where internal review is important. The increased use of fraud- and counterfeit-resistant paper to issue certified copies of vital records has also increased the need to protect blank forms for certificates from theft. This is done by the use of a pre-printed control number on each form. Certification staff then develop internal systems to account for the use of each control number. Generally, a log of the starting number for each day and the ending number for the day is compared with the numbers of copies issued and to the cash register sales information. Allowance is made for any ruined copies or copies voided for other reasons. The control system would also include a listing of all paper stored in the office. Furthermore, the paper should be stored in a secure area at all times. Should a theft occur, this internal control can identify for authorities exactly what numbers are on the stolen papers.

533. The need to receive fees for the various services offered by the certification staff also requires an internal review mechanism to guard against the misuse of funds. In some instances, this control is turned over to another part of the department where all other fiscal transactions take place. However, this generally causes the payment of fees to take place in an area remote from the rest of the certification operation, which is inconvenient for both public and staff. Consequently, fee collection is more often done by certification staff. The recommended internal control here is that the person collecting the fee—the cashier—should not also issue the certificate for which the fee is being paid. This is to avoid the temptation to issue the certificate and keep the money rather than processing it through the cash register. A comparison at the end of the day between the control numbers used and fees received is another check against loss of fee. The tallying of the fees at the end of the day with a cash register listing of how much was rung in should also be a routine part of this internal control. A customer receipt should be issued by the cash register at the time the money is taken in, with a duplicate recorded by the register.

Vital statistics management

534. Vital statistics management is primarily concerned with the area of internal review mechanisms for the effective use of the human resources under its control, particularly the best use of the statisticians, researchers and publication specialists. Efficient planning of surveys, analyses and report production is crucial to maximizing the potential available. Some of the programme management software widely available for personal computers can be used to assist in the tracking and planning adjustment to give management an effective internal review tool. Gant charts and pert charts become easily accessible.

The changing of deadlines and adjustment of personnel assignments can be accomplished in minutes. "What if" scenarios can be played out with ease.

Statistics staff

535. Statistics staff are responsible for several areas where internal review is necessary. Although the registration section has undoubtedly run many edits on the data before submitting them to the master file, this does not guarantee that when programs are run against the master file all results will be consistent. Inconsistent data reported in separate tables may result from errors in programs or records' contents. Statistics staff should be alert to such discrepancies, and should include in their internal surveillance system a comparison of newly compiled tables.

536. Statistics staff should also be trained to supply users not only with data but with an explanation that makes clear to the user what the data actually say. It is basically an internal control that the staff person is exercising when he or she keeps a user from making trend judgements from numbers that are too small, or from quoting occurrence figures as though they were residence numbers.

4. Monitoring of stored records

537. A central registration and vital statistics office that processes 100,000 new records each year will, in the course of only one decade, have well in excess of 1,000,000 records in its files (when corrections and amendments are included). Many jurisdictions will generate records at rates that will make these illustrative numbers look quite small. For that reason, the present section is devoted to methods of monitoring stored records of different types. It considers the storage of paper-based vital records, microfilm vital records and computer files of vital records.

Paper-based records

538. Paper-based records are quite often the initial format in which the vital record appears. Whether at the local office or the central office, the paper record is subject to loss from fire, water damage or just simple wear and tear. In cases where the record is in loose-leaf form, it is also subject to loss or misfiling. This danger is reduced when the records are stored in bound books. As computerization takes hold, however, the bound books will gradually disappear. The internal review system using a colour-coded card to address this problem is covered in sect. A.3 above.

539. Guarding against loss by fire or water damage is a serious consideration. Often the paper record, in addition to being on a fragile medium, is also the only

existing copy of the record. Even in cases where a copy is kept at both local and central levels, the loss of a copy at one level through catastrophe quickly makes the other copy vulnerable. The computer is changing this situation. If there is no computer copy, however, then the fire and water danger is fearful. To guard against fire loss the paper record should be stored in a room or vault constructed of materials that will resist fire and heat for a period of time to allow the fire to be extinguished before damage is done. To equip the vault with water spray would just introduce a different type of hazard. Some offices have used halon systems to smother the fire in the vault area, but this practice is diminishing because of cost and environmental impact. The danger of water damage can also exist from flood and rains. Wherever this is a possible hazard, paper records should be stored at levels and in locations that would diminish such threats.

540. Wear and tear from the handling and refiling of paper records is also a threat to such documents. Paper records stored in a normal-sized file drawer will not survive well the pushing and pulling that handling and refiling, opening and closing the drawer entail. It is suggested here that expandable folders be employed to hold 75 to 100 records each. The folders can be labelled with the range of record numbers contained in each folder. The folders are then placed in the file drawer. This will greatly diminish the wear and tear caused by the opening and closing of the drawer. It also makes it easier to locate a particular record and easier to refile it properly without disturbing many of the records surrounding it.

541. Even these precautions are time-limited since the paper records are much too fragile. Within one to two years, paper records should be committed to microfilm and the paper records placed in archives for rare access only, for example when amendments occur. After legally stipulated times have elapsed and if other back-up systems are sufficiently in place to negate the need for the original paper, the paper records can be offered to the national archives. The registration law(s) should address, among others, the issues of backing and preserving vital records. The option of giving the paper copies to the national archives once certain time periods have elapsed may be considered in the context of the paper being subject to deterioration due to climate or to problems due to lack of storage space. This option should be considered only after the records have two back-up systems in place (e.g., a computer system and a microfilm system, or two independent computer systems). Once two back-up systems are in place, it becomes burdensome to maintain the paper system as well. Any corrections or amendments made to the active systems would also be needed for the paper system or it soon would be out of date. All back-up systems must reflect amendments and corrections to vital records.

Microfilmed records

542. The most common technique for making back-up copies from original paper-based vital records is a microfilm process. It is recommended to wait one or two years after the registration date before committing paper-based records to a microfilm process. This policy allows time for the majority of amendments and corrections to take place while the record is still in paper format, which permits microfilming to be accomplished with relative ease. Vital records kept on microfilm also require special care and maintenance. There exist two major types of microfilm on which to store records. Silver archival microfilm is meant for archival storage only. It can be used to produce additional copies of the roll of microfilm, but is definitely not designed for day-to-day use. The emulsion on the silver film is on top and can be easily scratched or removed from the film by the ordinary microfilm reader. Diazo copies of the microfilm are the proper type for daily use. They will easily serve for 10 to 20 years before it is necessary to replace them with new copies generated from the silver archival roll of film.

543. Archivists generally approve of a system that produces two rolls of silver archival film and one diazo copy. The diazo copy is put to use in the vital records office, while one copy of the silver film is stored by the archivist under proper temperature and humidity-controlled conditions in a site remote from the vital records office. The second archival copy should be stored at an even more remote site under controlled conditions of temperature and humidity. This system is designed to protect the film from the immediate elements of heat and humidity, to protect against any disaster that might destroy the copy at the vital records office, and to further protect against any disaster of large enough proportions to destroy both the copy at the vital records office and the copy at the archivist's office. Microfilm use can also save storage space, since each roll can store approximately 2,500 documents.

Computer files

544. Paper-based records may be committed to a computer file early in their life. This is another option for back-up purposes, preservation of vital records, configuration of a computerized registration system and provision of efficient services to the public. However, computer files of vital records are not immune from storage care requirements. One item that care of computer files must guard against is complete loss of the files, which are relatively labour-intensive to generate. To have five or six data-entry operators work for several weeks entering data and then have the system crash and lose all the data is devastating. A computer file system must therefore contain a system of scheduled back-up procedures. Data en-

tered during any given day are generally backed up to tape or some other medium that night. Thus, a crash of the main system will at most cause the loss of one day's data entry.

545. Back-up tapes of computer files are also made routinely at monthly and annual intervals for more long-term storage. It is important to have the data-processing staff work with the civil registration and vital records office to ensure that the back-up tapes are maintained in secure and environmentally controlled conditions. The tapes should be protected against internal deterioration by recopying the tapes at scheduled intervals. Standards exist to guide when and how these back-ups must be made.

5. Back-up and support systems for civil registration and vital statistics

546. The present section examines back-up and support systems that can be brought into action when, for one reason or another, the primary system is not available. In statistics and registration, the back-up systems are generally those described at the end of section B.4 above. In this example, the information that data management and statistics use and with which they serve their customers is basically contained on computer disk. Thus, the back-up that must be in place for these two units is the tape back-up for the disk data. This should be maintained as described in paragraphs 544 and 545 above.

547. Since the registration unit is working with current-year records, it is in need of additional back-up until the file is finally closed out and necessary data turned over to statistics and other government agencies for ongoing use. In general, the back-up to be maintained by registration is the original record of the event. This original record may be on paper, or may have been filed originally on an electronic medium, such as floppy disk or modem up-load. The original form of the data must be maintained as back-up by registration until all edits have been run and resolved. The resolution of many errors discovered in the master file may lie in a comparison between what has been entered to the file and what actually exists on the original record. Once the statistical file has been extracted, closed out and given over to the statistics unit, the only back-up needed would be the back-up tapes as a protection against system failure requiring regeneration of the file. The registration law should also provide for this.

Certification

548. The certification section has a number of different back-up needs because the unit has the responsibility for timely response to the public in producing certified copies of the original records. The analysis here will assume that the original record—the primary record—in the system is to be the computerized record of the facts

of the event. Should this not be the case, then the analysis can still be followed by merely initiating it at whatever point one finds the primary record type used in the particular system. That is, if the primary record in a particular jurisdiction is the paper record, then skip the portion about the computer record and pick up the analysis at the paper record.

549. If the computerized record is the primary record in an office—that is, certified copies are issued directly from the computer—it is necessary to have the system backed up by an alternative system that can be used to issue certified copies on any occasion when the computer system is non-functional. The original paper document serves quite well as a back-up for relatively recent events. This use of the original paper document as a back-up to the computerized system argues for the ability to have any electronic reporting system at the hospital or local level issue a hard copy as well as a disk containing the information. It was noted above that it is wise to wait for one or two years before committing paper documents to microfilm since the system of recording amendments and corrections is simpler prior to microfilming. For the same reason, paper back-up is recommended only for relatively recent events. As soon as it is reasonable to commit the documents to microfilm, then the microfilmed record becomes the preferable back-up to the computer record for ease in filing, for efficiency in storage and for its archival qualities.

550. With either the paper or the microfilm or a combination thereof as a back-up to the computer record, it is possible to continue the operation of issuing certified copies during those periods when the computer system either fails or is down for servicing. The need for paper or microfilm copiers presents an added tax on resources but is a support system well appreciated by the customer when the primary system fails. The archival advantages to be gained by the storage of the records on microfilm have been previously described.

551. An alternative to the paper or microfilm back-up to the computer system is storage of the records on optical disk. Some jurisdictions may even consider making the optical disk the primary storage mechanism. There are arguments in favour of this choice. Drawbacks are the lack of standards in the industry and lack of archival approval for the systems. To make the optical disk record the primary record and then to find out in 10 years that the machines and software to retrieve the records are no longer produced would be devastating. To discover after a period of time that the record has deteriorated and portions have been lost would be equally upsetting. However, using the optical disk system as a back-up could be pleasing to the customer and easy on the provider, and would provide a method of testing the archival quality of the system and establishing standards for the industry. Vital

records stored on optical disks cannot be used for statistical tabulations and for alphabetical indexes of the files. Optical disk is an image-storage medium not suitable for data processing. However, optical disk technology is developing very fast, and may be capable of vital statistics production in the near future.

552. Of course, the ideal back-up for the primary computer record is a second computer record. This offers the economy of not having to maintain two or more separate retrieval systems. It offers storage efficiency, and allows employees the luxury of having to learn only one system and managers the advantage of having to train employees to use only one system. The customer also receives consistent output, and the failure of the primary system is completely transparent to users. At one time, the duplication which an independent computer back-up required was cost-prohibitive, but this is no longer the case.

6. *Maintenance of field operations*

553. In addition to the internal monitoring and review mechanisms that must be in place to maintain the civil registration and vital statistics systems, it is also necessary to maintain field operations. There are a number of components of maintaining the field operation, such as handbooks, training, guidelines, seminars, newsletters and site visits. It is the purpose of the present section to take a close look at these components and how they can be used to maintain a quality flow of records from the field registration offices or providers.

Handbooks

554. Availability of handbooks, especially for local registrars, maintains consistency throughout the system. They will help to maintain consistency both between operations in the central office and the local office, and among local registration areas. The handbook for local registrars should be considered a dynamic document, and management should pay particular attention to it. That is, it should be put together expecting that it will need to be changed and updated on a frequent basis. For this reason, it is recommended that the book be constructed in a loose-leaf format as opposed to a bound book. This allows the replacement of individual pages when updates are needed. New pages can be added when additional sections become necessary.

555. The handbook provides guidance on how to carry out the registration work on a step-by-step basis, including recording, reporting and certification; preservation and safe keeping of vital records; and security measures. It should also include copies of the laws governing the operation of civil registration and vital statistics, as well as any specific rules/regulations passed regarding the subject. In addition, the handbook should contain any

written policies that have been generated to interpret or clarify the laws and regulations. For example, the law might specify that vital record copies can be issued "to citizens demonstrating a tangible interest in the record". A subsequent regulation might define those having a tangible interest as "the registrant, a member of the registrant's immediate family, or the legal representative of one of the aforementioned". A policy might then have been developed to define immediate family as "parents, grandparents, siblings and legal guardians". It is important that each local registrar have copies of the law, the regulation and the policy in order to apply the issuance of certified copies in a manner that is consistent with the central office and other offices throughout the jurisdiction.

556. Another important item to include in the handbook is the most current copy of all the forms that will be needed to maintain the efficient operation of the system. This should include not only the official documents that are to be completed but also any worksheets suggested as helpful in completing the official forms, as well as any administrative forms for communication between the local registrar and the central office (supply orders, order sheets for blank documents, report sheets, log sheets etc.). For each of the official forms, there should also be in the document step-by-step instructions on form completion. If a form asks for date of birth, specific instructions should indicate whether abbreviations for the month will or will not be acceptable, if it is permissible to use just numbers in reporting the date and the order to be used in giving the date, e.g., month/day/year or day/month/year.

557. When appropriate, the instructions for an item should indicate why it is being asked. For example, if a mother's age is asked, the instructions might indicate that this is a variable to be used in statistics for studies of what ages may prove to be risk factors for a successful birth. Such explanations can prove very valuable in the field when an informant is objecting to supplying a piece of information. The explanation should also indicate how the data will be used. This is important information to include, whenever available.

558. Communication is the underlying theme in handbooks. Therefore, a good handbook should also contain lists of individuals who can be contacted when problems arise, not only lists of people at the central office who can respond to questions in particular areas of expertise but also lists of other registrars, funeral directors, coroners and health professionals who might have to be contacted to get a specific form completed accurately. Management should nominate someone in the central office to ensure that changes, corrections and updates are sent to individuals possessing the handbook. This implies that a current list must be maintained of every individual possessing a handbook so that updates can be forwarded to everyone in the registration network.

Mini-handbooks

559. Subject-specific handbooks may serve a purpose when something of the magnitude of the local registrar's manual is neither needed nor efficient. For example, many doctors fill out death registration forms only occasionally. Hence, assistance at the moment of the completion of the death record could be very useful. There are few doctors who will take the time to seek that help from the index of a handbook. A suggestion here is a single two-sided plasticized instruction sheet specific to the task of properly completing the cause of death on the death registration form. These sheets can be distributed to physicians, given to funeral directors to have handy if the physician needs one, or left in those areas of a hospital where they are likely to be needed. Where these have been used, the feedback from physicians has been positive and appreciative. Other instructions may include a guide for coroners relative to the completion of the manner of death (e.g., natural, suicide, homicide, accident etc.); step-by-step instructions for marriage officers on how to complete the marriage records; and instructions for court clerks on how to include a divorce decree in the civil registration system. Whenever civil registration suffers from incomplete coverage, manuals for use by traditional birth attendants, midwives and village elders would be helpful to encourage complete reporting of vital events.

Newsletters

560. Newsletters fill yet another void in communication necessary to maintain a quality field system. New laws, regulations and policies/protocols are needed in the handbooks. A quarterly newsletter can usually get the information to local registrars and to those who need it more quickly and with accompanying explanations. It also highlights the fact that some new pages should be arriving for the handbook. A newsletter can also be a great vehicle for keeping all in the system up to date on the latest personnel changes both at the central office and in the field. Having everyone feel that he or she is part of the team holds a quality field operation together.

561. The newsletter is a fine vehicle for giving out timeliness reports. It is suggested that these are most effective if they encourage participation by being positive reports. That is, the newsletter might report the 10 most timely hospitals or local registration areas. The competition is then to attain the position of one of the high scorers, and does not ruin the team spirit by embarrassing any specific area or institution. Another feature that has proved popular and useful in newsletters is a list of hints on how to do some portion of the job by successful local

registrars. And it is always a good communication tool to include a question-and-answer section in each newsletter.

562. The ideas described above were aimed mostly at a newsletter produced by the registration section of the office. But some of those ideas are also applicable to a newsletter prepared by the statistics unit. Such a newsletter would tend to emphasize the use of the data collected. This can also be very useful in encouraging more careful and complete reporting of the data by professionals in the field. A vital statistics newsletter would also include a report of studies and publications produced by the unit using the collected data. A section on quality assurance is also a popular feature of vital statistics newsletters.

563. A jurisdiction can choose whether to use a single newsletter combining the features of the civil registration and the vital statistics newsletters, or separate newsletters for each. The idea of a newsletter is one that is so helpful in maintaining a good field operation that it should not be overlooked.

Good training programme

564. Good training is another ingredient in the maintenance programme for the field operation. New registrars, new coroners and new hospital personnel in medical records are assigned to tasks affecting data collection. Training on a one-to-one basis should be provided for these new individuals. Established field registration officers should also be targeted for refresher courses from time to time. Site visits that can check how up to date the handbook is, how the recording system is going or if there are specific needs that can be met are invaluable in maintaining an effective system.

565. For maximum use of resources, it is advantageous to try to combine, when possible, the activities described above. For example, if it is necessary to visit a new coroner for training, then that is a good time to do a site visit at the local hospital and with the local registrar. Seminars are a good method of concluding training on new procedures or methods. These can usually be conducted on a regional basis and thus maximize the use of the limited supply of human and financial resources. If the resources are available to hold an annual gathering of individuals involved in field operations, it can prove to be a very worthwhile activity. This offers an opportunity for intercommunication and group problem-solving that is not possible in any other operation described in the present section. Such a gathering can greatly broaden the outlook of the participants and thus enhance the quality of the overall system. When conducting training, the needs of both civil registration and vital statistics should be addressed.

B. TECHNICAL REQUIREMENTS

566. In maintaining the civil registration and vital statistics systems, it is also necessary to nourish a constant growth in the efficiency of the systems. Some of the changing technical requirements necessary to ensure the systems' efficient growth are described below, including the technology available for application to civil registration and vital statistics programmes; some of the changes in requirements for technical expertise; and an overall goal for future technical direction.

1. *Probability sampling techniques for civil registration and vital statistics records*

567. Probability sampling is a technique that can be put to good use to maintain processes, procedures and system integrity at a quality level. The present section suggests some uses of this technique.

568. In countries where 90 per cent or more of births take place in hospitals and other health facilities, a probability sample of birth records can be matched against the corresponding medical records at the physician's office and the hospital of birth to check on the completeness and the accuracy of the responses given on the birth record. In carrying out this process, the main purpose is to identify patterns in completeness and accuracy that can be corrected by some action on the part of the vital statistics office. The temptation to complete the incomplete facts and to correct erroneous data does not have to be resisted, but first the fact of the incompleteness or the inaccuracy must be recorded as a part of the research project. There is a double result possible from this kind of probability sample and match process: it can build credibility for the data by establishing specific measures of each item's reliability, and it can also make the training programme more efficient by identifying areas that need specific effort.

569. A probability sample of death records can be matched against corresponding hospital records, coroners' records and autopsy results to check for accuracy and completeness in the reporting of the cause and manner of death. Often, results changing an original diagnosis will be received after the death record has been filed. This probability sample match can determine if amended records are being filed to update the cause and manner of death with the subsequent information.

570. Another effective technique in sampling death records to determine the accuracy of the cause of death on the death record is to pull a probability sample of death records and have the associated medical records, autopsy results etc. reviewed by a set of physicians other than the one who assigned the original cause of death. Then compare the cause of death as determined originally and as determined by the panel. Data will need to be examined

carefully to determine the reasons for any differences, but the overall match can add greatly to the credibility of the cause of death. It establishes a level of validity and identifies areas to be emphasized in training programmes and physician education.

571. When documents are put on microfilm, they are generally checked by the processor for quality. The vital statistics office can do its own verification of quality by a probability sampling of the filmed records, looking for missing records, records with turned-down corners obliterating some information, records out of focus etc. Since the processor has already done quality control on the film, the sampling method can be used. When performed by the vital records office, the sample often finds problems that need correction.

572. Surveys can also be a useful technique for monitoring key processes and procedures. The surveys can be total surveys, or—if the number would be prohibitive for a total survey—a probability sample can be used. A survey of the data sources used in completing the official documents can be very enlightening. What records are used to complete the prenatal data on the birth record? Are the physician's records forwarded to the hospital of birth prior to the estimated time of delivery, or is the form completed at the hospital by the physician from memory, or are the questions concerning prenatal care obtained directly from the mother? It is obvious that the answer to these questions will affect the data. Is it done the same throughout the jurisdiction or does it vary from institution to institution? Again, the answer will affect how the data should be treated and how the training programme should be designed.

573. In the sections above on the operational requirements on maintenance of systems, it was suggested that each local registrar receive a handbook of procedural aspects of registration, laws, regulations, policies etc. It was also emphasized that the handbooks be updated with any recent or revised information. One way to check this is by a survey of the local registrars. An occasional mail survey of the total population of registrars can be effective in determining which handbooks need updating, and also in emphasizing to the registrars the importance of such updating.

574. As a final observation in the area of surveys, it is good to look at their use in maintaining customer satisfaction. Two examples will be given here which have proved successful. The obvious one is to survey the customers themselves concerning their feelings about the services offered by the system. A time-limited survey in which each customer is given the opportunity to respond to the promptness, quality and effectiveness in meeting customer needs for each of the services received by the customer can give a great deal of information concerning the processes and procedures in practice. The second cus-

customer service survey to be mentioned here is one that would determine what the certified copy sales patterns look like. At what age are individuals ordering certified copies? Are the customers ordering their certificates locally or centrally? The responses to such a survey help management to make decisions for customer service that cannot otherwise be designed.

2. *Verification and validation methods for data*

575. Protocols can be set up for verification and validation of the data being input to the system. The matching of infant death and birth records was mentioned before from a programme point of view. This matching, however, can also serve as an ongoing monitoring of the data collection process. It can be used to monitor the completeness rates of the records being filed. Is there mention of a congenital anomaly on the death record but no mention on the birth record? Is prematurity obvious from the birth record but not mentioned on the death record? Depending on what common variables are contained on both the death record and the birth record, a protocol can be developed that will account for a great deal of verification of data accuracy and completeness.

576. It is also possible to develop protocols for these matched records to validate collected data. Is the race reported on the birth record the same as that reported on the death record? In jurisdictions that contain substantial minority race groups, this is an important validation since a substantial error in such reports can, for example, affect the infant death rates computed by race.

577. If there is a newborn screening programme for genetic defects in the jurisdiction, it will probably be possible to set up an ongoing match of those records with the records of the birth-reporting system. A protocol for a computer match with subsequent hand match of the hopefully small (10 to 15 per cent) amount of those not matched by the computer can yield helpful verifications of coverage for both systems. The data collected on the newborn screening report will be mostly demographic but will serve as a verification and validation of the birth report data. Although the protocol may be initially designed for purposes of data verification, the possibilities of using the matched records for research of other health variables should not be overlooked, and can provide the incentive or funds to do the match.

578. Some protocols come already developed in the form of software packages. This seems particularly true in the area of geographic codes. For sub-levels within a jurisdiction, there are often codes associated with mailing addresses. Software can be developed to clean up the address information by matching the geographic codes with the given geographic location designated by the mailing address. The software is generally designed to analyse

and correct inconsistencies between the code and the address and to identify for further analysis those codes that cannot be reconciled. The census bureau in the jurisdiction may already have such software, or may be willing to cooperate in its development. In addition to an ongoing monitoring of the accuracy of reporting of event location or residence, the address clean-up allows credible use of the data for small-area analyses.

579. Health reporting systems external to vital records can also prove to be valuable for developing verification and validation protocols to put in place. If there is a separate agency that serves parents who experience a death due to sudden infant death syndrome (SIDS), it can be beneficial to both the vital records system and the SIDS agency to develop a protocol which matches information and reports received. In this way, the SIDS agency gains a further assurance that it will be notified of all deaths due to the syndrome, and the vital records system gets another method for verifying its birth and death data.

580. Another external system that can be used in a similar fashion and will exist in almost all jurisdictions is the system for reporting of the human immunodeficiency virus (HIV). In this case, the HIV agency will be able to track its records more efficiently by receiving reports from the vital records agency of any deaths listed as due to HIV. The vital records agency can benefit if the protocol is designed so as to let it check deaths that look like possible HIV deaths but are not so listed against the HIV agency records.

581. What has been listed above are examples of protocols for verifying and validating the vital records data. Some examples may not apply in a particular jurisdiction. Yet there probably exist other possible protocols in particular jurisdictions that have not been listed here. The important point to remember is to develop the protocols and keep them in place. This is an important part of the continuing maintenance of the system.

3. *Technological review mechanisms for civil registration and vital statistics maintenance*

582. The present section looks at technological review as a part of the maintenance programme for the civil registration and vital statistics systems. To put the changes that are taking place in perspective, it should be pointed out that there appear to have been vital registration systems in place as early and far spread as 1,250 B.C. in Egypt and 720 A.D. in Japan. The earliest known civil registration system in the Western Hemisphere was that of the Incas. The system is often called the Peruvian Knot Record since the events were recorded by tying knots in coloured strings. The method was used since the Incas had no written characters for simple sounds. Some comparison to the Peruvian system and today's civil registra-

tion and vital statistics system can be made. The records were kept locally by a *quipucamayú*, who is roughly analogous to the local registrar described in these pages. One might even go so far as to compare the knots on the strings with the electronic bits used to record the vital events of today on computer.

583. Of course, between the time of the Inca system and our emerging technology there were many years where the paper record and handwritten or typed copies were an integral part of the vital records system, as is still the case in many developing countries. If one were to characterize the direction of vital records systems over the last few decades in developed countries, one would have to say that the system is moving steadily towards being computer-based, thus minimizing the use of paper. Already, the system has less paper than just a short time ago. The present text has looked at the various options offered by technology for storage, such as microfilm, computer disk and optical disk. Sections on the collection of data have mentioned the electronic transfer of the data from the original source. Such transfer can take place using floppy disk transfer or telephone modem transfer.

584. In the production of statistical output from the data, the direction is again away from the paper system and towards electronic media. Downloads of data from the master files of civil registration may go directly to a floppy disk for shipment to the user. The user then uploads immediately to a personal computer or another mainframe to do analysis. The analysis itself will not be performed by a statistician working laboriously with pencil and paper to perform regressions, but rather will be performed by a computer-knowledgeable statistician using a software package that will perform statistical analyses and tests at electronic speeds.

585. Computer technology and the availability of software programs has also changed the ways in which data are handled. Data sets that one may have thought had been analysed so completely that they could in the future only be used to generate trends have taken on new life in

their ability to add new information from their records. The ability of the computer to match the records of one database with those of another has generated new life for such databases. The limits here are no longer technological but rather depend on whatever creativity the emerging researcher generates.

586. As one considers this trend towards ever more computerized systems, it becomes apparent that the structure of the vital records offices will be subject to change. Basic programmes and time-honoured principles may remain, but the way of doing business is going to change. More technical expertise will be called for among vital records personnel as the systems move from paper-based to electronically based systems. Communication pathways will need to be broadened and interconnections fine-tuned. The increased speed and power of the electronically based systems will demand better communication paths: it is inefficient to have a powerful automobile capable of doing 200 m.p.h. on a road system built for speeds of only 35 m.p.h.

587. What are the expected technological advances? The electronic birth record will be followed by the development of an electronic death record, which may have an interactive module to help physicians in proper completion of the causes of death. Coding schemes will be automated, and certified copies of records will be issued electronically and not limited by current jurisdictional or technical boundaries. Systems will be developed to exchange the birth and death records directly from agency to agency so that the citizen need not carry a vital record from one agency to another.

588. How far can one see into the future? What is necessary for the management of the civil registration and vital statistics systems is to build into the systems a component for reviewing currently available technology and communications systems. This will enable the systems to keep pace with technological changes, and will minimize drains on resources as future needs arise to improve and modify the related components of each system.

V. OPTIONS FOR CIVIL REGISTRATION AND VITAL STATISTICS INTEGRATION

A. ADMINISTRATIVE AND COMMITTEE INFRASTRUCTURES

589. The present chapter looks at options for integrating civil registration and vital statistics systems. Section A examines alternative administrative structures. Section B analyses the functional relationship within integrated systems.

1. *Administrative structure for civil registration and vital statistics integration*

Centralized system

590. The administrative role within a centralized system, whether there is a combined registration and vital statistics programme in a single agency or a dual agency structure with independent programmes, is essentially the same. The difference is the added coordinating body for the dual structure. The registration and vital statistics programmes are administered as separate units in either environment. First, data collection and record processing are done. This is followed by the registration functions and vital statistics activities. In addition, they are linked with the local registration offices (or providers, as the case may be). Chapters II and III above describe these components.

591. For the following illustration, individual loose-leaf type records that collect data for registration and vital statistics purposes are assumed. The records are processed and then transferred to the vital statistics unit, either within the agency or to the national statistics agency. The vital statistics unit performs the necessary coding, data-entry functions, editing, tabulation, publication, analyses and dissemination. A better option for an integrated programme is to do alphanumeric data entry at the civil registration unit to serve the purposes of both registration functions, certificate issuing and vital statistics production. The civil registration unit can then extract the necessary data and forward them to the vital statistics unit for further processing to prepare statistical tabulations and publish, disseminate and conduct analyses.

592. Countries that use separate forms for registration and statistical purposes will have more difficulty integrating the civil registration and vital statistics programmes, and need to take energetic coordinating measures. Furthermore, ensuring consistency of the two data sets generated by the separate forms requires more complicated mechanisms for coordination. A matching proce-

dure can be used to achieve integration of the systems. It will be the role of the coordinating committee to strengthen collaboration between the civil registration and the vital statistics agencies. Through the committee, the management of civil registration and vital statistics should establish, among other things, timetables for reporting vital events from the local offices to both the central office of civil registration and the vital statistics office, and then should closely monitor and enforce them to ensure that reporting is accurate, timely and complete. Moreover, the statistical report should bear the same number as the vital record to control the reporting flow. Transmission forms should summarize the number of statistical reports and vital records being sent to each agency. If no registrations have been made within the reporting period, the transmission forms should state so. This way, management of each agency would know that neither has there been an oversight by a local registrar, nor have shipments been lost. Forms that were void or cancelled must also be reported, including some indication of why they were cancelled. Furthermore, training of local registrars and other providers, field visits, training of vital statistics staff, newsletters, communication and education campaigns for the population will keep the systems at acceptable levels of operation.

593. Separate forms for registration and statistical purposes imply, as a general rule, that vital records are entered into book registers and that vital statistics are prepared on loose-leaf forms for each registered event. Because book registers are opened on 1 January and closed on 31 December, the reporting of books to the central office may be the 15th of January following the year of registration, whereas the deadline for statistical reporting may be the 7th or the 15th day following the month of registration, or any other suitable time period.

594. If countries process vital records and statistical reports separately along two different paths and within each administration, there is no assurance that the results will be compatible. Aggressive policies to standardize coding systems, data editing and tabulations may be sought through coordinating channels to minimize incompatibility of the data sets. Even if these efforts are made, it is likely that the two series released independently will show discrepancies when matching takes place. Tabulating frequencies of vital events by reporting unit helps to indicate the source of discrepancies, seek solutions and maintain coherence and integration of the two systems.

595. It should be noted that if countries choose this option, it involves an excessive use of human, data-processing and financial resources and yet no assurance that the results would be compatible. In order to streamline resources and gain efficiency, some countries have adopted a strategy to enter the data from the *statistical forms* at the central registration office, in close coordination and cooperation with the statistical office and advice of the coordinating committee. Usually, the statistical forms, if nominal, contain the items needed for vital statistics plus all the items from the vital records. Manual editing and coding, querying, keying the data into the computer, verification, editing and corrections are done under close scrutiny of the coordinating committee and by putting together all available resources in the two separate administrations. It is also a good policy to include representatives of the health system as members of the coordinating committee. They will provide technical skills and inputs into the coding of causes of death in death and foetal death statistical reports, and in other relevant items on the birth statistical reports.

596. Once the data are placed in a machine-readable format, it is possible to extract the necessary files from the database and pass them in electronic mode to the statistical unit (or agency, if separate) to enable further processing so as to prepare tabulations, statistical profiles, reports, analyses, and publication and dissemination. The statistical unit (or agency) can also perform other activities that serve the registration programme. In turn, the registration unit can perform its functions from the registration database, such as amending records; issuing certified copies; preparing indexes; assessing trends in reporting by geographic location/facility and demographic characteristics; and providing services to other agencies. This functional relationship defines the operational conditions of a unified programme under a single administration, and maintains the necessary administrative linkages in the dual agency situation.

597. When data entry and coding are not done centrally, it is of the utmost importance to establish standards at all levels of data processing to ensure consistency throughout the systems. This approach will help to maintain a comparable, accurate and usable data set.

598. Administration defines the processing methods for the records, specifies time-frames for meeting registration service needs and develops protocols for the transfer of records. This may occur internally in the single agency programme structure, or externally when the vital statistics preparation is in a separate agency. Internal coordination is carried out to assure that administrative objectives are met. The respective management staff for the two programmes have this responsibility in both the single and dual administrative structures. In the single agency structure, the processes follow two organizational lines, one for registration and the other for vital statistics. These

organizational lines meet at the agency's central administration office. In the dual agency environment, each programme has a separate structure, with each central administration office in the agency serving as the controlling unit. The agencies each have a designated management staff that conducts the required coordination, communication and support functions between the programmes.

599. Structurally, the registration units and the vital statistics units perform their separate programme functions under their respective management directors. In the combined civil registration and vital statistics structure, the management units in turn report to the central administrative office. In the dual agency structure, each management unit would report to the established coordinating committee. The committee would in turn report back to the central administrative unit in the respective agencies. Thus, except for the coordinating committee infrastructure, the independent or combined programmes in the centralized system are organizationally similar.

Decentralized system

600. The administrative roles in a decentralized system interact similarly with the single or dual agency at the state or provincial level to the way they do at the national level. In addition, they are linked with local agencies and the national central agency responsible for national vital statistics. Where there is a single agency responsible for both programmes at the state or province level, at least two separate coordinating committees would be formed, one with the state or provincial registration offices and one with the national statistical programme. In the dual agency model, the independent programmes at the state or provincial level and the related coordinating body for registration and vital statistics functions would be the same as described in the centralized system. This coordinating body would be the official central committee for the separate committees established for state or provincial and national interaction and participation in the system.

601. A significant distinction between the centralized and decentralized systems concerns the relationship necessary to conduct and maintain consistency for the registration and vital statistics programmes. The independent roles of local offices given responsibility for registration activities may not fully respond to the eventual use of information for vital statistics purposes. In the local areas, there are often multiple agencies participating and multiple informants reporting vital events to the local registration office. Some key interventions can help to assure that they understand and incorporate in the registration process the data needed for statistical purposes in addition to registration needs. These interventions include periodic contacts by registration officials, training provided by the district or state office, and information feedback on the vital statistics reports and tabulations.

2. Committee infrastructures for civil registration and vital statistics integration

602. It is the role of the committees described above to identify the items of interest and use for integration. Participants from all levels of the systems should be on the committee. This provides an essential insight into the broad and comprehensive use of the information that the registration system provides. This perspective of the system can help focus and direct the agencies involved to obtain complete, timely and quality data for the registration office. The registration and statistical staff should present and discuss at the committee sessions the potential use of the data. The committee should address local use for immunization programmes, disease categories and associated illnesses, related health-care needs and services, and available resources. This type of cooperative involvement and information exchange among the various agencies and local registration offices will improve data integration. The data collected at the site of the occurrence of the vital event and registered at the local registration office will be quality data for statistical purposes.

603. The integration of committee activities with the basic activities of the registration system can provide the basis for a strong and productive programme. It will be strong in the sense that the essential data elements for both registration and vital statistics will be collected and reported throughout the system. It will be productive because the data are useful not only to registration and statistics but also to a variety of programmes in health care and social services. The basic activities of the committees, such as definitions and standards for collection validation and the processing of records, are oriented to meet the needs of the local, state or provincial and national programmes. Primary orientation is to meet requirements for civil registration and vital statistics. A second function serves the wide range of programmes of other agencies and organizations whose functions can use the information from the system, such as health services, electoral services, identification services, population registers, and immigration and naturalization.

604. To accomplish these objectives, the committees require participants from a representative sample of local, subnational and national agencies and organizations. Within the centralized or decentralized system, this would include registration officials from rural and urban areas, including districts and regional offices. Within the urban area, representatives from the metropolitan and the municipal offices would be included. Selection of the participants should be made by stratifying the localities by geographic area and location. These committee members would then represent the broad spectrum of the official components of the system. Added to this group would be representation from the reporting sources of vital events, such as hospital, clinic and other service providers.

To keep the committee size manageable, the number of members could be limited to one or two individuals from each category.

605. In the *decentralized system* (e.g., United States of America and Canada model), the administrative office at the state or provincial level would be the coordinating agency responsible for organizing the committee, and would also establish ties with the national office, where applicable. For a decentralized system following the Argentina, India, Mexico and Venezuela model, the national office should serve as the coordinating agency to organize the multilevel committee. In the *centralized system*, there could also be a separate committee, which would include representation from each of the local registration offices and health systems. In this context, the committee, consisting of local registration officials and health-care provider organizations, would deal with operational issues, system maintenance and routine or daily problems. The national central office committee, consisting of state or province registration and vital statistics representatives, would address the broader issues related to these programmes. Standards for data elements and forms for recording events, inter-state compatibility of statutes and regulations, confidentiality, inter-state transfer of non-resident records and data, and consistency in the registration functions associated with record changes and amendments would be the primary areas for periodic meetings and forums.

606. The committee structures described can take on other characteristics to meet the specific needs and issues of a particular country, system or programme. If the need is to establish a new legal infrastructure, or to modify the existing laws to initiate or strengthen a civil registration programme in a country, then that could be accomplished by a special committee at the national level. Similarly, if changes are to be initiated within an existing organizational structure—centralized or decentralized—the committee to address this issue would have to be focused on the administrative requirements at both the national and subnational levels. The task itself will define the appropriate committee representation for this activity. Another area would be where the two programmes, civil registration and vital statistics, are to be combined if currently separate, or to be separated if now a single system. The committee to undertake this activity would consist of representatives from each programme. A broad-based group from other disciplines is not necessary. The purpose determines the committee structure.

B. FUNCTIONAL RELATIONSHIPS FOR INTEGRATED CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS

607. Section A above identifies the administrative and programme structures that lead to the integration of

the civil registration and vital statistics programmes. The data-collection and record-processing components of the registration system lead both to registration of events and to the development of vital statistics from the registration database. In turn, the vital statistics generated from data can be used to monitor and assess the status of the registration programme. Previous sections of the manual described how useful this can be.

608. Once the integration of the two programmes is accomplished through defined administrative and management roles, a number of specific functions need to be carried out. These functions maintain the consistency and usefulness of the information for each programme. Components of each system contribute to the functions of the other. This requires that the information and system operations for registration and vital statistics have some degree of standardization. The essential elements to meet this need are set out below.

1. Definitions and standards

609. The data elements that the registration system collects should be jointly determined by the registration and vital statistics programmes. The organizational structure—centralized or decentralized—is not a factor, but the participation and cooperation of both programmes is. The definitions of vital events should be the same in the registration system and in the vital statistics system. This principle is particularly important under decentralized systems. Otherwise, inconsistencies will occur in the respective programmes. In the case of a live birth or foetal death, definitions are explicit as to the physical conditions and time intervals involved. For both events, differences must be identified in the required reporting forms and definitions.

610. The definitions for live births and foetal deaths have long been established by the World Health Organization²¹ and been adopted for use in all registration areas worldwide. Those definitions are also included in the *Principles and Recommendations for a Vital Statistics System*,²² along with international standard definitions of other vital events, definitions of several items in connection with vital events and recommended tabulations. Annex I below reproduces the international standard definitions of vital events from the *Principles and Recommendations*; it is strongly recommended that countries adopt those definitions.

611. For foetal deaths, definitions exist for “early”, “intermediate” and “late” foetal deaths, depending on the gestational age. The issue here is which definition is

adopted by the registration office. In a decentralized system, different states or provinces may select any one of the three definitions for the reporting and registration of a foetal death event. If different states select different definitions, the usefulness of data at the national level is jeopardized. In the United States of America, for example, the definitions for foetal death vary among states, which inhibits the national vital statistics programme in preparing national tabulations and rates. The definition used by most of the states is used for national reporting, and footnotes are added to the reports on foetal deaths to describe the reporting differences of the remaining states. Thus, even with standard definitions, the use of the definition must be consistent across all areas in a decentralized system, or the entire national vital statistics programme is affected.

612. There have also been instances where an event is reported as a foetal death when the infant actually survived several minutes. By definition, this event should be reported as a live birth and a death record should subsequently be prepared.

613. A second area that can affect the vital statistics reports on foetal deaths concerns the terminology used for induced and spontaneous abortions. These are also standard definitions prepared by World Health Organization. States/provinces should conform to these definitions to ensure that the resulting reports on foetal deaths are accurate. To ensure that the proper recording and filing of events occur, there has to be an effective training and monitoring system in place. In the decentralized system structure, the scope is the state or province. In a centralized system, the scope of the training and monitoring system is countrywide.

614. Other items require consistent definitions. These include geographic areas, facilities for health-care delivery and demographic variables. The comparison of vital statistics data by geographic area can be useful only if the area described, such as a village, city, district or region, has consistent politically defined geographic boundaries. Consistency in this type of pattern allows for the assessment of outcome events, such as births and deaths and related measures for resource allocation, health and social service needs, and programme planning. Without the consistent definition, the areas may differ widely in administrative and legal factors. This may result in inappropriate distribution of services. Furthermore, consistency can be assured if definitions of the areas are adopted from the population census programme to be able to calculate necessary vital rates and other demographic indicators.

615. Similarly, such a facility as a hospital must have specific characteristics defined by the Government. This allows the vital statistics programme to prepare hospital-based statistics on mortality and natality for comparative purposes. Differences in definitions among states

²¹Technical Report Series, No. 457 (Geneva, World Health Organization, 1970).

²²Statistical Papers, Series M, No. 19, Rev.1 (United Nations publication, Sales No. E.73.XVII.9).

or provinces in a decentralized system could present difficulties for the national statistical office in the conduct of research and evaluation activities.

616. Standards for coding vital events are another critical component of both the registration and vital statistics programmes. Use of the International Classification of Diseases (see para. 205 above) has been recommended for coding causes of death. Other coding systems for medical and social characteristics should also be in a standard format. The code structure for medical and health items collected on the birth, death and foetal death records should be formulated by a committee of statistical, medical and health-care provider specialists. This will assure consistency in the reporting and coding of the event. Terminology must be consistent across each vital record so that the resulting statistical data are accurate and reliable. One way to do this is to have an instruction sheet as the cover sheet on the record. In this way, each time a record is completed, information on the data content and recording specifications is available.

617. Codes for specific conditions recorded on the birth record, such as complications associated with the pregnancy, labour or delivery, should be defined. When multiple conditions occur, a priority code structure should be established. Thus, if a single condition is to be coded and multiple conditions are reported, the event with highest priority is coded for entry into the system. A code indicating that multiple conditions were reported should also be included in the code structure. This flags those records if a special study is done at some later time.

618. Social variables, such as education, occupation, income, support services and use of special health-care service providers, are sometimes included on the record. These should be developed through a similar committee arrangement, with appropriate social science and service providers represented. In this way, the items and code structures are consistent for statistical purposes, and meet the needs of programmes and agencies that use the data. Such integration with the data systems of other agencies provides strong support to the registration and vital statistics systems and helps to sustain them.

619. The definitions and codes adopted in the systems should originate from existing international standards and definitions to ensure international comparability. Such sources as the *Principles and Recommendations for a Vital Statistics System*, the *Handbook of Vital Statistics Systems and Methods*, volumes I²³ and II,²⁴ the *International Classification of Diseases and Related*

Health Problems,²⁵ the *Technical Report Series*,²⁶ the *International Standard Classification of Education*,²⁷ the *International Standard Classification of Occupations*,²⁸ the *United Nations Principles and Recommendations for Population and Housing Censuses*²⁹ and the *Technical Papers series*³⁰ provide essential information for these activities. The coding system for geographical subdivisions should be the same as in the population census programme since census data are used as denominators for most calculations of vital rates. Also, make sure that concepts, definitions and classifications of common variables are the same as in the census programme.

620. Independent development of other definitions and code structures should follow similar patterns. Development should include dissemination and training for involved participants. Not all elements appear in international publications. However, access to the activities in other countries and programmes can be helpful when developing other definitions. These resources can reduce the number of problems and errors in a developing system.

621. The standards and definitions to be implemented relate to the data collected in the registration system and used for vital statistics, and should be part of specific manuals for registration and vital statistics staff. As part of this development, consideration must be given to other programmes and agency requirements that may affect the registration system. If record matching is to occur routinely with other data systems, then the code structure, item content and definitions for the registration records should be consistent with the other system data elements. For example, if the mortality files are to be matched against government public service data files to eliminate recipients of services who are deceased, then the matching variables should be consistent between the two files. Items may include name, personal identifier number, age or date of birth, gender, race/ethnicity and residence for the matching process.

622. The items and resulting codes should be developed in conjunction with the other programme. This will allow development of an effective matching algorithm. Sharing of available information with other programmes is beneficial to them, since in most cases the registration system has been operating for a longer time period. The new programmes need to know what the matching criteria

²³Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.91.XVII.5).

²⁴Ibid. (United Nations publication, Sales No. E.84.XVII.11).

²⁵Tenth revision (Geneva, World Health Organization, 1992).

²⁶Geneva, World Health Organization.

²⁷Published by the United Nations Educational, Scientific and Cultural Organization.

²⁸Published by the International Labour Organization.

²⁹Statistical Papers, Series M, No. 67, Rev.1 (United Nations publication, forthcoming).

³⁰Bethesda, Maryland, International Institute of Vital Registration and Statistics.

are as they develop their data files. This will allow ready access to the registration and vital statistics files.

623. A number of other data file matching and record linkage options are routinely available. The preparation of the matched birth/infant death file requires the linking of the birth file and the death file into a new file containing birth data and infant death data for detailed analytical studies. Such items as birthweight, prenatal care received and delivery procedures can be analysed in conjunction with the reported cause of death to assess health-care delivery and services.

624. Government pension files and insurance benefit files can be purged using the mortality files. In some cases, the matching process eliminates fraudulent activities. An earlier chapter described the link with the population register. This link helps in clearing electoral rolls, issuing personal identity cards and clarifying citizenship. Relationships with other programme files can serve administrative, statistical and research purposes. The extent to which this can be done depends on the use of consistent patterns in defining and coding data elements, as well as on the communication and interaction of the related programmes with the registration system. If relationships with other programme files are not developed, it is likely that a number of government agencies may have overlapping functions, contributing to excess use of human, technical and financial resources. This, in turn, can lead to conflicting results, and should be avoided.

2. *Quality and validation of integrated civil registration and vital statistics data*

625. There are a number of data elements common to both civil registration and vital statistics systems. Others are unique to each of the programmes. Personal identifying information, demographic data and geographic location of the vital event are common to both programmes. These data require constant monitoring to ensure that the accuracy and validity of the information are maintained. Civil registration is directed primarily at the legal needs of the individual to whom the event relates. For vital statistics, the primary interest is the quality and reliability of the statistics produced from the data sets. Of the two considerations, the legal is more important. By establishing effective operating procedures, the results can benefit the statistical programme as well.

626. It is essential to collect accurate personal identifying information for each vital event due to the legal implications involved. Several methods can be used to minimize errors in recording the information. When possible, the mother (after a birth) or a family member (in the case of a death) should review the information recorded on the vital record for the event before the registrar signs the record. This ensures that the name and other

personal data are correct. Sometimes such contacts are not possible, such as when actual birth registration is carried out at the central office only. An alternative is to send a copy of the vital record information to the family for their review. Should errors in recording be noted, the family can resubmit the form with corrections. A specified time period should be established for such changes to be made, for example within one month of the event. Such changes would not require legal documentation. However, after expiration of the specified time period, legal documentation would be required as for any other type of correction or change requested. A third option for determining consistency in the reported data is to match the information to other administrative records if they are available for the same individual.

627. A similar approach can be used for demographic and geographic information recorded on the vital record. Marital status, age, residence, education level and gender are data items that should be validated at the time of the occurrence of the event, or provided to the family for review and resubmission if necessary. The geographic area of the registration of the event is the responsibility of the local registration office, and verification should be made as part of the intra-office review process for all records. Use of these methods is appropriate for the completeness and accuracy of the data elements. The legal aspects of the records and subsequent statistical reporting and record-matching for research and administrative purposes depend on complete, accurate records.

628. The additional data items included on the records for statistical, research and medical and health purposes require a different process for assessing accuracy and reliability. In these instances, the primary source of the data varies widely. The source may be a hospital, clinic or medical office. It may be a physician, paramedical staff, midwife or coroner. Or the data may be from local registration units involved in the processing of the records at the site of the event. Since in these instances the volume of data is large, the approach most often used is to make an ongoing sample selection from each of these sources. Data are abstracted and compared with the data recorded on the vital records. This provides a way to determine completeness and accuracy of the data, the reliability of the reporting process to the registration system, and validity checks on selected items, such as cause of death.

629. Unlike legal data items, these items need not be 100 per cent accurate or complete; but need to meet the completeness, accuracy and reliability standards set by the vital statistics programme. For example, preparation of national vital statistics would be acceptable when the registration of vital events is known to be in the 90 to 95 per cent range. An indicator for determining the completeness level can be developed through the use of sample surveys and resulting estimates for the specific events

(births, deaths). Various survey methods have been developed and are available for implementation in most areas.²³

630. Similar methods can be developed to provide indicators of the quality of the medical and health data, causes of death, and the other data elements collected through the registration system. These indicators provide a continuous monitoring system of data quality. They also indicate trends in volume of events reported, types of events occurring, and the specific locations of particular changes.

631. Each of the above methods sets standards for assessing the quality of the data elements collected through the civil registration programme. The results of these data-collection efforts serve both the registration and vital statistics programmes. The fundamental contribution that the registration programme makes to vital statistics is the data and the resources for reviewing and evaluating their quality, accuracy and completeness through the reporting sources. The vital statistics system provides the quantitative measures for the registration programme to assess the quality, accuracy and completeness of the registration of vital events.

632. The examples of evaluation described above assume the use of a combined loose-leaf registration form for legal and vital statistics purposes. Readers are encouraged to consult chapter IV of the *Handbook of Vital Statistics Systems and Methods*²³ on other types of vital statistical reporting, and chapter V of the same work on methods of evaluation.

633. Statistical data summarizing vital events by geographic area, type of facility, demographic characteristics, specific outcomes, such as cause of death, and maternal or infant deaths give a quantitative basis for assessing the level of registration. Changes in numbers, rates and trends occurring in particular locations, facilities or other health-care providers can lead to the identification of reporting or recording problems needing resolution. The characteristics leading to this type of assessment are based on prior data and information. When evaluating changes in outcomes, it is necessary to determine if other health programmes or administrative actions could have occurred and affected the registration programme. The introduction of a family planning programme in a particular geographic area or municipality can result in fewer births registered. The vital statistics would show changes in birth and fertility rates. Similarly, the construction of a hospital or clinic in an area could influence the death rate as well as the number of registered death events. Other health programmes that could affect the maternal and infant mortality in certain areas may account for declines in the volume of records and eventually in reduced vital statistics rates. For these reasons, an assessment of the registration programme in an area must incorporate other

information in order to determine what has caused the changes.

634. Cause-specific mortality and maternal and infant mortality rates can be used as indicators in the evaluation process of the completeness and accuracy of the events registered in specific local registration sites. As noted earlier, birth and death rates based on estimates from various sampling schemes may also be used as indicators for the completeness of reporting. These indicators, when compared to information from prior years, provide a basis for the review of particular registration offices. Additional information, noting whether other conditions have or have not occurred in the area that could affect the programme, forms the final component for evaluation. Use of this process in the registration programme is effective for evaluating the data elements essential to both registration and vital statistics activities.

3. *Functional committee structures for civil registration and vital statistics activities*

Intra-agency committees

635. Within the civil registration and vital statistics programmes at the national and state or province levels, the need for communication and cooperation between the civil registration and vital statistics functions is essential. To that end, committees need to be established in both centralized and decentralized systems. Some differences in terms of the roles of the committees may exist between the two system structures, but the basic activities are similar. A committee comprising staff from the registration and vital statistics programmes is a first priority in either a centralized or decentralized system.

636. This committee is the coordinating body for data items and definitions, collection and monitoring, access and utilization, and the legal and administrative functions needed to manage the programmes effectively. In addition, working committees for specialized functions should be considered to maintain the operational aspects of registration and vital statistics. Such working committees can revise the legal framework, conduct education and communication programmes, enhance the accuracy, completeness and timeliness of civil registration and vital statistics, and organize and conduct training programmes.

637. A committee may be formed to address the legal issues that arise from both registration and statistical activities. Some of these issues relate to confidentiality of information. The release of records or related documents from the registration process could provide information that might affect an individual or family. For example, in the case of an adoption, access to the original birth record by an unauthorized person could result in the identification of the biological parents of the adoptee, which in most

instances is not releasable without a court order, resulting in the release of information about the adopted parents to the adoptee or the biological parent. Such information is usually restricted by registration laws.

638. Similarly, in the preparation of a vital statistics report, detailed demographic data for a small geographic area or for a specific facility where the cell size contains fewer than three events could result in the identification of an individual. For example, in a vital statistics tabulation of causes of death a specific cause, such as illicit drug use, may be presented by age, race/ethnicity, gender, educational level and marital status for a particular small area. If there are only one or two events in that cell category, those characteristics may provide enough information to permit the identification of an individual. This could have a negative impact on a family, particularly for certain sensitive causes of death. The composition of vital statistics reports and their distribution for release, as well as the controls on access to confidential records, are the types of issues that a working committee on data dissemination would address.

639. A second committee may focus on the operational aspects of the two programmes. Here, the issue would be the interaction of staff in the processing of records. Each programme requires access to the vital records in order to complete its respective functions. Delays in reporting, errors and reduced staffing within a particular unit involved in the process could influence each programme's activities. To address these types of issues, the working committee could establish options for conducting specific processing functions, depending on the issue under review. Delayed reporting would result in low work levels. The committee could reassign staff to other areas requiring support until the reporting level resumes.

640. Similarly, when staff reductions have occurred as a result of budget restrictions, the committee's focus would be on obtaining additional resources to carry out activities. This could entail reassignments, hiring temporary employees or reorganizing. The latter approach would be based on a prioritization of programme operations to meet essential needs.

641. When the programmes have separate administrative agencies for registration and vital statistics functions, which may exist in both centralized and decentralized systems, a committee to maintain communication and coordination of related activities is appropriate. The composition and responsibilities of such a committee have been addressed in the chapters above on the organization and management of the civil registration and vital statistics systems. The effectiveness of this committee depends on an understanding of the activities, operations and use of the data and information within the two programmes. Without this perception, productive results from each programme may be somewhat reduced, and the results themselves may be conflicting.

642. A number of other ad hoc working committees can be set up as specific needs arise. For example, should a programme in registration or vital statistics move from a manual to an automated processing system, the implications are significant for the other programme. A committee designated to establish the new system and to integrate existing processing functions and operations must have representation from each programme. In this way, the transition will accommodate the respective programme needs and incorporate, where appropriate, the essential elements for a successful system. Fundamental elements affecting both programmes would include the record formats for data collection, the transfer of records for coding and data entry, and legal and administrative issues for monitoring, evaluation and distribution of information. Such a transition conducted independently can only result in a complicated and ineffective operation.

643. The working committees are set up to meet and address specific issues. Once resolved, these committees can be disbanded. However, the committees for monitoring registration and vital statistics operational activities, for coordinating administrative responsibilities in a dual agency environment and for maintaining the legal aspects of the system should be permanent. No matter what changes may occur in either registration or vital statistics, these components are essential for sustaining consistent and standard policies and procedures in the programmes. The roles of each of these committees in a centralized or decentralized organizational structure are needed for the management, operation and maintenance of effective and productive civil registration services and vital statistics activities.

Inter-agency committees

644. There are a number of agencies outside the government structure that are involved in the collection and use of registration information and vital statistics data. These agencies are the original sources of data and information. They include hospitals, clinics and the offices of various health-care providers. There are also local registration offices that are under a separate administration (e.g., the ministry of the interior, municipalities, parishes) and administrative agencies through which data validation and reliability may be obtained. Other sources include agencies and organizations that use data and information primarily for analytical, quantitative, administrative and research purposes. In addition, churches, parishes and the courts are sources of data related to marriages and divorces. In order to effectively accommodate these agencies, committees may be set up to address the specific interests and requirements of such groups. Some may be ongoing committees, and others may focus on new developments and changes that affect these agencies. When their task is complete, such committees can disband.

645. A particularly important primary and continuing committee is one that designates the data items for the vital records forms and the statistical reports. Representation on the committee should include both the registration and vital statistics programmes from within the Government. External agencies on the committee should include professional organizations representing hospitals, medical care providers, clinics and related service providers, including funeral directors and crematory operators, churches and parishes, and the courts. This committee would address issues related to the data items and definitions included on the vital records forms and vital statistics reports. It would look at the completeness and accuracy of the data collected, the verification and correction of reported information, processing procedures and record transfers, the security and confidentiality of data and records storage, and staff training and monitoring. These elements ensure the quality, timeliness and consistency of data throughout the system, and provide for the appropriate registration services to be conducted and for the reliability and usefulness of the vital statistics prepared from the data.

646. Representatives of professional organizations and associations of primary-health-care providers would have a number of items to bring to the committee. Information feedback through statistical reports and analyses of data would be important elements for the providers for planning and development purposes. The availability of accurate and timely information is a major incentive for the health-care system to comply with the requirements of the registration and vital statistics programmes. In addition, data on a facility-specific basis or for particular patient-catchment areas for certain health-care providers would be an issue for the committee. These organizations, based on their roles in the registration process, should have the potential for gaining access to this type of information, and in turn the programmes must be responsive and cooperative in meeting these needs.

647. A second area involving the use of registration data is the matching of vital records information with other government data sources. These matches verify programme benefits and resources available to the population. Social services may provide additional funds, food or other resources to the population with limited income and large families. The agency would verify the number of children in a family through birth records. These benefits can be an incentive for timely registration. The civil registration system can help here to eliminate fraud and misuse of public resources. Insurance benefits, either public or private, can also benefit from the matching of mortality records with insurance files to update the status of individuals collecting funds through the insurance programme. School enrolment, citizenship, hereditary rights and a number of other personal services programmes all interact to some degree with registration data.

648. It is appropriate to form a committee to meet these needs, and to identify and incorporate the large range of potential uses of the data for personal and public services. The committee would focus on how best to use the registration data for these purposes and what impact such data integration would have on public funds and resources. The committee could determine what programmes of interest to government and other organizations are related to the matching process. It would ask how the linking of data would affect a national population register, and what technologies could be used to improve processing and performance standards to conduct these activities. Since there are a large number of areas where this type of activity can provide effective and cost-saving results, a series of working committees might be considered. These committees would have a specific activity to consider, such as those cited above, and when finished would be disbanded. Management of civil registration at the central office should assess the extent to which a permanent committee or ad hoc working committees would meet the needs of the two programmes.

649. The data collected through the registration programme and the statistical data and reports from the vital statistics programme are major sources for medical and health research and analytical studies. Chapter VI below describes these applications. A working committee should define the basis for access and release of the data for these purposes, and the distribution of the results based on specific facilities or geographic areas. Both the private research and academic communities and the Government's registration and vital statistics programmes would have representation. The committee should establish guidelines and protocols for conducting research activities and reporting findings so as to ensure that subsequent implications of these events do not have a negative impact on the registration and vital statistics programmes. There are instances that could lead to such reactions. They can be resolved by a committee with representatives from the appropriate organizations.

650. For research and analytical study uses, access to the data should follow a review protocol that addresses the research or study design, the quantitative indicators to be developed, the proposed analytical and statistical techniques, and the methodology employed for interpretation and release of the results. The latter item requires prior approval by the registration or vital statistics programme, or through other defined administrative protocols set by the committee. These types of issues need to be a part of the committee's activities. Appropriate documentation should be prepared to avoid any future controversy resulting from the use of the registration data. When there is a wide range and volume of research and analytical use of vital statistics data, this committee should be established on a permanent basis. This type of committee should be

located within the central statistical office at the national level in a centralized structure. It would be located at the state or province level in a decentralized structure.

4. *Coordinated services*

651. The common elements of civil registration and vital statistics—data items and definitions, data collection and reporting sources, legal requirements, and processing of records—have been covered above. Approaches have also been identified and described for meeting the needs of functional relationships between the systems. The final elements required in the coordination efforts between registration and vital statistics, irrespective of the organizational infrastructure, are the services conducted for the management, maintenance and processing of the records within each of the programmes. These include record storage, indexes for searching the record files, methods for file updates and system security.

652. Record management involves the preparation of detailed specifications. These describe how the birth, death, foetal death, marriage and divorce records are to be controlled. The specifications tell how the records are processed within the existing organizational structures at the local, regional, state or province and national levels of the system. These specifications relate to the records whether they are in hard copy, microform or electronic format. Though the specifications for each format are different, the fact is that management services must relate to them in the proper context. The storage of hard copy documents, microfilm, computer magnetic tapes or optical disks requires specific environmental and physical conditions appropriate to the storage medium used. This cannot be left to each individual location or programme, but must be designated, implemented and managed in a consistent manner from prepared specifications issued by the central office. In the registration programme, components may be more complex, since records are widely distributed among the organizational levels and may include all the storage medium types. In the vital statistics system, the data are generally in an automated mode or are hard copy abstracts of data prepared at the lower levels of the system and then forwarded to the central compiling office. In either programme and under the storage medium used, records must be managed in a common, unified and standardized way. This assures that the programme service can be performed.

653. Indexes for searching records to meet requests for certified copies from the population require a consistent structure within the storage medium used. Specific data elements used as the variables for preparing the indexes for locating records to provide registration services must be consistent with those used for similar activities in the other medium formats. In addition, where files are

to be used for record-matching with other data files or linked to other databases, the matching criteria must include common indexing variables. Without such a coordinated structure for indexing of vital records, differences may occur in the application of search techniques. This can result in incorrect matches or unmatched records, when in fact there are matching records in the files. It should be noted, however, that in addition to the defined variables, supplemental data may be included to further improve the matching process.

654. The basic elements of an index should contain the variables that are most commonly collected and stored in other data files. This is essential within the registration system. It should be defined through coordinated management activities with other significant databases or record files in other government agencies. The index has to maintain common elements in any of the formats used for storing the index, be it in a register, microform or computer system. The service activity is what determines the need for a managed approach to the index composition and its standard elements. Variability in this context can result in serious deficiencies in the services provided using the vital records indexes.

655. The need to update vital records due to changes, corrections and legal amendments is another service where there is interaction between the registration and vital statistics programmes. The implications for both programmes are significant. Here, the maintenance of the files in registration relate directly to the vital statistics databases. The updating of data elements can only originate from the registration programme. Modifications must be coordinated with the registration programme prior to updating the records involved. Since the registration programme has the legal responsibility for the recording of vital events, changes to an individual record must be in compliance with the programme. This service, initiated from either programme but verified only through the registration system, has broad implications for the subsequent preparation of vital statistics. Because of this, a coordinated approach to effect record updates must be in place for both programmes. This related interaction serves a dual purpose. First, it establishes a process for accurate and reliable data. Second, it provides an appropriate mechanism for maintaining ongoing relations between the respective programmes. The latter has a positive influence on developing and operating an effective system.

656. For each of the interrelated services, a significant factor that requires attention is the security of the data shared between programmes. Regardless of the storage medium used, the methodology for record searches or matching, or the updating of files in either programme, a defined protocol to promote the security of the records or the data files needs a high-priority designation. This is a fundamental service activity that in effect justifies the

sharing of data and cross-linkages of processing activities in the operation of the registration and vital statistics components. There must be an effective, standardized set of procedures that specifies the minimum requirements for maintaining security and confidentiality of the records and data elements within the two programmes. Approvals for access to or for the release of records in a hard copy form or in computer-usable formats cannot be made by independent sources.

657. The process for such actions must be defined, with staff authorized for such activity in both manual and automated environments. In some instances, access to confidential data may be more readily available in a computer environment than in a situation where hard copies

of the records are stored in locked cabinets in a restricted area. The registration system initially defines what the requirements are. The vital statistics system must supplement these conditions with other requirements, based on the extent to which automated processes can access the confidential information. When only statistical data with no personal identifiers are maintained in the vital statistics files, the issues of security and confidentiality are nullified. This, however, is not a common file structure in a vital statistics system that operates under a combined administration. In most instances of unified administration, the automated files are used to generate indexes, to match events, such as births and deaths, for evaluating completeness of registration, and for administrative and programme functions.

VI. APPLICATIONS AND UTILIZATION OF CIVIL REGISTRATION AND VITAL STATISTICS INFORMATION

A. CIVIL REGISTRATION INFORMATION

658. The information collected through the registration system can be used to assess programme performance, support administrative decision-making, assist in developing management infrastructure and organize operational work flow among programme functions. Each of these activities can obtain relevant information from the programme in either a centralized or decentralized system. The organizational structure does not define use. Rather, it is the structure required to manage the system effectively. The operational component is what establishes the capability to extend the basic information collected for registration purposes for use in these other areas.

1. *Applications within the registration system*

Assessment of programme performance

659. There are a number of activities in the registration programme that establish performance standards. These relate primarily to services provided to the public but may include internal programmatic activities as well. With respect to public services, the availability of the information for issuing certified copies of records, the process for amending records and the time period required to provide these services are essential measures of programme performance. A request for a certified copy of a record by the public is generally for an important personal need. It may be needed to obtain access to government services, to establish personal family ties for inheritance, or to obtain a passport. Other needs may involve vaccination and immunization services, school enrolment, employment applications, military enrolment, marriage or driver's licence, or insurance benefits. Information from a birth or death record must be available for meeting these needs. The availability is a reasonable indicator that the registration process has been successful in getting these vital events registered into the system.

660. Other public services that reflect programme performance include making changes to records, maintaining the proper documentation for changes that are made, and following legal standards in making the modifications. Ability to complete, document and record the legal basis for making changes to records is a measure of programme performance. As described in earlier chapters of the *Handbook*, changes for adoptions, legitimation,

paternity issues and such items as name, date of birth and residence all require documentation, court orders or other administrative approvals. Such documentation should be retained in case questions arise at a future date. The record itself should contain proper citations of the legal basis for the changes to the record. The programme is considered to be at a satisfactory performance level when each of these elements is in place as an integral part of the registration services provided to the public, both centrally and at the local registration offices.

661. Some internal registration activities also benefit from the information contained in registration files. The completeness, accuracy and reliability of the information reflect on the performance of the programme units responsible for these components. Deficiencies in these areas can jeopardize the results for other registration activities. In the case of an adoption, the original birth record must be registered and the information regarding the biological parents must be accurate and complete. Programme performance here affects not only the adoptee and the adopting parents but also the adoption unit in the registration programme. The performance of the unit would be rated harshly in the case of misplaced, inaccurate or incomplete information.

662. Other internal activities on which programme performance will be rated include the vital events index registers, which affect the capability to search for and retrieve records; record matching for purposes of incorporating amendments and corrections to the original records; and the verification of registered events for legal or administrative purposes. The latter are services provided to other programmes or agencies that may receive requests for health, social or economic benefits, concerning which personal verification from selected vital event information is required. The ability to provide such services is a measure of the quality of the performance of the units within the registration programme. Public service functions are primary objectives. They are performance indicators of the registration programme.

Administrative decision-making

663. The information from registered vital events can support decision-making and policy and planning activities within the agency responsible for the registration programme. Registration data provide insight about the

sources of reporting and possible need for training or other resources. Significant increases in vital events may require a redistribution of staff resources, funding support or the establishment of additional local registration sites. Proposals for legal or procedural changes in registration functions can be initiated through the administrative process. These proposals are based on information received with respect to changes of vital events reporting, changes to reporting period between the occurrence of a specific vital event and the date of registration, or changes in definitions of events or supporting documentation for modifications of records.

664. Within the agency but outside the registration programme, registration information from reporting local offices can be used for administrative policy and planning. It can be used to plan with respect to health-care needs and resources for specific health facilities, geographic areas or population sub-groups. Administrative decisions in the conduct of such programmes as maternal and child health, family planning, adolescent health, and acute and chronic diseases can draw on the registration information to assess the current impact of existing programmes. It can also signal the need for development of new programmes. The general administration functions of the agency are a highly useful and valuable resource in civil registration for addressing such issues. It is good to recognize this potential as a motivation for maintaining an effective registration programme to continue to make this information available.

Management structure

665. The requirements for managing an effective registration programme are based, in part, on the information from the programme itself. Administrative decisions determine priority service areas and functions. These priorities in turn require a management structure for performing programme activities to accomplish them. The internal programme structure is heavily dependent on management approaches in addressing specific functions and activities. Each is identified, along with staff, equipment, resources and relationships. When legal changes cause delayed registration or large increases in requests for registration services, or new programmes for public service benefits are implemented that require additional registration documentation, the organization and management structure are seriously affected. Advance information from the registration units responsible for these activities can prepare management to arrange and structure necessary resources to meet these needs.

666. Relationships with other programmes within the agency but outside the registration programme also have significant implications for management. In order to provide information to these programmes, the types of data and the information network required to support them

are the responsibility of management. Drawing on the information from the registration programme relevant to the specific programmes and activities being addressed provides the proper structure for managing data and information requests. Such programmes as those cited in chapter II above would benefit from information on vital events registered by type of event, location, volume, reporting source and health-care providers. Access to this information from programmes outside the registration system requires a well-managed and well-organized internal structure that can direct the proper resources to meet these needs.

Operational work flow

667. The processes used in the daily operational activities of the registration programme rely on information related to record volumes, number of requests for registration services, coding, data entry, validation, record changes and updates. To assign appropriate resources to conduct these activities in an effective and timely manner, information from the different programme units is essential. The number of records received by type and the processing needed before the records can be shared with other registration units set the framework for all other activities. The initial review, log-in, recording and filing of the records are followed by the distribution to other units for their use. The type of record—birth, death, foetal death, marriage or divorce—determines the time period required for each unit to complete its function, since the volume and number of data elements contained on the records differ. This affects work flow. Fewer data items require less time for coding or data entry and validation. Birth records, for example, require a greater amount of processing and services than foetal death records. Each of these characteristics helps set the work-flow structure among the units.

668. When a well-organized record transition system among units is in place, the information from the system defines the type of records to be processed by which units for what time period. The work flow and the processing methods for birth records, for example, determine how soon these records will be available for adoption, legitimation and paternity modifications. The priority level for these areas determines the resource allocation to the initial birth record processing activities. High priority would require more resources to ensure that birth records are available on a timely basis. Low priority would imply that other records, such as deaths, would receive more processing resources. The major factor in setting the operational structure to meet established priority needs is the information coming from the registration programme. Without the use of this information, the capability to establish an efficient and productive programme is minimized. The impact is not limited to the registration programme. It also

affects the other programmes in the agency that rely on these records for their activities and functions.

669. The use of registration information in the four areas described in the present section relate to intra-agency applications, either within the registration programme or outside the programme but within the agency. The information can be descriptive or qualitative, or may consist of frequency counts of vital events reported and registered. Such issues as the completeness, quality and reliability of information are critical to their use. Where there are concerns regarding these issues, steps should be taken to resolve them. The extent to which the information and resulting data are used outside the agency are outlined below. Use in these areas further supports a viable, productive registration programme.

2. Inter-agency applications

670. The extent to which information collected through the registration system can serve other government agencies, professional organizations and voluntary health or social groups depends on the data items that vital record and statistical forms contain. Prior determination about the anticipated use of registration information sets the baseline. Several of the major areas that rely on registration information for specific activities include health and social services, population and selected health-oriented registers, electoral rolls, population identification services, passport/visa and citizenship services, and certain legal functions.

Health and social services

671. Access to health and social benefits generally requires some sort of documentation, including registration information. Social service programmes that provide support for families with a large number of children require birth certificates for each child to verify family size prior to the allocation of resources. In the case of a single parent requesting support services as a result of the death of the other parent, the agency may require a certified copy of the death record to verify that the death occurred. Services relating to food, immunization, housing, clothing and other personal needs that are provided through either government or voluntary organizations require verification of the individuals involved. Such documents as birth, death, marriage and divorce records are fundamental to any validation or verification requirements.

672. Services in the medical and health area are often made available to the public free of charge provided that other eligibility criteria, such as residence and income and related resources, are met. Problems associated with pregnancy or delivery complications can lead to necessary follow-up for medical and health benefits. The birth record, in addition to hospital or clinic records, may contain

relevant information to verify stated medical and health conditions, and may result in free care for the patient. Selected causes of death on the death record may be used by a family to obtain certain counselling and testing related to possible hereditary or communicable disease categories for the surviving spouse and/or children, depending on the condition. The death record can serve as the basis for obtaining such services if other criteria that may be required are met as well. The data content of the vital record forms becomes critical for their use in obtaining services from these support programmes.

Population and disease registers

673. Many government agencies and voluntary public and private organizations have a need for constant and consistent feedback regarding selected information from the registration system. Population registers may be national in scope, or may be developed at the state, regional or municipality levels. They may draw on a variety of information from the registration system. The national population register, described in chapter II above, may serve as a model for local areas that are interested in maintaining selected information in order to provide services for local residents. The information from vital events can make a significant contribution to this effort. Each of the vital records helps to maintain the status of families and individual family members. Coupled with the population register information, the comprehensive nature of the entire data set offers the Government, other organizations and the population a viable and timely database for a variety of needs.

674. The use of registration data in the development and maintenance of disease registers has been increasing. The long-established use of the cancer register in many countries has drawn on death information to identify cases and to update existing cases. This has now resulted in other registers being implemented. Examples include registers for birth defects that obtain the initial information from the birth record. The registers are used to identify families that may need health or social support services. The information in the register is also used for epidemiologic investigations in which environmental or nutritional factors may have caused the defect.

675. Other disease registers, such as tuberculosis, AIDS and Alzheimer's disease, use death record information to identify cases not previously reported and to update current cases. This registration information is critical for establishing and maintaining effective disease registers that can provide necessary support services to individuals and families. The use of registers to identify and maintain selected health and medical conditions can be very supportive to the population, especially when government and other resources are available to help meet these health needs.

Legal uses and activities

676. In many of the support service areas cited above, there are specific requirements to be met prior to authorizing release of the information. The registration documents are the legal basis for establishing some of the essential criteria and authorizations to access services. Other areas, such as inheritance, insurance, citizenship, school and military enrolment, and family status, are all based on legal information from the registration system. Age, date of birth, place of residence, place of occurrence, family name and personal identification are significant legal factors that rely heavily on the registration system for verification. These, in turn, affect a wide variety of rights to which an individual may be entitled. There is usually no other system that provides these basic elements. The protective value to individuals of vital records has long been officially endorsed by the United Nations.

677. The legal implications associated with registration information are a significant factor in the design, implementation, operation and management of a registration programme. These elements have been described in earlier chapters of the *Handbook*, and the use of the information noted in the present section demonstrates the need to assure a well-developed system. Legal issues often occur many years after the date of occurrence of the vital event. There is a need for record preservation and record accessibility through proper storage and indexing methods. Events involving issues of adoption, legitimation, paternity and dissolution of legal marriages have legal implications for inheritance, government services, insurance benefits, and social and health outcomes. An adopted child's health might become an issue in later years, depending on medical factors of the biological parents. Such situations can result in legal action to gain access to the original vital records in order to obtain relevant information for assessing the current medical condition. Civil registration information clearly has a broad spectrum of uses for multiple purposes and under many different conditions for the population, and for administrative, governmental and legal actions and activities.

3. National programme applications

678. Information from the civil registration programme has an important role in many of the programmes operated at the national level. There are numerous areas at the national level that require current information from the registration programme. These include maternal and child health, family planning, population patterns, planning and development for health and medical care programmes, evaluation, government resources allocation, population registers, electoral services and identification services. In addition, programmes and services directed to family formation and dissolution can derive relevant

data through the registration records for marriages and divorces. Registration can contribute to each of these areas with appropriate information from the vital records. A significant contributing data set is the vital statistics derived from these records. Applications using vital statistics data are described in detail below. In contrast to the statistical data, the registration information used in these programmes is more individual-oriented, with record-level information required for support services, registers, and legal and administrative uses.

679. The national population register information has previously been described. In this application, the civil registration information in effect serves two purposes. First, it is oriented to individuals in the population, describing the characteristics available from the various vital record sources. This includes a new registered event in the case of a birth and the loss of an individual based on death information. In addition, selected health information is obtained from both the birth and death records. Family size and characteristics are developed and updated based on these records and marriage and divorce information. These data, combined with the other data in the population register, such as income, occupation, educational level and current residence, make an effective information base for government support services and resource activities at the personal level.

Maternal and child health

680. At the national level, this programme identifies families and cases requiring health support services on a national basis. Within this programme, a number of sub-programmes are funded to supply medical care, nutrition, public housing, prenatal and post-natal counselling, and infant and child health-care services. In some instances, national committees are established that address medical and health issues related to maternal and infant deaths. Reviews are conducted using both the birth and death records associated with the maternal or infant death under review, combined with other data from the medical care provider and the facility where the event occurred. Based on the findings following these reviews, the Government may promulgate rules and regulations relating to medical practice, health-care delivery services at medical facilities or malpractice issues. The record-level information from the registration system is the primary source for conducting these types of programmes. It contributes to the improvement of health and medical services on a national scale.

Family planning

681. National issues relating to family planning programmes have been of major concern in many countries for a long time. When civil registration programmes are operating successfully, the vital records provide appropri-

ate record-level information regarding various methods used in addressing these issues. Since the registration system has national coverage and is conducted on a continuous basis, and since the records are received at the national office on a timely basis, outcomes for various segments of family planning activities are readily available. This provides immediate access to specific individual data, and offers a reasonable approach for modifications or for nationwide implementation based on positive results. Options for studies when registration information is not available include periodic surveys or access to hospital or clinic data on a one-time sample basis. Due to the availability of continuous reporting of individual birth records, the registration programme offers a more timely representation of the population involved.

Planning and evaluation

682. Continuous assessment of the impact and outcomes of national health programmes and characterization of population health patterns require access to appropriate health and demographic information. The registration programme can provide this type of information for planning new programmes and for evaluation of the impact of existing programmes. Whether the issue is maternal and infant health care, family planning activities or general health patterns of the population, birth and death information is available by health, demographic and geographic characteristics on an individual basis. This information can then be used to profile the impact of current programme activities, and can lead to planning and programme evaluation. The individual record information, supplemented with vital statistics summary data for relevant variables, is an effective mechanism for determining new directions for programmes.

Resources allocation

683. The final component of the uses of registration information is the allocation of funds, staff, supplies and services. The conduct of such programmes as maternal and infant health care, family planning, maintenance of health and disease registers, and population health patterns and status require well-structured decisions and commitments of resources. To do this effectively, a sound, accurate and reliable information base is needed. In some cases, this can be vital statistics summary data, and in others record-specific individual information. The latter situation draws on the civil registration system to provide data on an individual level. When funds are to be allocated to programmes based on individual events, then the decision-making process needs information at that level. The civil registration programme, designed and managed with this external utilization perspective from the start, is in many countries the most appropriate and relevant information base available for this purpose.

B. VITAL STATISTICS APPLICATIONS

684. The registration information described above is primarily for use at the individual level. In addition to these substantive applications, the registration system provides the database for the preparation of vital statistics data files covering natality, mortality, marriage, divorce and selected population profiles. The statistical files have broader uses, some of which may occur at the individual case level, while others occur at the general descriptive or analytical levels. The database serves multi-purpose areas in a quantitative sense, with the capacity to extrapolate, estimate or project selected characteristics based on previous data. This provides for more applications, some of which may relate to conditions outside the registration programme. Several areas of applications within the statistical agency, in conjunction with other agencies and programmes and at the national level, are described below.

1. *Intra-agency applications*

685. Vital statistics data offer the capability to quantify events and to produce a number of quantitative indicators and measures. These can be constructed to describe health and medical outcomes, population health status profiles, geographic characteristics for selected health conditions and demographic characteristics for selected population groups. When the responsibility for vital statistics activities is in the ministry of health or the national statistics agency, data may be needed for other programmes within the agency. The health ministry would use the data directly from the programme. The national statistics agency would develop these data for other programmes and agencies involved in medical and health issues. The demographic data and mortality and natality data would be directly used for national statistical purposes within that agency. Examples of specific indicators and measures include infant mortality rates, crude birth, death, foetal death, marriage and divorce rates, total fertility rates, age-specific rates, fertility rates, mortality and marriage rates, life-tables, life expectancy at birth and cause-specific death rates. These specific indicators and measures are available not only for the country as a whole and its main divisions but also for small geographic areas. It is important to note that for the calculation of most of the vital rates, complementary data from population censuses, sample surveys or projections are needed.

686. Many of the applications described in the previous section related to registration information at the individual level have similar statistical applications in aggregate form. In the maternal and child health area, vital statistics are used to compute rates for maternal mortality, infant mortality, complications of pregnancy, labour and delivery, malformations and such health services as prenatal care and other related government or programme-

sponsored support services. These quantitative measures are then used by programmes to assess the quality of care, medical problems associated with pregnancies or delivery procedures, the utilization of health services and health outcomes. For these purposes, the vital records forms or the corresponding vital statistical forms, if separate, must contain the appropriate data items. As noted elsewhere in the present *Handbook*, the integration, collaboration and cooperation through joint committees and meetings between the registration and vital statistics programmes assure that the data items on the vital records forms or statistical forms are available to address these uses.

687. Within an agency with responsibility for the health of the population, vital statistics serve multiple purposes. Mortality measures based on demographic information contained on the death record or corresponding statistical form can be used to characterize specific causes of death for selected population sub-groups. When death rates appear significantly higher for certain groups, studies to obtain more detailed information or epidemiologic investigations may be initiated to determine the factors causing the increases. Geographic data for place of residence or place of occurrence can provide additional information on health conditions in specific locations, and key elements for the evaluation and monitoring of intervention programmes.

688. To assess disease conditions elevating mortality rates in a certain area, the mortality data must be analysed by both residence of the deceased and the site where the death occurred. Individuals may be infected in one area but travel to another for medical care. This can give a false impression of where the problem exists. The rates in the area of occurrence may have no bearing on the site where the actual disease problem exists. Place of residence and occurrence are two critical variables in the conduct of such analyses.

689. Extensive use is made of mortality data in evaluating health-service providers. Death rates for events that occur in a particular hospital, clinic or other type of facility can be compared both with other similar facilities and with national or state averages. These data can give some sense of the quality of services being provided, and may reflect both on the institution and on the person providing care. For example, differences in death rates following surgical procedures for heart disease or cancer when reported on the death record can be used to assess these outcomes for quality of care, availability of resources or severity of illness.

690. Results of these analyses are then provided back to the health-care provider for review and evaluation to improve conditions, when applicable. The data can also be used by government survey teams in attempting to determine the allocation of resources and funds for improving health and medical services to the population. In

countries where surveys of medical records are conducted for utilization reviews and the quality of care of health providers, mortality outcomes are essential data in the survey process.

691. The vital statistics related to applications in the area of natality fall into uses similar to those for mortality, except that variables are different. From the birth record or corresponding statistical report, rates for Caesarean deliveries can be computed and comparisons made among physicians and hospitals. High Caesarean section rates may require detailed review to determine the reasons that cause this to occur. This type of analysis can be conducted on a physician-specific or hospital-specific basis by the health agency, and may lead to changes in procedures or the addition of appropriate medical testing to assist in the decision process for performing the surgery. These data, linked with mortality files, can produce mortality rates for women having Caesarean sections, and comparisons can be made with spontaneous deliveries or defined standards. Significantly, higher rates for such events can lead to direct action by the health agency to evaluate and modify both processes and procedures leading to this delivery method.

692. Generally, there are more data items contained on the birth record than on the death record. This provides the potential for more extensive applications. Depending on the design of the birth record, there are items relating to the mother, such as demographic characteristics, previous pregnancy history and prenatal care services or behavioural factors, such as smoking, alcohol or drug use. The record often contains conditions associated with pregnancy, methods of delivery and birth outcome. These data form a large pool of health data for review, evaluation and research activities. Data regarding the condition of the infant at time of delivery, APGAR score, birthweight and birth defects provide a substantial database for planning and evaluation purposes, research and the health service needs of the family.

693. These data, linked with the mortality files, provide infant mortality rates that can be categorized by each of the data items noted. This gives a sound basis for programme development and implementation in areas of need identified from the data. Low-birthweight infants or infants with birth defects will require additional health and medical services. Social programmes related to family formation and dissolution can derive relevant data from the reported marriage and divorce records or statistical reports. These data relate to the impact on mothers and children when divorces occur and income is affected. Marriage data can be used to project subsequent fertility and related health support services, both during anticipated pregnancies and child deliveries and for newborns. Government programmes, social services and voluntary organizations can be quickly brought in to serve particular

families, local institutions or geographic sites where conditions indicate high levels of demand.

694. The research potential in both natality and mortality is, as previously noted, dependent on the data items collected on the vital records forms or the corresponding statistical report, and the completeness and quality of the data. Through an established civil registration programme, the vital statistics data are population-based, provide current measures and indicators of health status and outcomes, and cover major health issues. These data can then give the proper initiatives and directions for conducting new research studies or supporting existing ones.

695. The broad and comprehensive nature of the vital statistics data for use in areas of research, analysis and evaluation can be seen in most public health and medical publications of Governments, professional organizations and other public and private agencies. The vital statistics system, through the responsible agency, provides data, conducts studies and maintains the database in conjunction with the registration programme, for current and future data and information needs.

2. *Inter-agency uses and applications*

696. Access to the vital statistics database by other agencies is important to such programmes as public social services organizations, specialization units for independent research, medical facilities and population profiles. These programmes draw on natality and mortality statistics to address current issues, identify trends and project new directions of the events being considered. Social service programmes use natality data to identify geographic or demographic profiles of high fertility that affect benefits and services directed at women and infants.

697. These programmes use mortality data to provide support to families in areas having major difficulties involving epidemics or other health problems where support services are needed. Through the linkage of social service records and vital statistics data, family profiles may be developed for use in the allocation of resources. Allocations can be based on number of children, health problems and availability of medical care in specific geographic locations. This type of comprehensive data structure allows for the implementation of new programmes and services or the redirection of existing resources to better meet the needs of the population.

698. Agencies that maintain data on selected health characteristics, such as specific disease categories and health or medical conditions, or are responsible for planning and evaluation activities require access to data and information from the vital statistics system. The number of individuals dying from a particular disease or illness provides relevant input to agencies or programmes di-

rected at these conditions. The most complete and timely data come from the vital statistics database. An agency with the responsibility to build health facilities or relocate clinics or care providers based on health conditions, or to propose new resources to meet current or projected health-care needs, must have access to vital statistics.

699. Quantitative information is fundamental to the conduct of such programmes. Rates of specific health conditions, the proportion of events occurring in particular locations or at specific facilities and the relative rates of change and trends over time offer valuable indicators for the agency to make decisions and realign resources to best use.

700. High rates of low-birthweight infants, birth defects and infant mortality from the vital statistics database may help define where the next infant health programmes should be located. It can indicate on what conditions the programmes should be focused. High fertility rates for specific age groups may provide information to redirect a family planning programme in a specific geographic area. High rates of mortality in specific geographic areas, for particular population sub-groups or in health facilities provide data necessary for the health agency to conduct surveys and record reviews to determine causes. It can then implement changes to correct problems.

701. Agencies often require quantitative data to sustain support for the programme or agency function. Depending on the area of responsibility of the agency or programme, vital statistics represent an important and unique source of information for preparing descriptive summaries and profiles of particular categories of vital events. These events can be further detailed by geographic areas, demographic profiles and health-care provider types, and can be linked with other data files. The data provide integrated information for the programme or function under review.

702. Measures and indicators for selected vital events can be constructed for use in programme operation, evaluation and impact analysis. The data items to be used depend on the programme objective. Rates, proportions, frequencies and volume of events are common indicators and measures that may be used for agency programmes and functions. For infant immunization programmes, the number of infants in a particular area can be obtained from the vital statistics files, which helps to define the level of service needed.

703. The proportion of women with labour or delivery complications can provide an estimate of the potential follow-up service requirements when the mother leaves a facility and returns home. Fertility rates can be used as indicators for assessing the impact of family planning programmes, both from a geographic area perspective and for selected demographic characteristics. Many

of these programmes are operated by voluntary organizations, and the allocation of limited resources can best be determined from these types of data. Both general and item-specific natality and mortality data from the vital statistics system provide statistical and data profiles and analyses with broad applications in programmes and agency functions.

704. Programmes for the delivery of health-care services, programme initiatives, impact analysis, evaluation and programme direction, planning and development, and research activities have significant ties to the vital statistics system. Responsibilities for these activities vary among agencies, programmes, and private and voluntary organizations. To be positioned to meet these needs is the vital statistics system perspective. To have this information available is the external user's need. Participation of these groups in the structure of the civil registration programme is essential to accomplish this objective. From this data-collection and reporting programme come the statistical data that are the baseline for many health-related programmes and activities. The application areas cited above represent only a small segment of the comprehensive and broad-based use made of vital statistics.

705. Utilization can be of a general nature, with the focus on overall characteristics of vital events. Birth rates and death rates, the frequency of vital events categorized by selected demographic and geographic variables, the distribution of vital events by type of service provider, and the place of occurrence of the event and residence of the individual give a general statistical overview. These data offer a profile for health outcomes of the population, for geopolitical subdivisions down to the smallest geographic areas, and for facilities used for health care. More detailed uses can also be made of the vital statistics data, using selected outcome variables, such as malformations at birth, the amount of prenatal care by age or socio-economic group, cause-specific information for maternal and infant deaths, complications associated with pregnancies and specific cause of death for various demographic characteristics.

706. The use of these detailed data may be to monitor particular programme or agency objectives or define areas for medical and health research activities. In either case, the data elements for these applications come from the registration process, and through the vital statistics system reach out in a wide pattern of use and application in the health field.

3. National vital statistics uses and applications

707. The national vital statistics programme has the broadest use and applications for all of the areas cited. From the general perspective, the preparation and release

of annual vital statistics tabulations and reports to other government agencies, organizations and the public require major time and effort on the part of the responsible unit. Methodological issues pertaining to the presentation and analysis of the data are significant factors in preparing them. The final format for the vital statistics report contains broad categories of such outcomes as mortality and natality by five-year age groups, gender and race/ethnicity for national, state or province groupings.

708. Mortality data are presented by standard categories of causes of death and selected items, such as infant mortality and foetal deaths. Natality data generally include the number of births by mother's five-year age groupings, broad categories of methods of delivery, complications at time of delivery, and selected demographic data describing socioeconomic or educational levels. The *Principles and Recommendations for a Vital Statistics System*³¹ includes a detailed tabulation plan for all five types of vital events to ensure international comparability, which countries are encouraged to study and adopt.

709. A second major activity conducted at the national level using the vital statistics data is the matching and linking of the vital statistics files with other national databases. For national programmes directed at social and health services, the status of clients receiving such benefits must be continuously updated. Mortality files are matched with programme databases, and where a match occurs either the programme record is deleted or data such as date of death are merged with the programme data. In this way, resources are not released to clients presenting fraudulent information. The mortality data are also used to update pension fund data and insurance files. Birth files are used in similar fashion to verify the number of births in a family receiving support services or benefits. Applications citing new births to a family will be verified through the matching and linking of the vital statistics and programme files.

710. Other applications that rely on national vital statistics include national disease surveillance programmes, immunization programmes and research. The previous section described many of the areas covered by these activities. The main difference is the population and geographic area covered. At the national level, focus is on identifying national issues that would then lead to the development and implementation of appropriate service or support programmes. National research activities draw on vital statistics to identify new areas for research investigations, assess studies under way, and describe the general health status of selected areas and populations in the country.

³¹Statistical Papers, Series M, No. 19, Rev.1 (United Nations publication, Sales No. E.73.XVII.9).

711. National health objectives often relate to the data and measures issued in the vital statistics system. Reducing infant mortality rates or heart disease and cancer death rates, determining fertility rates and projecting future levels of disease are areas requiring vital statistics input. The importance of the data and contributions to these efforts are reasons for support and recognition of the vital statistics programme.

712. National health surveys utilize vital statistics to identify areas and to focus on particular disease categories. The conduct of such surveys results in more detailed information on the topic under review, and provides additional input to the final decision-making process for programme support. The national census programme uses the vital statistics data for population estimates in intercensal years. Age-specific and sex-specific birth rates, death rates, fertility and migration patterns are basic components in the estimation methodology.

713. The national vital statistics programme often provides detailed national-level data by means of public-use data files. These files are generally in machine-readable format, such as computer magnetic tapes, diskettes and CD-ROMs, and can be obtained from the national vital statistics office. These provide users with access to the detailed vital statistics data to prepare the type of information required for their particular needs. Most of these activities are in application areas already described. The use of these public files becomes more important depending on the capacity of the national vital statistics programme to prepare tabulations and conduct analyses that meet other programme and agency requests. The public-use data files respond to issues that public and private organizations raise. The resources to respond to these issues are often limited, so the availability of the public vital statistics files is an effective means for responding to such requests.

714. National vital statistics also provide the baseline for subnational government programmes. The national statistics are used as standards to identify the current health status of the local population and appropriate subgroups, to assess the impact of local programmes, or for comparative analyses related to certain disease categories, illnesses or conditions. Estimates and projections of health events based on nationally reported vital statistics data are often used due to the lack of specific information at the local level. Though in some instances this may not be statistically sound, it does provide some basis for action or programme activity to address health issues.

715. National vital statistics are of major use to reproductive health programmes. There is the obvious use of birth and fertility rates to monitor population growth. The rates can be refined by geographic area and age group in order to determine target areas for programme activity. The infant mortality rates are key in tracking areas for

intervention. Where the system includes complete coverage for foetal deaths, the vital statistics system can provide data on pregnancy outcome for the reproductive health programme.

716. The extent of national applications involving the vital statistics system database may not be as comprehensive as those identified in the previous section for certain agencies and programmes. However, the support for vital statistics and the registration programme within a centralized structure or the coordinated and cooperative approaches taken in a decentralized structure determine the potential for applications and uses. Users should lend strong support to civil registration and vital statistics systems in order to realize the many options that the vital statistics system can provide for identifying, analysing, assessing and promoting health-care services and delivery functions, as well as social services relating to marriages and divorces.

4. *Research applications*

717. The areas of research and analysis that are conducted with the vital statistics data are extensive in scope and detailed in content. The usefulness of the data is dependent on their completeness, reliability and accuracy. Where the data quality meets acceptable standards based on these three criteria, then there is strong motivation to use them for research and analytical purposes. From a research perspective, vital statistics offer a wide range of medical and health data in the areas of natality, mortality, morbidity and marriage data. Of particular importance is the use of statistics on infant, child and maternal mortality by causes of death to design and implement intervention programmes.

718. Coupled with this are selected demographic, social and geographic conditions that allow for detailed categorization of the events considered for study. In the area of natality, studies have been designed and conducted to assess the outcome of births by birthweight, survivorship, birth defects and quality of life. The events were categorized by levels of prenatal care, and maternal behavioural factors including smoking or illicit drug use. The birth record in many countries contains this information for the specific purpose of undertaking these studies.

719. Questions about the time of first visit to a health-care provider during the pregnancy and the number of visits prior to delivery are items on the birth record. One can categorize these variables by trimester of first visit or divide them into groups based on the number of visits prior to delivery. It is then possible to analyse such variables as birthweight or birth defects by these categories. This type of study can provide valuable information about the impact of early prenatal care visits or frequency of visits.

720. Outcomes showing normal-birthweight and no defects based on early visits and subsequent monthly visits provide a reason to promote early and frequent prenatal care visits. Studies with outcome measures directed at survivorship and quality of life values, based on similar results, would also emphasize the need for early and frequent prenatal care. This could result in the establishment of prenatal care programmes to assist patients in obtaining such care and services.

721. The maternal behavioural issue is another area that is a major focus of research when the data items are contained on the birth record. The impact on the infant at the time of delivery or in early childhood would be studied. Outcomes could be tracked relative to whether the mother was a heavy smoker or non-smoker, drug user or not, or different levels of each. Results of the research would determine what programmes, counselling or information-sharing should be undertaken to modify behaviours that lead to infant problems. This type of research can be expanded to cover all of the data elements collected on the birth records or statistical reports, as the case may be.

722. Vital statistics from the mortality files can also be a database for health research studies. Mortality rates for selected occupation categories can be studied to determine if particular occupations or industry activities produce higher mortality due to working conditions. The need to consider both the occupation classification and the industry where employed is necessary in this type of research.

723. For example, a secretary who is pregnant and works in a government agency office would have less negative conditions than a secretary working in a chemical factory where fumes and other debris may be in the environment. Research in the latter case may suggest that the office environment for pregnant women had some impact on the health of the infant. This could then lead to counselling for women in this area, or for government standards to be imposed where these types of conditions can occur.

724. Other research studies use vital statistics in conjunction with other data sources. In these instances, matched records are linked to incorporate both vital statistics information and the relevant data from the other data files. In a government programme where services are provided to certain segments of the population who cannot afford private health care, research may be conducted to determine if the quality of care delivered is comparable in the private and government health settings. Identifying information on the mortality file would be linked to the public service file for selected disease categories.

725. This would provide a database that identifies patients receiving public service care. Non-matched records indicate patients in the private health insurance category. Using the mortality files, the researcher would then

compute mortality rates for patients in both health-care categories. If significant differences were found as a result of the research analysis, the payer group having the higher rate could be targeted for additional review of quality of care or service activities. The contribution of the vital statistics system in this type of research is significant, and in some instances would be the only source of information that would make such research possible.

726. Morbidity data, such as malformations or birth injuries, can also be accessed for research purposes through the vital statistics database. Birth injuries that occur at the time of delivery may result from the methods used for delivery, complications associated with the delivery of the infant, or the degree of experience of the physician. This may be considered a complicated research study, but the data from the vital statistics system can provide relevant information to assess some aspects of the outcomes.

727. Comparisons of specific physicians in similar delivery situations can identify those who have higher levels of birth injuries. This type of research can supply information feedback to physicians in order to improve or modify approaches previously taken. The level of performance under similar delivery conditions may improve as a result of the monitoring that can be done for data items, such as birth injuries reported on the birth record.

728. For malformations, a series of variables, including behavioural risk issues of the mother, previous pregnancy outcomes, employment, and selected demographic and geographic variables, may be combined to produce profiles that may result in certain characterizations common to these types of outcomes. This research combines the vital statistics data with selected information based on surveys of or interviews with the parents identified from the birth record. Supplemental information, combined with vital statistics data, can often produce results when independent uses of the data would not be applicable for the research. The type of research or analysis to be conducted requires careful assessment of the appropriate information from the vital statistics system, the availability of supplemental data from other data sources, and the possible use of interview or survey methods to obtain relevant information from the parent, individual or family.

5. Demographic applications

729. The use of vital statistics in the area of demographic analysis is very dependent on the quality and completeness of the data. Accuracy and timeliness of data are significant factors for demographic use in mortality, natality and population analysis.

730. Mortality data from the vital statistics system can provide indications of variations in the characteristics

of the deceased and the cause of death. These are important variables in the demographic analysis of mortality. Two of the most critical variables associated with demographic analysis related to mortality are the age and the sex of the decedent. The relationship between the risk and cause of death and age and sex makes them important factors in the demographic analysis of mortality. The fact that mortality varies by gender, geographic area, marital status, socio-economic conditions and availability of health-care resources makes these characteristics essential in the analysis of mortality. Many of these variables are part of the vital statistics database derived from the registration programme. For those items not collected through registration, options to obtain the data may be initiated. One might conduct surveys that use the vital records as the framework for identifying and locating individuals for the sample. Another option is to access other administrative databases that contain the data.

731. Demographic analysis related to natality also requires specific variables, many of which are included in the vital statistics files. Characteristics that are important in the measurement and analysis of natality for population purposes include the age and marital status of the mother, parity, birth order and residence. Other factors that may affect the level of fertility are also essential data elements, such as race/ethnicity, age of both parents, marital status, socio-economic status and educational level. These data can provide basic information that can affect the fertility of population sub-groups and population growth.

732. Measures for demographic analysis include age-specific fertility rates, fertility rates within marriage cohorts, probabilities of birth based on age of the mother, and various subcategories for birth and fertility rates. The use of these data from the vital statistics system requires in many instances linkage to census data or other survey data. This makes the data effective for demographic analyses related to natural growth and change of the population.

733. The mortality data from the vital statistics system are used in the development of life-tables for the measurement of mortality. The basic life-table provides data on mortality, life expectancy and survivorship. Other applications include population projections, natural population growth and length of life for selected subcategories. Essential to the construction of the life-table are the birth, death and population data. The population data are obtained from census data or from population surveys. The applications for life-tables and the mortality and natality data from the vital statistics system are described in detail in a number of publications.³²

³²See *Manual X: Indirect Techniques for Demographic Estimation*, Population Studies, No. 81 (United Nations publication, Sales No. E.83.XIII.2).

734. Vital statistics can provide some of the essential data elements in the preparation of population estimates and projections. The basic process uses the numbers of births and deaths and a migration measure. The migration measure may be obtained from other sources unless a population register is available. These data can be used to update a previously conducted population census. Natural increase in the population based on birth and death information combined with net migration can be used to update an earlier census count. Another approach, the vital rates method, uses birth rates and death rates for selected geographic areas, and—combined with a previous census count—produces an intercensal estimate of the total resident population.

735. Various methodologies exist in preparing population estimates and projections for the total country or for selected geographic areas. For these purposes, many include vital statistics data when it is determined that the registration programme has provided adequate reporting. When the registration programme has not provided adequate levels of completeness or accuracy and timeliness of reporting, other sources of data are used, but the methods become more complex and less reliable.

6. *Human resources and services applications*

736. In the area of human resources and services, vital statistics can provide information for identifying high-risk health conditions related to specific population sub-groups, geographic areas or facilities. Using results from the analysis of these data, decisions can be made as to the types of services and resources needed to address the conditions. With regard to selected population groups, the need is to assess the current health services and resources available, the extent to which these services are being used, and whatever new resources are required.

737. These components will vary according to the conditions identified. If the vital statistics indicate high infant mortality, excessive birth defects or a high proportion of newborns in the low-birthweight category, then there may be a need to involve specialized staff, equipment and service units. If these resources are not locally available, then a decision is made to bring them to the location or to transfer cases to another area where services can be provided.

738. Changes in overall mortality or in cause-specific categories may identify geographic areas that are experiencing increased health problems. This may require making health surveys or epidemiologic investigations in order to determine the source of the problem. The vital statistics can identify the increase or change in events, but more detailed information may be needed prior to directing services or resources to the area.

739. A major activity in the development and use of vital statistics is the monitoring of selected vital events by geographic areas. This provides data which can result in timely responses to identified health problems, wherever they may occur. This is an essential process for those agencies responsible for providing human resources and services, or in establishing programmes to meet health needs. Vital statistics can identify the occurrence of an epidemic resulting in increased mortality or natality complications, and timely actions can be taken. This assumes that registration is at levels adequate to lead to the identification of variations as they occur through a monitoring programme.

740. A major role for agencies and programmes in the area of human services and resources is to have access to information related to health-care facilities, such as hospitals and clinics. Vital statistics can provide information about the volume of vital events occurring at specific facilities. To some extent, vital statistics can also provide outcome data on the services provided. The frequency of events, such as births, spontaneous abortions, deaths and related complications associated with deliveries, may provide relevant input to planning and evaluation activities. The use of vital statistics in conjunction with other data sets, such as patient hospital discharge files, population registers and disease registers, provides the necessary information to assess human services needs. Mortality associated with selected disease categories from central registries, patient discharges from facilities linked to mortality or natality data, or the latter data combined with socio-economic and family profiles from population registers are significant comprehensive information sets for directing and controlling human resource functions. If these resources are limited, the assessment made for the allocation of services based on these data sets can help direct them to areas or population sub-groups with the most serious health problems.

741. Without this type of information use, human services needs may not be appropriately identified and resources can be misdirected or underutilized. For these reasons, the data items incorporated into the civil registration programme must take these applications into consideration. Once established, the vital statistics system can

produce essential information, provide data for analytical studies, and support a broad range of medical and health research activities.

742. The components of civil registration and vital statistics presented in the various sections of the present *Handbook* include the need for integration of the programmes within a centralized setting, and for the coordination and collaboration of these activities in a decentralized setting. In either administrative structure, whether the civil registration and vital statistics functions are managed in a single agency or by multiple agencies, the primary goal remains to provide service to the population. To meet this goal, the data and information may be health-oriented, registration-oriented or directed towards the development, planning and evaluation of human services and resources. The data can be used in the conduct of research, for the monitoring and surveillance of health conditions or for population dynamics through demographic analyses. Each of these areas of application and use is of direct interest and concern for public needs.

743. The coordinators who interrelate the civil registration programme and vital statistics system in any country should consider each of these functions in the design, implementation and operation of their systems. Requirements and needs in particular countries may differ, but the final system product should address personal items, legal requirements, health status and the conditions, and human resources and services that the population needs.

744. The data collected through the civil registration programme and the quantitative measures and indicators from vital statistics have the capacity for making significant contributions to meet these population needs. In some instances, supplemental data from other sources need to be incorporated. In other cases, new data from sample surveys or census activities must be considered in relation to specific issues or problems. The data from the civil registration programme and resulting vital statistics serve many applications and uses in the health field. Combined with other data, they also provide quantitative support for specific health issues and concerns. An effective registration programme serves current issues and provides an appropriate database for the future.

Annex I

HIGHLIGHTS OF THE *HANDBOOK OF VITAL STATISTICS SYSTEMS AND METHODS*, VOL. I,^a CONCERNING THE INFORMANT AND SELECTED ASPECTS OF THE CIVIL REGISTRATION PROCESS

The informant is the individual who, as required by law, reports to the local registrar the occurrence of a vital event and its characteristics and the persons directly concerned with the event and their characteristics. In the absence of documentary evidence, the informant may serve as a witness to the occurrence of the event. In turn, the local registrar is the official who, as authorized by law, registers the occurrence of vital events and civil status.

The importance of the informant lies in the fact that the registrar can legally record a vital event only on the basis of (a) informant's declaration, either verbally or in writing, or (b) evidentiary document, for example a medical certificate. The informant must be able to supply not only the accurate information necessary for registration, for legal purposes, but also the particulars required for statistical purposes. In this connection, the appropriate informant and the suggested alternates, by order of preference, for every type of vital event are given below:

Live birth

1. The mother
2. The father
3. The nearest relative of the mother

Foetal death

1. The mother
2. The father
3. The nearest relative of the mother

Infant death

1. The mother
2. The father
3. The nearest relative of the mother

Death of an adult person

1. The nearest relative (e.g., the surviving spouse/partner; a brother, a sister, the father/mother of the decedent)

Marriage

1. The bride and the bridegroom

Divorce

1. Either one of the parties
2. The petitioner of divorce

The designation of an informant, for each type of vital event, should be made clearly and unequivocally in the civil registration law so that there will be one and only one person primarily responsible for providing the information needed for the registration. Notwithstanding the above, the law may designate alternative informants and establish the order in which each of them must assume his/her responsibility as such. Unless the informant is aware that he/she is required by law to report the vital event to the local registrar, and no one else shares his/her responsibility, he/she cannot be expected to comply. Registration authorities should make provisions to permanently publicize issues related to where, how and when registration should be done as well as the benefits for the individuals.

In connection with the registration of a birth, death or foetal death, it is important to note that the informant's function is one of declaration. This is not to be confused with the supplementary function of medical certification of live birth or of cause of death or foetal death. The declaration of the fact of birth or death should be compulsory for a designated informant; but the certified cause of death or foetal death is not always a necessary part of the registration information although it is an essential statistical item in almost every country. Usually the responsibility for reporting the occurrence of a death falls on the nearest relative of the deceased, who is a layperson, while the responsibility for certifying the cause of death necessarily falls upon the attending physician or, in his/her absence, upon the coroner who examined the body.^b

In reporting the occurrence of a vital event, the informant contacts the local civil registrar's office, in most cases in person, to request the registration of a vital event within the time limit stipulated by law. The appropriate registration office to contact will depend upon whether

^aSee Studies in Methods, Series F, No. 35, vol. I (United Nations publication, Sales No. E.91.XVII.5), paras. 169-225.

^bFor examples of national practices on the main informant for each type of vital event, see *ibid.*, vol. II, *Review of National Practices* (United Nations publication, Sales No. E.84.XVII.11), chap. IV and table A.5.

the event is registered by place of occurrence or by place of residence in a country.

The civil registrar requests from the informant a document to prove his/her identity. Thereafter, a number of documents or witness(es) may be requested by the registrar to prove that the reported vital event has actually taken place. The registration record is then prepared. Whether it is done in one or two originals, using book registers, on a multi-copy form, on cards or in an electronic file is a matter that countries should decide carefully. The registration record is checked for completeness and accuracy and then signed by both the registrar and the informant. Soon after, the statistical report is filled in and likewise checked for coherence and completeness. The latter is the usual procedure when the statistical report is a separate document from the registration record or the medical certificate (in case of births, foetal deaths and deaths). Finally, the informant may request a certified copy of the registration record, which the registrar can issue upon payment of the stipulated fee. Some countries may prefer to adopt a combined form for legal and statistical purposes, a procedure which saves the time of both registrar and informant, but each country should assess the feasibility for success of the procedure.

It is important that the civil registration law state clearly the place of registration for each type of event. There are two alternatives in deciding where the registration of a vital event should take place: the place of occurrence or the place of residence. The place of residence is the geographical location (or address) where the specified person usually resides. While there are no problems in determining the place of occurrence, there may be difficulties in determining the place of usual residence. For example, some persons have more than one usual residence (businessmen, students living away from their parental home or members of the armed forces), some have no usual place of residence (vagrants who live as permanent transients), and some are seeking residence (refugees). The treatment of all such cases should be clearly stated in the registration law. Most countries have adopted the place of occurrence as the norm for the registration of births, deaths and foetal deaths.⁶

From the point of registration, registration by place of occurrence facilitates and accelerates the process. However, registration by place of residence gives a better picture than by place of occurrence about, among other things, demographic changes in the resident population. When the place of occurrence is used as the place of registration, the collection of information on the place of residence must also be included, and as a result, tabulations by both places can be produced.

⁶For detailed information on national practices in place of registration, see *ibid.*, vol. II, chap. V, paras. 169-182 and table A.8.

For statistical purposes, it is recommended that, in the registration of the place of residence for each specified vital event, the place of residence of the following persons should be obtained:

<i>Vital event</i>	<i>Place of residence of</i>
Live birth:	Mother
Foetal death:	Mother
Infant death:	Mother of the infant
Death:	Decedent
Marriage:	Bridegroom
Divorce:	Husband

Countries must also establish the time within which the informant must report to the registrar the occurrence of a vital event and its characteristics. Such a period of time should be specified for each type of vital event in the civil registration law. It is axiomatic that the shorter the period of time allowed to elapse between the occurrence of an event and its registration, the more accurate the information obtained will be.

The time allowed for registration is linked to the compulsoriness of the registration method. If a vital event is not reported within the specified time period, the informant is taken as violating the law and should be subjected to penalty.

Because the nature of each vital event is not the same as the others, the time allowed for registration need not be the same for each of them. Most countries allow live births to be registered within one month after the child is born, deaths and foetal deaths within three days after the occurrence, marriages on the same day and divorces within seven days after divorce decree has been granted. The differences in the length of these periods among countries are also related to such factors as climate, communication, transportation, geography, customs and habits and so forth, which all affect accessibility to the local registration offices.

As previously stated, a shorter period of time allowed for registration is preferable to a longer one. A principal reason for this preference is that the informant tends to ignore or to forget the reporting of the event when the period allowed is too long; this contributes to under-reporting. Another reason is memory lapse, which, in the case of a longer period, contributes to the misreporting of some aspect of the event. For certain events, such as death and foetal death, registration should take place as soon as possible for sanitary reasons; countries should issue the burial or cremation permit only after the death registration is completed in order to enforce registration and minimize omissions.

Some countries may apply different procedures and use different registration periods for urban and rural registration in order to facilitate registration. However, different periods within a country lead to difficulties in

practice, because it is not always clear which criterion should be used in which areas and for which events. Therefore, the maximum period to be allowed between the occurrence and the obligatory registration of a vital event should be determined with respect to all the contributory factors operating in the country and should be as short as possible in order to facilitate the current and accurate registration of all necessary facts.

The registration process begins when the civil registrar receives proof of the occurrence of a vital event from the informant who requests that it be registered. Depending upon the type of event and the circumstances of the occurrence, the proof may be legal documents, medical certificates, witnesses or all of the above.

Documentary evidence is, in general, more reliable than a witness. Therefore, the witness should always be accepted as supplementary proof of the event. However, documentary evidence is not always available in certain situations. For example, the medical certificate may not be available in some rural areas where births have occurred without medical attendance, so that no certificate was issued. In the absence of documentary evidence and when the local registrar is a trained official, it may be possible to empower him/her to determine when proof by a witness would be acceptable or when registration should be accepted solely on the basis of the information supplied by the informant.

In the registration of divorce, annulment of marriage and judicial separation, a transcript of the judicial pronouncement or decree granting the event is needed as proof before the event can be registered. Similar legal documents are also needed for the registration of recognition, legitimation and adoption. It should be borne in mind that this type of proof cannot be substituted for by witness(es) or by the sole declaration of the informant. In the case of marriage registration, the marriage licence is generally required. The licence is issued after publication of the banns (notice of intended marriage) has taken place for a stipulated period of time and no objections have been made.

Documentary evidence presented to the civil registrar is generally prepared by different agencies for various purposes. Therefore, in the process of registration, the local civil registrar has to be familiar with all types of documents and their design and understand the purpose of each document, so as not to be deceived. Exceptions can be made in a few countries where, for certain types of vital events, the legal document, the medical certificate and the statistical report are combined in a single form. Thus the same form may be used as proof of the occurrence of a vital event, as a registration record and as a statistical report form. In other cases, the legal document and medical certificate may contain useful information but may not satisfy the need for registration and vital statistics purposes. It is therefore advisable for the civil

registration administration to approach the relevant agencies which issued the medical certificates or judicial documents to improve the design of the forms, bearing in mind that the improved forms should be suitable for a variety of purposes. At the same time, it must be cautioned not to let the registration and statistical information become a burden to those who are responsible for preparing the document.^d

In the process of registration, a local registrar, upon receiving proofs from the informant on the occurrence of a vital event, must, as a general rule, prepare two documents, a vital event registration record and the corresponding statistical form. A copy of the registration record becomes part of the local registration files and the original is forwarded, on a regular basis, to the agency that administers civil registration. Owing to its many uses, it should be properly and permanently preserved. The statistical report, once filled in and checked for accuracy and completeness, is forwarded to the agency responsible for processing vital statistics. These are the two most important documents in civil registration.

Some countries with more advanced systems may prefer, however, to use a combined form for both legal and statistical purposes, if properly designed. If this option is adopted, the statistical report is a duplicate of the vital event record, that is, the registration record may be used as the statistical report as well. In such a case, the workload of the local civil registrar becomes considerably reduced and transcription of data is avoided. The latter is often a source of errors.

Countries or areas may wish to adopt one of the following four ways of preparing registration records of vital events: the book register, the loose-leaf form, the card register or the electronic form. The registration and storage of vital records on a magnetic medium are at present viewed as a convenient and efficient method of civil registration in the near future (see, for example, the *Handbook on Civil Registration and Vital Statistics Systems: Computerization* (see preface above), which thoroughly discusses this option). The following discussion is therefore confined to the three types that have been used widely.

In a book register, a number of pre-printed registration forms are fastened together, usually pasted or sewn hingewise and enclosed in a hard cover, so that vital records are entered consecutively as they are reported. The vital event records are filed in the order in which they have been registered and not in the order in which they occurred. Despite its generally large size and handling difficulty, the book register keeps all records together, and the chance of losing or misplacing individual records is avoided. A duplicate of the vital event record must be

^dFor requirements for the registration of vital events in general use by countries, see *ibid.*, vol. II, paras. 138-151.

immediately entered in a duplicate book register, once the original record is done. Both vital records need to be signed by the informant and the civil registrar to attest to the authenticity of the information contained therein. Since the book register is already bound, it can only be filled in by hand, in which case provision for using indelible ink should be made, preferably black ink. When the book register is used to enter vital event records, the statistical report is necessarily a separate document. The latter is filled in soon after the vital record is completed. This option implies transcription of data.

The procedures of registration using either the loose-leaf register or the card are similar. They differ only in the way the records are stored. Each vital event is recorded on a single form. The civil registrar may use a typewriter or other mechanical or electronic means to fill in the records, thus improving their legibility. Duplicates of loose-leaf records can be prepared by using either carbon paper or photocopying facilities, depending upon the availability of resources at the local civil registrar's office. Duplicates of cards can be made by using typewriters, photocopiers or other mechanical or electronic copying equipment.

Loose-leaf records and card records can be filed according to different filing methods: numerical index, alphabetical index, chronological index by date of occurrence etc. They can be retrieved more easily than can bound registers. Civil registration authorities should make provisions throughout the country to prevent vital records on single sheets from being displaced, lost or misplaced. For example, loose-leaf records are better taken care of in two- or three-ring binders; closed metal vaults or cabinets are preferable for vital records prepared on cards. This applies in both local and central files.

Specific provisions are needed in the civil registration regulations to indicate that a duplicate of the registration record has the same legal value as the original one.

It is recognized that the decision to adopt a specific type of registration document is a critical matter, since there are both advantages and disadvantages in each type of document. The design and the selection of the furniture where the documents will be kept must be taken into consideration simultaneously.

Some countries may use a different colour of paper to distinguish the registration form for each type of vital event. When coloured paper is used, the colour selected should be light enough to show clearly the information written on the paper and should not hamper photocopying of the document. Because vital records are permanent documents, paper of a high quality must be used, suitable for permanent storage in the local and central files (archives).⁶

⁶For a discussion of the characteristics of the different types of registration documents in terms of four factors—space, safety, cost and handling—see *ibid.*, vol. I, paras. 208-215.

As mentioned earlier, the local civil registrar, in addition to recording information with respect to vital events for legal purposes, is responsible for the preparation of individual statistical forms for each vital event registered. The registrar also forwards the statistical report to the agency responsible for data production on a regular basis. The statistical report, aside from being prepared for each vital event, should be legible, complete and without errors. The method used by the registrar to prepare statistical reports has an important effect on the accuracy and completeness of the resulting data.

These are the basic types of vital statistical forms:

- (a) *Single event form*: individual reports containing information about a single event;
- (b) *Multi-event form*: lists containing all relevant information about a series of events of the same type (e.g., births and deaths);
- (c) *Summary form*: summary reports that aggregate data about each type of event.

The electronic form (computerized vital record) may be added. This may be transmitted on-line or off-line, as resources of the country permit, from the local registration office to the office that compiles vital statistics.

The single event form or the individual report form has more space for recording detailed information of a vital event. Space is particularly important for some events, for example, deaths, because detailed medical information should be recorded. Furthermore, space is also needed for describing clearly certain characteristics of the person and of the event, and other matters related to the person and the event. The individual report form also has space on the reverse side of the form to print instructions for filling in the form and definitions of items etc.

The individual statistical form can be either different from or the same document as the vital event registration form. In the first type, the information recorded on the registration form and on the statistical form includes only those items needed for their respective purposes. This procedure tends to add extra workload to the local civil registrar. In the second type, the same form, but in duplicate (or even triplicate), is used for legal and statistical purposes, thus reducing the workload of the local civil registrar.

Despite the fact that it tends to increase the workload for the local civil registrar, different forms for registration and statistics are preferable because data requirements differ for legal and for statistical purposes. Statistical information is confidential in nature; the legal information in the vital record is, in some countries, public information. For example, in some countries, references concerning such information as race and legitimacy are forbidden in the vital event record

but are permitted in the statistical report form. In such cases, a statistical report form different from the registration form makes it easier to collect vital statistics.

A well-designed statistical form is essential for data collection and transmission. Therefore, the size, shape and general layout of the form should be carefully considered by management of the civil registration and vital statistics systems. Using different (*very*) pale colours of paper to distinguish one type of vital event from another can facilitate the work of registration and data compilation. In addition, the forms should be printed in such a way that they are aesthetically pleasing as well as clear and easy to read and fill in.

The manner in which items are arranged on the forms is important for both ease of filling as well as of interpreting, coding and data entry. It is best to limit the form to one side of the paper to facilitate insertion of the information and subsequent coding. In arranging items on the form, related items should be grouped together. The logical order of the items should be established in relation to their source.

Sufficient space should be provided to write the response for each item. In countries where the language is written horizontally, items should be arranged in horizontal position rather than in vertical position since this would yield more adequate space for the insertion of data. The space for each item should be clearly delimited by lines. It is also desirable to identify each item by a serial number running horizontally, line by line, to facilitate coding.

The necessity for using simple language on the form, with clear instructions for filling it, is self-evident. It may be desirable in some cases to include the definition of some of the items on the statistical report form. In any event, the registrar should be provided with complete instructions on how the forms should be filled.

Forms should be pre-tested before being introduced. Particular attention should be paid to the wording of items to assure that they are specific and non-ambiguous.

What items should be included in the statistical reports depends primarily on national vital statistics requirements. Another major consideration in the selection is the desirability of achieving regional and worldwide comparability. Furthermore, the topics to be collected must be those upon which the respondents will be willing and able to provide adequate information. Complicated and difficult questions should be avoided. The United Nations recommends the inclusion of the following items in statistical reporting forms (an asterisk (*) indicates a priority item that should constitute an immediate goal in vital statistics collection):

(a) **Live births**

Characteristics of the event

- *Attendant at birth
- *Date of occurrence
- *Date of registration
- Hospitalization
- *Place of occurrence
- *Type of birth (i.e., single or multiple issue)

Characteristics of the child

- Gestational age
- *Legitimacy status
- *Sex
- *Weight at birth

Characteristics of the parents

- Age (or date of birth) of father
- *Age (or date of birth) of mother
- Citizenship (or nationality) of mother, father
- *Date (or duration) of marriage (for legitimate births)
- Duration of residence in usual (present) residence for mother, father
- Educational attainment of mother, father
- Ethnic (or national) group of mother, father
- Interval since last previous live birth for this mother
- Literacy status of mother, father
- *Number of children born alive to this mother
- Number of children of this mother still living
- Number of foetal deaths to this mother
- Occupation of mother, father
- Place of birth of mother, father
- Place of residence at a specified past date; mother, father
- *Place of usual residence of mother
- Place of usual residence of father
- Type of activity of mother, father

(b) **Deaths**

Characteristics of the event

- Attendant at birth (for deaths under one year of age)
- *Cause of death
- *Certifier
- *Date of occurrence
- *Date of registration
- Hospitalization
- *Place of occurrence

Characteristics of the deceased

- *Age (or date of birth)

Age of surviving spouse (for married)
Citizenship (or nationality)
Duration (or date of marriage)
Educational attainment
Ethnic (or national) group
Legitimacy status (for deceased under
one year of age)
Literacy status

***Marital status**

Number of children born alive (for females
of childbearing age or older)
Number of children still living (for females
of childbearing age or older)
Occupation
Place of birth
Place of residence at a specific past date
***Place of usual residence**
***Sex**
Type of activity
Was birth registered? (for deaths under
one year of age)

(c) Foetal deaths

Characteristics of the event

Attendant at birth
Cause of foetal death
Certifier
***Date of occurrence (of foetal delivery)**
***Date of registration**
Hospitalization
***Place of occurrence**
***Type of birth (single or multiple issue)**

Characteristics of the foetus

***Gestational age**
***Legitimacy**
***Sex**
Weight at delivery

Characteristics of the parents

Age (or date of birth) of father
***Age (or date of birth) of mother**
Citizenship (or nationality) of mother, father
***Duration of (or date) of marriage (for legitimate
pregnancies)**
Educational attainment of mother, father
Ethnic (and/or national) group of mother, father
Literacy status of mother, father

Occupation of mother, father
***Number of children born alive to this mother**
Number of children of this mother still living
***Number of previous foetal deaths to this mother**
Place of birth of mother, father
Place of usual residence of mother, father
Type of activity of mother, father

(d) Marriages

Characteristics of the event

***Date of occurrence**
***Date of registration**
***Place of occurrence**
***Type of marriage (civil, religious etc.)**

Characteristics of the bride and groom

***Age (or date of birth)**
Citizenship (or nationality)
Duration of residence in-usual (present) place
Educational attainment
Ethnic (and/or national) group
Literacy status
***Marital status**
Number of previous marriages
Occupation
Place of birth
Place of residence at a specific past date
***Place of usual residence**
Type of activity
Place of previous residence

(e) Divorces

Characteristics of the event

***Date of occurrence**
***Date of registration**
***Place of occurrence**

Characteristics of the divorcees

***Age (or date of birth)**
Citizenship (or nationality)
***Date (or duration) of marriage**
Educational attainment
Ethnic (or national) group
Literacy status
Mode of dissolution of previous marriage
Number of children born alive to this marriage
***Number of dependent children of divorcee**
Number of previous marriages

Occupation
Place of birth
Place of previous residence
Place of residence at a specific past time
*Place of usual residence
Type of activity
Type of marriage being dissolved
Duration of residence in usual (present) place
Place of occurrence of marriage being dissolved

Definitions of vital events^f

Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live-born. All live-born infants should be registered and counted as such irrespective of gestational age or whether alive or dead at time of registration, and if they die at any time following birth they should also be registered and counted as deaths.

Death is the permanent disappearance of all evidence of life at any time after live birth has taken place (post-natal cessation of vital functions without capability of resuscitation). This definition therefore excludes foetal deaths.

Foetal death is death prior to the complete expulsion or extraction from its mother of a product of conception,

^fTaken from *Principles and Recommendations for a Vital Statistics System*, Statistical Papers Series M, No. 19, Rev.1 (United Nations publication, Sales No. E.73.XVII.9), para. 46.

irrespective of the duration of pregnancy; death is indicated by the fact that after such separation the foetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Three major categories of foetal death are:

- (a) Early foetal death: death at less than 20 completed weeks of gestation;
- (b) Intermediate foetal death: death at at least 20 but less than 28 weeks of gestation;
- (c) Late foetal death: death at 28 or more completed weeks of gestation.

The term "stillbirth" should be used only if it is essential for national purposes, and it should be regarded as synonymous with late foetal death.

Marriage is the act, ceremony or process by which the legal relationship of husband and wife is constituted. The legality of the union may be established by civil, religious and/or other provisions, according to the laws of each country.

Divorce is the final legal dissolution of a marriage, that is, a separation of husband and wife which confers on the parties the right to remarriage under civil, religious and/or other provisions, according to the laws of each country.

Adoption is the legal and voluntary taking and treating of the child of other parents as one's own, in so far as provided by the laws of each country.

Legitimation is the formal investing of a person with the status and rights of legitimacy, according to the laws of each country.

Recognition is the legal acknowledgement, either voluntarily or compulsorily, of the paternity of an illegitimate child.

Annex II

CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS IN SELECTED COUNTRIES

These examples of civil registration and vital statistics systems in selected countries illustrate types of administrative/legal frameworks that are currently in use. This information on various types of systems may be useful to countries that are undertaking programmes to accelerate the improvement of their civil registration and vital statistics systems.

In many cases, there may be elements in the systems described here that could be useful references for improving registration systems in programmes being undertaken by a developing country.

A. DECENTRALIZED SYSTEMS

1. *Canada*^a

In Canada, the 10 provinces and two territories act autonomously to register births, stillbirths, marriages and deaths that occur within their own jurisdictions, and all data on these vital events is transmitted to the federal authority, represented by Statistics Canada, for inclusion in a national database.

A formal agreement between the provinces/territories and Statistics Canada establishes what vital event information must be collected by all jurisdictions, and sets very high standards for coverage and accuracy.

The issues related to the collection of complete vital event data are of concern to the Vital Statistics Council of Canada, an inter-jurisdictional advisory group founded in 1945 which has two components—the Health Statistics Branch of Statistics Canada, and the heads of the vital statistics agencies from the provincial and territorial governments. The Council provides a forum for developing common approaches for collecting vital statistics and for sharing information with external parties, such as social services departments, law enforcement agencies, medical researchers, demographers, health-care planners and federal agencies, for such purposes as the issuance of old age pensions and family tax credits, for facilitating problem-solving by sharing experience, and for the retention of data and research between jurisdictions.

^aReport contributed by Marianne Wiezel, former Registrar-General of Brunswick, Canada (1997).

Each province and territory has signed a formal agreement with Statistics Canada which sets out the essential data elements that must be collected about each birth, stillbirth, marriage or death that is registered in each jurisdiction, and agrees to very high standards of coverage and accuracy of information. The Vital Statistics Council for Canada has also obtained agreement from all jurisdictions to issue standard certificates for vital events, printed on extremely high-security paper supplied by Canada Banknote Company Ltd. in order to help prevent counterfeiting or fraud.

Other functions of the Vital Statistics Council of Canada are to discuss, with a view to achieving common approaches and uniformity, the forms being used, the governing legislation, the procedures and format of the transfer and receipt of national and provincial/territorial data from Statistics Canada.

The national system of vital statistics allows Statistics Canada to fulfil its mandate, including the generation of national statistics on mortality, fertility, nuptiality and life expectancy; statistical research and analysis; and the publication of various materials for all of Canada, such as population projections.

At the provincial and territorial level, the information contained in the registration records is used for many purposes, chiefly for generating accurate and timely statistics, which are published annually.

The Vital Statistics Council of Canada also supports the exchange of vital event data across jurisdictions to promote accurate and complete data sets as well as to prevent fraud. The Council encourages and is cooperating in a national database for deaths and births that fulfils the need for complete vital event data sets. This national registry for vital events has numerous other uses, such as for voters lists, social services, national and provincial taxes, and immigration and policing services.

Members of the Vital Statistics Council of Canada report to their respective ministers (usually ministers of health but different in some jurisdictions, e.g., the Council member from Ontario reports to the Minister of Consumer and Commercial Relations).

Council members from Statistics Canada report ultimately to the Chief Statistician, who in turn reports to the

minister responsible, the Minister of Industry, Science and Technology.

In the Canadian context, completeness of vital statistics is important to protect individual rights; to avoid fraud; and to produce accurate health status measures and population estimates. In Canada, the registration of vital events is considered complete. Virtually all the events occurring to the usual residents of a given jurisdiction outside of their usual jurisdiction of residence are covered.

When the above scenario occurs and if the event occurs in another Canadian province or territory, the information is forwarded to the province or territory of residence concerned. It is also compiled in the jurisdiction of residence by Statistics Canada, which gathers the information from all jurisdictions. If the event occurs in the United States of America, according to reciprocal agreements, the information is forwarded to the province or territory of residence concerned in Canada or to Statistics Canada. However, these agreements are informal, established separately by each province and territory with each state individually, and not made with every state of the United States.

A history of the development of the country's vital statistics systems recently compiled by the Vital Statistics Council of Canada found that, as in the United Kingdom of Great Britain and Northern Ireland, the collection of vital statistics began with registration by ecclesiastical authorities of baptisms, marriages and burials. These religious registers were maintained by priests in the French colony in Canada, beginning in 1610.

The first counts of population in Canada were kept by missionaries and explorers in the early seventeenth century in what was then known as the colony of New France (the area along the St. Lawrence River in what is now part of the Province of Quebec), when the Catholic Church required that baptisms, marriages and deaths be registered with priests. The first formal census (of Europeans only) in New France took place in 1665-1666.

In 1763, New France was ceded to the British, but unfortunately the British did not count the population as often as the French. Also, because Loyalist (British) settlers changed the demographic make-up of the population, registrations of vital events were unreliable since people were increasingly beyond the authority of the Catholic Church and the Government.

Following the joining of the colonies of Upper and Lower Canada in 1847, the British realized that better population information was needed for such purposes as setting electoral boundaries and direct taxation. Thus the Census and Statistics Act was passed, providing for registration of births and deaths and the creation of a Board to register vital events and conduct the decennial census.

The British North America Act of 1867 (BNA Act), which now forms part of the Canadian constitution, pursuant to the Constitution Act (1982), created the Dominion of Canada through the union of Ontario, Quebec, New Brunswick and Nova Scotia, with most other provinces/territories joining the Dominion by 1905. The BNA Act does not mention vital statistics, but it does specify that the census and statistics are the responsibility of the federal Government.

Between Confederation and the first federal-provincial conferences on vital statistics in 1918 and 1919, a number of significant events occurred in the evolution of vital statistics in Canada, including the passage of legislation in the English-speaking provinces enforcing registrations of births, marriages and death by civil authorities; federal legislation for a permanent decennial census and instructions for gathering and publishing vital and other statistics; and the adoption of a uniform statistical classification of disease.

The first permanent census and statistics office was established in 1905.

Passage of the federal Statistics Act of 1918 created the Dominion Bureau of Statistics (renamed Statistics Canada in 1971). The Act mandated the Bureau to collect, abstract, compile and publish statistical information relative to commercial, industrial, social, economic and general activities and the condition of the people.

The first Dominion-provincial conferences of officials responsible for vital statistics and national statistics occurred in 1918 and 1919, shortly after the creation of Statistics Canada, then known as the Dominion Bureau of Statistics. The central purpose of these conferences was the establishment of a national system of vital statistics—a system that would prevent duplication and ensure a standard method of collecting, compiling and publishing vital statistics. The key accomplishment of these conferences was reaching agreement on regulations regarding the formation of a national system of vital statistics, which resulted in the continued modification and improvement of vital event registration techniques and procedures.

Federal-provincial cooperation was furthered with the launching of the federal family allowance programme in 1945. A Dominion-provincial conference was held in 1944 to discuss the implications of the national system of vital statistics programme, particularly to modify the system to provide the necessary birth verification in a timely, accurate and efficient method. At that conference, two important matters were agreed upon: a modernized national system of vital statistics and the establishment of the Vital Statistics Council of Canada.

From 1945 to the present, a national vital statistics index was developed in anticipation of other social programmes requiring verification of other vital events, such as immigration, adoptions, marriages, stillbirths and

deaths. Revised agreements have been proposed periodically since 1945.

In 1992, criteria were established and agreed to for death data exchange between provinces/territories.

The Vital Statistics Council of Canada holds an annual conference to continue its efforts to improve the registration systems, and conducts business throughout the year via regular teleconferences.

The provincial and territorial vital statistics offices in Canada are governed by comprehensive laws in their respective jurisdictions, and are responsible for actual registration of events on a continuous and ongoing basis, as well as for ensuring public awareness of the need for timely registration of vital events. To assist in these matters, they have made available a wide variety of manuals and supplementary brochures etc.

For example, there are manuals for physicians, nurses and midwives, funeral directors and coroners, as well as for clerics and others authorized to perform marriages.

Also, there is a pocket reference book prepared by Statistics Canada for nationwide usage, which describes in detail the lists of categories of the International Causes of Death. All of these information, education and communication activities, coupled with close monitoring of the systems, contribute to accurate registration and to timely production of vital statistics in Canada.

* * *

Several other countries have decentralized systems, in which there are regional registration offices administered by civil registration legislation under the jurisdiction of state, provincial or regional authorities. In such decentralized administration, the country would have no national office with authority over the state/province/regional registration systems. However, there would be a central office to coordinate the compilation of vital statistics.

Countries with decentralized systems include Argentina, Mexico and the United States of America.

2. Argentina^b

In Argentina, civil registration has been a responsibility of the Federal Government since 1964. The 1964 law and regulations, with national scope, have been somewhat modified since then. In practice, they have been interpreted differently by the country's 24 provinces. Provincial laws and regulations differ from federal legislation.

^bSee Violeta Gonzales-Diaz, "Demographic data collection methods: advances in civil registration and vital statistics at the global level", New York, United Nations, 1996; updated version, 1997.

Argentina also has a population register which deals with all stages of a person's life from birth to death. The central office of the population register is located at Buenos Aires, the capital city. Throughout the country, however, the civil registration offices are responsible for both the registration of vital events, and population registration.

Argentina has separate civil registration systems in each of its provinces. The Dirección General de Registro Civil, under the ministry of the government of each province, administers civil registration within its jurisdiction. The primary units responsible for civil registration (Oficinas de Registro Civil and Delegaciones) are located at the municipalities, hospitals and court of justice, as well as in their own offices. There are 2,537 primary and 35 subsidiary registration offices, excluding the direcciones generales de registro. In general, there are no problems of accessibility to the registration offices. One area with aborigine population has mobile registration units.

Senior personnel of the Dirección General de Registro Civil provide advice and training to all civil registrars. Copies of laws and regulations are made available to them along with registration manuals, periodical bulletins and manuals for vital event reporting for statistical purposes. Local registrars are technically supervised by provincial authorities.

Registration coverage of vital events in Argentina is from 95 to 98 per cent, and the system is considered to be effective.

Vital statistics is a component of the national system of health statistics, by official delegation of the National Institute of Statistics and Censuses, through a memorandum of agreement. The Institute is the central agency of the national statistical system of Argentina. The production and publication of vital statistics of all types for the country as a whole is the responsibility of the Dirección de Estadísticas de Salud (DES) of the Ministry of Health and Social Action, which belongs to the Secretariat of Health of the Nation. The forms utilized to collect information for vital statistics purposes are separate from legal records. Also, their contents are more detailed and comprehensive than legal records.

Furthermore, the Secretariat of Health of the Nation has signed memorandums of agreement with all 24 governments of the federation, in which the responsibilities of both central and province levels are clearly established concerning the national statistical system of health. These agreements are revised every five years.

The statistical office of each province, after receiving the vital statistical reports from the local registration units, conducts manual editing, coding and data entry. The majority of provinces use microcomputers, and the others use computer terminals and magnetic tape or disk for data entry into a mainframe. DES receives the information in magnetic media, and conducts computer editing, corrections and

tabulations. DES has provided printed guidelines for all stages of data processing, and has made them available to the statistical offices of the provinces.

In 1991, a Latin American workshop on strategies for accelerating the improvement of civil registration and vital statistics systems, organized by the United Nations, concluded that Argentina's legal framework needed to be revised to deal with the variations among provincial civil registration systems. Since then, a de facto inter-institutional committee has been established that oversees both civil registration and vital statistics systems in the entire country. Its contributions to the improvement of the systems are considered remarkable.

Twenty-four workshops were held in the provinces, and an in-depth study of civil registration and vital statistics systems of the 24 provinces and the federal system have been carried out. Each province has also established a de facto inter-institutional committee, with members from all agencies involved in civil registration and vital statistics systems, the registration offices, the health offices and the regional offices of the National Institute of Statistics and Censuses.

Both producers and users of registration systems are working towards closer coordination and collaboration with the aim of further enhancing completeness, quality and timeliness of registration and statistics. A second series of subnational workshops is planned to evaluate the progress made in the past few years.

The Federal Government of Argentina is closely involved in the improvement programme, through the National Institute of Statistics and Censuses and the Ministry of Health and Social Action, which provide direction for the collection of information for statistical purposes and maintenance of reliable civil registration and vital statistics nationwide.

The registration improvement programme included a special effort to reach the aboriginal inhabitants (*Mapuches*) in Patagonia through mobile registration offices. The team that started this outreach programme won an award from the International Institute of Vital Registration and Statistics of Bethesda, Maryland, for its initiative.

3. Mexico^b

In Mexico, each of the 32 states has its own civil code and civil registration requirements and procedures, although all are similar. Administration for registration is therefore decentralized. In most cases, local registration offices are in cities and towns. In the past, vital events were registered in special books kept at the local registry. A copy of the book was sent to the Court for safe keeping. A separate form was filled in for statistical reporting and forwarded to the General Directorate of Statistics of Mexico, National Institute of Statistics, Geography and

Computerization, which compiles and publishes vital statistics.

In 1978, there were major changes, when the National Register of Population and Identification was created. A permanent committee was established with the National Council of Civil Registrars, with members drawn from each state, the Office of the President and the Ministry of the Interior. The committee also provides technical assistance to local registration offices on federal recommendations and conducts training of local registrars.

Efforts to coordinate and standardize registration documents have been carried out by the Directorate of the National Register of Population and Identification at Mexico City, and by the National Institute of Statistics, Geography and Computerization. To date, *inter alia*, registration and statistical forms have been standardized nationwide.

Vital statistics programmes are under the jurisdiction of the National Institute of Statistics, Geography and Computerization. Timeliness of reporting has significantly improved, and with that data processing has improved as well. As a result, tabulations and publications of vital statistics are made available the year following the year of registration.

One problem in Mexico that is of serious concern to the Government is the possibility of a high degree of duplicate registrations, particularly live births.

4. The United States of America^c

The United States of America has a decentralized system, with responsibility for the registration of vital events vested in the 50 states, and seven separate systems in New York City, the federal District of Columbia, Puerto Rico, the United States Virgin Islands, Guam, the Northern Mariana Islands and American Samoa.

Each jurisdiction is responsible for the operation of its own registration system, as well as for most of the financing required and the system's legal framework. Information from registrations is forwarded—generally by computer data tapes—to the central Government for the preparation of national vital statistics.

A description^c of how data sources are coordinated reported that since the 1950s, responsibility for coordinating the practices of vital records offices at the state level has been vested in the National Center for Health Statistics (NCHS).

^cSee Francis Notzon, "Coordinating data sources: the United States of America", paper for a East and South Asian workshop on strategies for accelerating the improvement of civil registration and vital statistics systems, held at Beijing in 1993 (National Center for Health Statistics; updated version, 1997).

NCHS integrates vital event data from 55 of the 57 separate registration systems to produce statistics, and compensates financially the states and other registration jurisdictions for these data (data are not received from the registration systems of the Northern Mariana Islands and America Samoa). It also works to promote uniformity in data collection and to maintain appropriate statistical standards.

Federal support for the state systems, through NCHS, includes technical assistance, training and the preparation of manuals and guidelines. It runs a training programme for employees of state registration systems, holds national conferences biennially and has established study committees. The regular annual programme of training courses for personnel of state vital statistics offices is supplemented by the provision of other training materials to be used at the state and local level and by other groups, such as physicians.

NCHS combines the vital event computer files of event registration of data sent in by the 55 state and other offices. Information on the resident population is provided by the Census Bureau from the decennial census and from mid-year population estimates. In return, NCHS provides the Census Bureau with detailed data on vital statistics for use in its population projections and estimates, and quality control and studies. Using the population data, NCHS calculates vital event rates for the states and the United States.

A great deal of work is done by the state registrars and others, working with NCHS, to revise standardized registration forms every 10 years. These recommended standard certificates serve as models for state registration offices. Use of standardized registration forms has led to the production of reliable national vital statistics. Model forms are reviewed and endorsed by the National Association for Public Health Statistics and Information Systems, the national association of state vital registration, statistics and information systems executives. A model vital event registration act and regulations have also been prepared jointly by the state registrars and NCHS to serve as a model for state jurisdictions.

When registration forms are changed, the NCHS assists the states by preparing a variety of instructional material, including handbooks, which are distributed to all of the states for their use and guidance. Videotapes have been produced on how to complete forms—one for birth registrations and three for death registrations—for physicians, medical examiners and funeral directors. An audio cassette on the proper completion of the medical certificates of cause of death was prepared for physicians, who can listen to it while driving or on breaks in their medical routines.

NCHS, in the late 1960s and early 1970s, in order to meet expanding needs for greater use of medical informa-

tion from death registration records, developed an automated computer system to produce mortality statistics. These statistics are based on the statistical classification structure of the International Classification of Diseases (ICD) of the World Health Organization.

The automated system for coding mortality data had two major objectives:

- (a) To introduce consistent and rapid assignment of underlying cause-of-death coding, with reduced needs for manpower training;
- (b) To allow better utilization of medical information on death records.

The Automated Classification of Medical Entities system meets both of these objectives; NCHS produces all of its underlying cause-of-death statistics for the United States based on this system. To further automate the process, NCHS has produced two additional software systems: the Mortality Medical Indexing, Classification, and Retrieval Systems (MICAR) produces the appropriate ICD code from standardized nomenclature provided by the coder for each cause of death; and SuperMICAR is a further enhancement of the system, producing ICD codes from verbatim cause-of-death information entered by the coder. Use of these software systems improves data consistency and quality, and greatly reduces the formal and on-the-job training required for nosologists.

B. CENTRALIZED SYSTEMS

5. *Costa Rica*^d

Costa Rica has had more than 100 years of experience with civil registration. On 1 January 1888, Costa Rica began to collect information on vital statistics events—births, marriages and deaths—as a centralized function of the national Government.

Civil registration is under the jurisdiction of the Supreme Tribunal of Elections, an autonomous, independent and politically neutral institution, which has the exclusive responsibility for and control of all the country's electoral procedures.

Civil registration is administered and conducted centrally in San José, the capital city.

The Supreme Tribunal of Elections comprises the Civil Registry Department and the Electoral Department. There are 3,500 assistant registrars throughout the country, of whom 18 are employees of the Civil Registry who work

^dSee Costa Rica, Dirección General de Estadística y Censos, "Informe sobre el estado actual de los sistemas de estadísticas vitales y registro civil", paper presented at a Latin American workshop on strategies for accelerating the improvement of civil registration and vital statistics systems, Buenos Aires, 1991, updated version, 1997.

in hospital centres. The remaining are delegates of the Rural Assistance Police, priests, and officials who perform marriages and administer funeral homes and cemeteries.

Furthermore, there are 19 regional offices in the main cities of the country and eight mobile units that carry out periodic visits to several parts of the country to minimize omissions in registrations and to issue identity cards. This approach ensures that 95 per cent of births occurring in any year are registered. Small indigenous populations remain whose events are difficult to register.

The assistant registrars receive the declarations of vital events, complete the forms and forward them to the Civil Registry, where official recording takes place. There, entries are made both in ledger books and in computer media. A mainframe computer gives support to all functions of civil registration, electoral rolls and the issuing of identity cards for the members of the population. The integration of the Civil Registry Department with electoral rolls and identification of the population has drawn permanent support from the Government and has led to a reliable system. Furthermore, social security is universal for all members of the population, and a birth certificate is a requirement for obtaining medical services from it.

The Civil Registry Department has the following functions:

- (a) To maintain the Central Registry of Civil Status and to complete the voters list;
- (b) To resolve problems regarding citizenship. Decisions made by the Civil Registry regarding citizenship may be appealed through the Supreme Tribunal of Elections;
- (c) To prepare identification cards;
- (d) To administer any other powers established by the constitution and by legislation.

There is a mandatory requirement for citizen identification cards, and all Costa Ricans age 18 years old or older must be registered with the Electoral Department of the Supreme Tribunal of Elections. Voting is mandatory, and non-compliance is punishable by a fine or jail term.

A citizen identification card is required for the following purposes:

- (a) To vote;
- (b) For any legal contract;
- (c) To sign a marriage certificate—civil or Catholic;
- (d) To work for the Government;
- (e) To formalize work contracts;
- (f) To obtain a passport;
- (g) To cash all types of government money orders;
- (h) To obtain or renew a driver's licence;
- (i) To register children in schools or colleges;
- (j) To be eligible for social security;
- (k) To take legal or administrative action;
- (l) For any other matter that requires personal identification.

Legislation requires that any person born in the country be registered with the Civil Registry Department within 30 days of the date of birth. Also, any child born in a foreign country with a mother or father of Costa Rican nationality may be registered if the parents so wish.

The Civil Registry Department also records marriages, deaths, divorces and adoptions and, through its Options and Naturalization Section, deals with those who acquire citizenship from Costa Rica by naturalization, and the loss and reinstatement of Costa Rican nationality. Once a decision is made in such a matter by this section, it is submitted to the Supreme Tribunal of Elections for a final decision.

To serve the eight mobile registration offices, an employee of the Civil Registry Department operates on a fixed schedule and moves from district to district within a specifically designated area.

The regional offices are overseen by a coordinating office, which is responsible for developing civil identification programmes in all communities, colleges and Indian reservations.

Other significant factors in the success and effectiveness of civil registration system are the country's small size—an area of about 50,000 square kilometres, a population of under 3 million people and a relatively homogeneous population. The language used is Spanish, except in the Limón area on the Caribbean coast, where descendants of Jamaicans speak some English, and in isolated areas, such as the Talamanca region south of Limón, where a few aboriginal tribes speak their own languages. But the most important factor is that since 1869, there has been free, mandatory primary education in Costa Rica, resulting in a very high level of literacy among the population. These factors, coupled with the widespread use of the citizen identification card and mandatory voting by all adults, have resulted in virtually complete registration in Costa Rica.

Vital statistics are compiled and published by the General Directorate of Statistics and Censuses under the authority of the Ministry of Economy, Trade and Industry. Separate databases are maintained for civil registration and vital statistics. Closer coordination between the agency responsible for civil registration and the Directorate of Statistics and Censuses has yet to be achieved.

6. Thailand^e

Civil registration has long been established in Thailand. The first registration law in 1909 specified, besides

^eSee Chintana Pejaranonda, "Current status of national civil registration and vital statistics system in Thailand", paper for an East and South Asian workshop on strategies for accelerating the improvement of civil registration and vital statistics systems, Beijing, 1993.

the preparation and maintenance of population register, the creation of birth and death registers. Under this law, the Ministry of the Bangkok Metropolis and the Ministry of the Interior were entrusted with the task of civil registration within and outside Bangkok, respectively. This law stipulated the appointment of a central registrar and a commune registrar of events in each of the 25 communes. In 1917, the registration of births and deaths was enforced throughout the kingdom.

The monarchy became a democracy in 1936. As a result, the first Government introduced the Civil Registration in Municipal Area Act of 1936, which facilitated the creation of a network of local registry offices with an acting registrar. It also laid down clear guidelines for the registration of birth, death, foetal death (for the first time), household and population, and directed the entry of births and deaths into the population register.

A comprehensive civil registration act was passed in 1956, which was made applicable over the entire country and superseded previous laws. Among other things, the Act required the population register to be prepared by household, starting with the head of the household. Greater facilities were offered for the reporting of vital events, and an increased number of registration offices were created, spreading over the entire country.

During 1970-1972, some significant improvements were introduced into the civil registration system with a view to achieving a high level of accuracy and completeness in registration. All the forms and registers were reviewed and thoroughly revised. Birth and death registers were replaced by birth and death certificates, and household register forms were replaced by new, improved forms. These innovations, besides rationalizing the registration system, helped in the preparation of voters lists and in the use of such information in development planning by governmental and private agencies.

In 1972, the civil registration act of 1956 was revised by an announcement of the Revolution Council, which paved the way for the appointment of a hierarchy of registration functionaries: a Registrar-General, a Deputy Registrar-General, provincial registrars, district registrars, local registrars (in municipalities and other local self-government units), commune registrars and assistant registrars. It also laid down clear procedures for vital registration, and specified types of informants, place and time of registration, forms, functions, responsibility of registrars and other requirements for registration. The present civil registration system derives its basic legal support from the civil registration act of 1956 and the above-mentioned announcement.

The Ministry of the Interior soon followed with the Regulation of Central Civil Registration Division of 1973, on the basis of which the provisions of the 1972 act were implemented. With a view to finding ways and means of

upgrading the existing system, the Vital Statistics Improvement programme was initiated in 1980, in collaboration with the United States Agency for International Development and the Office of International Statistics of the National Center for Health Statistics, United States of America. A demonstration project was put in operation in Nakorn Sawan Province in northern Thailand. Based on this experience, the commune registration offices were moved to district offices, and a new local registration office was established in every village. The 1983 revision of the 1972 regulation placed the responsibilities of the commune registrars on the assistant district officers, and entrusted the primary records of birth and death events to the newly established assistant commune registrars in villages. Revised forms of birth and death certificates were also introduced, and have been in use since then.

In 1982, the Ministry of the Interior started a new population identification number project in order to create a computerized population database, by using the population identification number as the entry into the population files. A computer centre for civil registration was established in the Civil Registration Division of the Ministry.

The population identification number comprises 13 digits. The magnetic tape file of the population kept at the computer centre is arranged according to the population identification number. The record for every person in the file contains all information taken from the population register, and birth and death certificates sent from the registration offices throughout the country are transferred to microfilm and kept at the centre.

Civil registration system

Thailand has a permanent civil registration system operating as a centralized system. The national authority for civil registration is the Civil Registration Division of the Department of Local Administration, Ministry of the Interior, which serves as a central registration authority, directing, coordinating and supervising the registration function throughout the country.

The civil registration process is being carried out by salaried local registrars in all municipalities, districts and communes throughout the country. However, vital statistics are compiled and published by the Health Statistics Division of the Ministry of Public Health, and the authority for population surveys, if any, rests with the National Statistical Office, Office of the Prime Minister. Therefore, the civil registration process and vital statistics compilation are under the responsibility of two different agencies.

The Director of the Department of Local Administration is the Registrar-General. The head of the Civil Registration Division serves as the Deputy Registrar-General. The Civil Registration Division performs many functions concerning:

- (a) Regulation of the flow of reports and instructions between central and local offices;
- (b) Provision of consultation and technical assistance to local offices;
- (c) Maintenance of records from which individuals can obtain copies for their own use;
- (d) Enforcement of the law;
- (e) Arrangement of legislation on civil registration, as and when necessary;
- (f) General direction and coordination of the registration functions;
- (g) Supervision and monitoring of the operation of local registration units;
- (h) Designation of local and district registrars and their deputies;
- (i) Organization of training programmes.

The primary registration units, located in municipalities and in the districts, are responsible for recording the vital events in accordance with the regulations and instructions issued by the Civil Registration Division. The registrars in the municipalities are called local registrars, while in the districts they are designated as district registrars.

Local registrars are municipal clerks appointed by the mayors, and their pay scales are governed by the local government structure. At the district level, the district registration officers are appointed by the Governor, and hence get paid like other civil servants.

The duties of local registrar or a district registrar cover:

- (a) Recording the occurrences of vital events and other personal information on household registers at their offices;
- (b) Keeping the registers of births, deaths, divorces and marriages, and of households;
- (c) Collecting fines from informants who fail to notify a birth or a death;
- (d) Managing and distributing all civil registration forms received from the Civil Registration Division to commune registrars and assistant commune registrars;
- (e) Issuing certificates about vital events;
- (f) Compiling and reporting statistical data on vital events periodically;
- (g) Sending the certificates of vital events to the Civil Registration Division to make microfilm copies;
- (h) Correcting the registers of births, deaths, and marriages, as and when necessary.

Currently, local and district registrars are not responsible for preparing the legal certificates. This function rests with the commune registrars and assistant commune registrars at the village level. However, the assistant district officers, who are appointed as commune registrars by the Governor, have the responsibility to record the

occurrence of vital events and the related facts on the legal certificates and sign the certificates.

Village headmen who are appointed as assistant commune registrars are responsible for recording the details of vital events on the primary legal certificates. However, they receive no remuneration for this task beyond their pay as headmen.

The responsibility for birth, death and foetal death registration, at the national level, rests with the Civil Registration Division. Registration of marriages and divorces is handled by the Registration Division. However, these two divisions are responsible to the Department of Local Administration of the Ministry of the Interior.

By law, births must be registered within 15 days of occurrence, and deaths and stillbirths within 24 hours. The head of the household or the mother of the baby is responsible for reporting the birth or stillbirth to the local registrar. In the case of deaths, the head of the household or the person who finds the body must report the event. Depending on the situation, a vital event may be reported to the local registrar at the municipal office or to the *tambon* registrar at the commune level or to the assistant *tambon* registrar at the village. The registration form (or certificate for birth and death) consists of three parts. All of these parts are identical, except part 3, which contains some additional statistical information for compilation at the Ministry of Public Health. On registration, part 1 is handed over to the informant as the official birth, death or stillbirth certificate. The disposition of parts 2 and 3 depends on the office to which the event is first reported. In the case of municipal areas, part 2 is forwarded to the provincial registration office for onward transmission to the Civil Registration Division, Ministry of the Interior, for microfilming. After microfilming, the form is returned to the municipal registration office for safe keeping. Part 3 is sent to the District Public Health Office for statistical compilation.

In rural areas, the procedure is slightly different. The assistant commune registrar (village headman) fills in a notification or reporting form and passes it on to the commune registrar. On the basis of the details in the notification form, he prepares the three parts of the certificate, sends part 1 back to the assistant commune registrar, to be handed over to the informant, and treats the other two parts exactly as in the case of these events directly reported to him. There is no charge for registering a birth, death or stillbirth if it is registered within the legal registration period. For late registrations, the local registrar is authorized by law to levy a fine of up to 200 baht. Births and deaths that are reported to the registrar are also recorded as additions or deletions in the household register. The person's identification number is assigned by the district registrar at the time of registration of birth. A copy of the household register is issued to each household. The

birth certificate provides several benefits and rights to the people, being a valid document accepted as proof of age. To enter school, to apply for a licence to drive a motor vehicle or carry firearms, to vote, to marry without parental consent, to qualify for a pension, to enter into legal contracts, to be entitled to inheritance or to enter certain professions are some of the activities where the production of a birth certificate is essential. A death certificate is essential at the time of burial/cremation and to claim inheritance, insurance or other property rights.

The new civil registration system

This covers not only Thai nationals but also aliens and other people unlawfully in the country, such as tribes and refugees. To achieve this, the Thai population is divided into seven categories, of which the first five categories refer to Thai nationals. These categories are assigned different population numbers. Though the format and content of birth and death certificates are similar in every case, differently coloured/numbered forms are utilized for Thai citizens and others, respectively. *Thor ror 2* is used for Thai citizens for delayed registrations. In respect of deaths the corresponding forms are numbered *Thor ror 4* and *Thor ror 5*.

Population register

Thailand has not only the registration of vital events but also the population register. The population register consists of household cards filed according to the address of each household. Each household has a household card, *Thor ror 13* and *14*, which lists members residing in that household and their particulars. The original household cards are kept at every subnational registration office; a copy is maintained by the household head. *Thor ror 14* is a white card relating to Thai citizens. *Thor ror 13* is yellow in colour, and is issued to illegal residents. The characteristics of household cards include:

- (a) Address of the household;
- (b) Name lists of the member of any family in the household;
- (c) Personal data for each member:
 - (i) Date of birth;
 - (ii) Parent's name;
 - (iii) Citizenship (nationality);
 - (iv) Date of moving in or entering, and former residence;
 - (v) Date of departure, and destination;
 - (vi) Cause and time of death;
 - (vii) Marked number of birth certificate (in case of birth);
 - (viii) Marked number of marriage certificate (in case of changed surname of bride);
 - (ix) Population identification number.

After registering a birth, an informant makes a request for entering the name and personal data of the child on the household card. In the case of death, a similar procedure is also adopted for the deletion of the name of the deceased from the household card. Unlike the national level, in which the responsibility for the population register is with the Registrar-General of the Civil Registration Division, the responsibility for the population register at the local level rests with district registrars and assistant registrars on behalf of the district registrars. Consequently, a district officer and some assistant district officers in the district serve as district registrar and assistant registrars, respectively.

Vital statistics system

While the Ministry of the Interior is in charge of the civil registration system, compilation and statistical processing of vital statistics are the responsibility of the Ministry of Public Health. The compilation of vital statistics was first initiated in 1920. The Vital Statistics Division, which was established in 1942, is now the Health Statistics Division. At present, this division is attached to the Office of the Permanent Secretary, Ministry of Public Health. The provincial public health officers are instructed to compile primary reports on data of births, stillbirths, deaths and deaths of infants under one year of age, based on the information contained in part 3 of the birth and death certificates. These reports are transmitted monthly to the central Health Statistics Division, to be consolidated into the annual statistical report for the whole country. The individual certificates are also sent to the centre for further detailed compilations. However, since 1977, only individual certificates of the events occurring in public hospitals are utilized for detailed analysis.

The provincial registrar collects the monthly reports on vital events from the district registrars, and prepares summary reports for the province for submission to the Central Office, which is under the responsibility of the Civil Registration Division, Department of Local Administration, Ministry of the Interior. The reports are made on a monthly basis, and at the end of each year the Civil Registration Division publishes the total number of population, births, deaths and other events.

Since the National Statistical Office is also responsible for the overall coordination and improvement of statistics in Thailand, within the scope of this objective, the National Statistical Office has conducted national surveys to estimate vital rates and evaluate the completeness of vital registration and statistics.

Furthermore, from part 3 of the birth and death certificates received from the public hospitals, the Health Information Centre of the Ministry of Public Health compiles some in-depth statistics. These are published yearly

in a separate report entitled "Report on births and deaths in public hospitals."

Problems of vital statistics collection include some delays in collection of vital statistics from part 3 of the birth and death certificates. The district registrar keeps the third parts for use until the second parts are returned from microfilming at the central level. This delays the sending of the third part to the district health office. The solution to this problem is to give equal importance to both microfilming and collection of vital statistics by making a time schedule for controlling the process at each step in order to avoid such delay. Even though the importance of statistics of cause of death has been emphasized, cause of death still remains ill-defined in a large number of cases. One reason is that unclear causes of death or ill-defined symptoms are recorded in the death certificate. Most of the deaths occur outside hospitals, so the registrar is the person who writes down the cause of death as stated by the informant. Even though there is a death certification form from a physician, inaccuracy in coding often results because the handwriting of the doctors on the form is often unreadable. Ways and means of tackling this problem are being considered with the cooperation of the Ministry of Public Health and the Ministry of the Interior. A manual for investigation of causes of death for non-medical persons has been prepared. Registrars and concerned persons are to be trained to use this manual. Under a Ministry of Public Health programme, training in the use of the International Classification of Diseases and on the importance of causes of death is being imparted to students in medical schools. Infant mortality data pose a big problem in Thailand, because different sources come up with different data. The major source of infant mortality data is from death registration, but it appears that death registration gives a very low number of infant deaths compared with other sources, such as survey or indirect estimation. The solution to this problem is to organize a special study and investigate every relevant question. Another problem is the discrepancies of vital statistics disseminated by the Ministry of the Interior and the Ministry of Public Health. Therefore, estimated fertility and mortality trends using vital registration and applications of demographic models indicate trends only roughly. The discrepancies are believed to be due to the collection process of vital statistics of the Ministry of Public Health and the Ministry of the Interior. At the lowest level, vital events are reported at the same source, but the statistics are aggregated upwards through this organization.

The new Civil Registration Act

In order to remove certain problems observed in the existing system and to introduce innovations to suit current conditions, Thailand introduced the new Civil Registration Act in 1991 to supersede the civil registration act

of 1972. According to this Act, the Central Civil Registration Office is established as a focal office to maintain the population as well as vital events registers, to assign a population identification number to every resident in Thailand and to promote the use of these numbers for personal identification purposes. Some salient features of the new Act are:

- (a) Power to issue numbers and household cards to the illegal and temporary residents will rest with the Registrar-General so that the registration system will have improved coverage;
- (b) The Registrar-General will have direct authority to establish branches of civil registration offices in any part of the country;
- (c) Elimination of certain deficiencies in the existing acts has been achieved. For example, any Thai citizen can register a birth or death in a Thai embassy in any foreign land, for which purpose registrars will be designated by the Ministry of Foreign Affairs;
- (d) The penalty for failure to notify birth or death within the legal registration period has been increased from a maximum of 200 baht to a maximum of 1,000 baht;
- (e) Clearer specification in the registration of birth and death of where the events occur in the house and in the hospital (outside the area of usual place of residence) and also for Thai and non-Thai citizens, has been stipulated.

Several strategies for improvement of civil registration and vital statistics have been adopted over the years. For instance, the Registration Regulation was enacted in 1983 in order to bring the registration authority close to the public to be served. According to this law, informants can notify a death and a birth at their villages (they formerly notified a death and a birth at the community level). Moreover, at least once a month, a mobile system called a mobile district office is organized to bring registrars and registration officers to serve the public at the villages.

The Civil Registration Act of 1991 provides for the establishment of a computer system to create and administer a central database. The population registers can easily be checked for duplications of data concerning a death and a birth of the same person that may have been reported at two offices. Moreover, the data kept in the computer system can be employed more rapidly, conveniently and accurately.

It is also proposed to progressively tighten procedures for the issue of identification cards to the entire population in the next four years. Training of personnel at every level will be kept up on a continuing basis to run the system efficiently.

Over the next decade or so, progressive computerization of the registration procedures over the entire net-

work of registration offices is also proposed to be adopted, with the introduction of distributed data-processing and remote job entry systems.

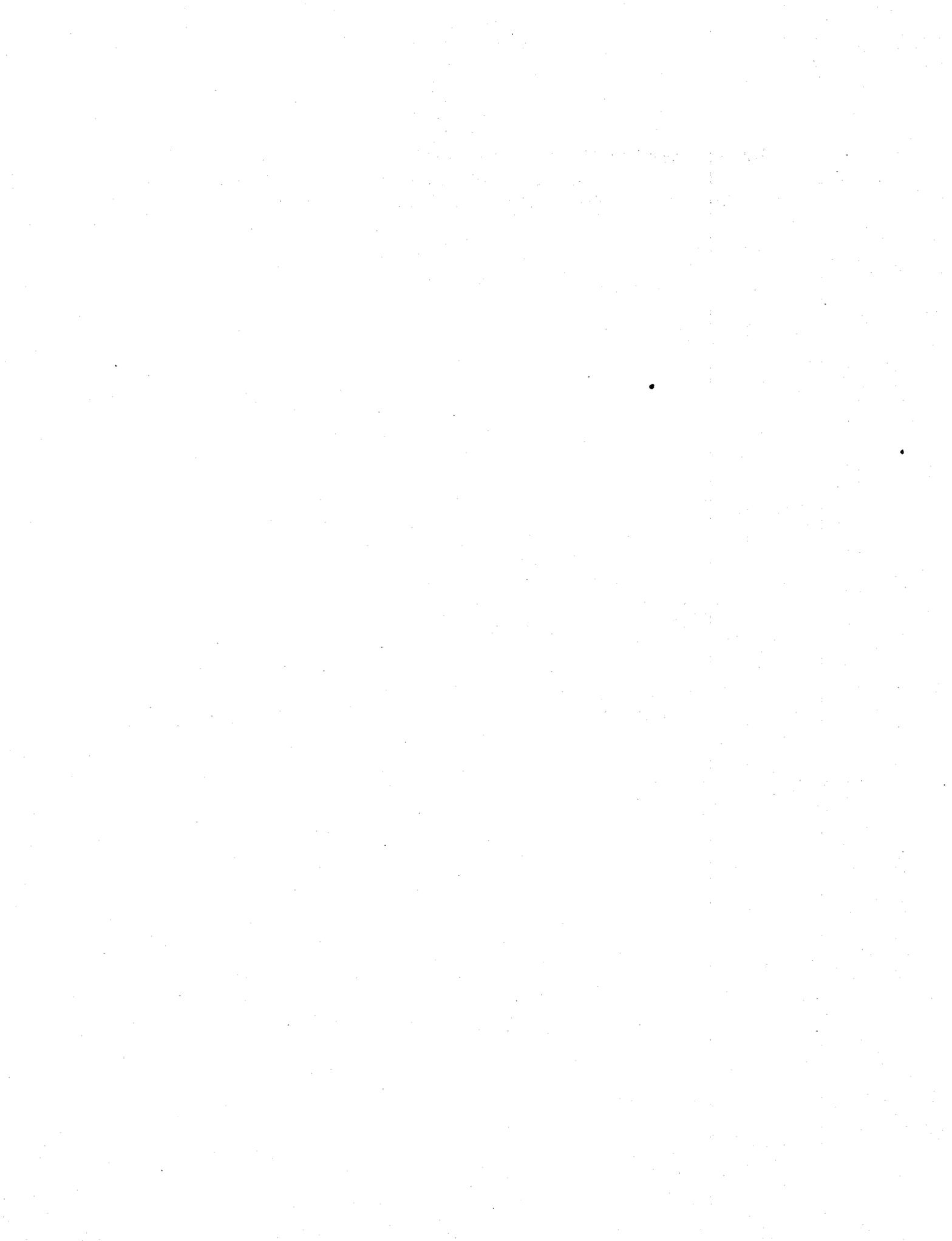
Since mortality and fertility trends on an annual basis can be derived from the vital registration system, it is very important to solve the problem of discrepancies of vital statistics from the Ministry of Public Health and the Ministry of the Interior. In 1993, the Ministry of Public Health set up a project to investigate the problems in the flow of

vital events reporting and to check its completeness. The staff of the Ministry in all the villages were made responsible for these activities.

Cause-of-death statistics, which still remain ill-defined in a large number of cases, have been targeted for improvement. Starting from 1 January 1994, the International Statistical Classification of Diseases and Related Health Problems, tenth revision, has been introduced for the classification of causes of death.

Annex III

**SAMPLES OF CIVIL REGISTRATION AND VITAL STATISTICS FORMS: BOTSWANA,
CANADA, CHILE, COSTA RICA, ECUADOR, PHILIPPINES, SINGAPORE, SOUTH
AFRICA, THAILAND, UNITED STATES OF AMERICA (STATE OF COLORADO)**



Botswana: samples as of 1990 (pilot area only)

Notice of live birth/stillbirth in health institution

Notice of live birth/stillbirth not in health institution

Notice of death in health institution

Notice of death not in health institution

00005004B

Serial Number



OFFICIAL STAMP

BIRTH AND DEATH REGISTRATION ACT
NOTICE OF DEATH IN HEALTH INSTITUTION

Record Number

Registration No.

District

Town/Village

Name of Declarant: Forename

Surname

Relation to the Deceased:

Address of Next of Kin

PARTICULARS OF DEATH

1.1 Name of Deceased

Forename

Other Names

Surname

1.2 Sex: Male Female

1.3 Date of death
Day Month Year

1.4 Age at death
Day Month Year

1.5 I.D. Number:

1.6 Place of death a) Health facility b) Home

Name of health facility:

c) Other (Specify):

1.7 Marital Status:

a) Married Place Date
Day Month Year

b) Divorced

c) Widowed d) Single

1.8 Usual residence Village/Town Ward/Street

1.9 Level of Education: Primary Secondary Post Secondary Higher None

1.10 Occupation:

1.11 Nationality

1.12 Symptoms before death:

1.13 Duration of illness:

1.14 Hospitalisation Period:

1.15 Cause of Death:

a) Disease or Condition directly leading to death

b) Morbid condition if any giving to the above cause, stating the underlining condition last

c) Other significant conditions contributing to death, but not related to the disease or condition causing it:

PARTICULARS OF MOTHER
(If deceased is under 16 years of age)

2.1 Name of Mother

Forename

Other Names

Surname

2.2 Age of Mother

2.3 I.D. Number

Canada: samples as of 1994

Statement of live birth

Statement of stillbirth

Medical certificate of stillbirth

Statement of death

Medical certificate of death

**STATEMENT OF
LIVE BIRTH**

Registration No. (Office use only)

This is a permanent legal record.
Type or print plainly in blue or black ink and complete all items.

IMPORTANT: See reverse side for instructions

Cette formule est disponible en français.

CHILD'S SURNAME	1		2. Sex of child	
FORENAME(S)				
DATE OF BIRTH	3. Month (by name), day, year	4. Name of hospital (if not hospital give exact location where birth occurred)		
PLACE OF BIRTH	5. City, town, village, township (by name)	Regional municipality, county or district	For office use only	
PARENTS	FATHER		MOTHER	
NAME	6. Present surname		9. Present surname	
	Forename(s)		Surname at birth (maiden name)	
	Surname at birth		Forename(s)	
	Other surname(s)		Other surname(s)	
BIRTHPLACE	7. City/town/village		10. City/town/village	
	Province/country	For office use only	Province/country	For office use only
DATE OF BIRTH	8. Month (by name), day, year	Age	11. Month (by name), day, year	Age
RESIDENCE OF MOTHER FOR STATISTICAL PURPOSES ONLY	12. Complete street address (if rural give exact location). City, town, village, township		Postal Code	For office use only
MAILING ADDRESS	13. Complete street address (if different from above). If rural give Post Office or Rural Route address.			Postal Code
OTHER	14. Duration of pregnancy (in weeks)	15. Number of children ever born to the mother (including this birth)		16. Weight of child at birth Grams ____ or ____ lb. ____ oz.
		Number Liveborn	Number Stillborn (after 20 weeks pregnancy)	
ATTENDANT	17. Kind of Birth			18. If twin, triplet, state whether this child was born 1st, 2nd or 3rd
	<input type="checkbox"/> single <input type="checkbox"/> twin <input type="checkbox"/> triplet <input type="checkbox"/> other			
19. Name and address of attendant at birth				Physician <input type="checkbox"/> Nurse <input type="checkbox"/> Other <input type="checkbox"/>

BEFORE SIGNING SEE ITEM F ON REVERSE SIDE

CERTIFICATION OF INFORMANT	20. I (We) certify the foregoing to be true and correct to the best of my (our) knowledge and belief.	Day	Month	Year
	Signature of Mother			
	Signature of Father			
20a. We have agreed that the child's last name will be as shown in item 1. above.	<input type="checkbox"/> Yes <input type="checkbox"/> No			
21. Before completing this section, see item E on reverse side.	<input type="checkbox"/> Check here if the name selected is determined in accordance with the child's Cultural, Ethnic or Religious Heritage.			

DO NOT WRITE BELOW THIS LINE - OFFICE USE ONLY

CERTIFICATION OF DIVISION REGISTRAR	I am satisfied as to the correctness and sufficiency of this statement and register the birth by signing this statement.		
	Signature of Division Registrar	Registration Number	Code Number
For office use only:		Date: Month, day, year	

**STATEMENT OF
STILLBIRTH**

(For office use only)

Cette formule est disponible en français.

THIS IS A PERMANENT LEGAL RECORD
TYPE OR WRITE PLAINLY AND COMPLETE ALL ITEMS
(See reverse for instructions and legal requirements
under the Vital Statistics Act)

CHILD'S SURNAME				2 Sex of child		
FORE-NAME(S)						
DATE OF STILLBIRTH	3 Month (by name) day year		4 Name of hospital (if not hospital give exact location where stillbirth occurred)			
PLACE OF STILLBIRTH	5 City, town, village, township (by name)			Regional municipality, county or district		For office use only
PARENTS	FATHER			MOTHER		
NAME	6 Present surname			10 Present surname		
	Forename(s)			Surname at birth		
	Surname at birth			Forename(s)		
	Other surname(s)			Other surname(s)		
BIRTHPLACE	7 City, town, village			11 City, town, village		
	Province, country		For office use only	Province, country		For office use only
BIRTH DATE	8 Month (by name) day year		Age		12 Month (by name) day year Age	
OCCUPATION	9			13		
RESIDENCE OF MOTHER FOR STATISTICAL PURPOSES ONLY	14 Residence of mother (complete street address)					For office use only
OTHER STILLBIRTH PARTICULARS	15 Duration of pregnancy (weeks)		16 Number of children ever born to this mother (including this birth)		17 Weight of child at birth	
			Number Liveborn Number Stillborn (after 20 weeks pregnancy)		Grams _____ or _____ to _____ oz	
				18 Kind of Birth single <input type="checkbox"/> twin <input type="checkbox"/> triplet <input type="checkbox"/>		19 If twin, triplet, state whether this child was born 1st, 2nd or 3rd.
ATTENDANT	20 Name and address of attendant at stillbirth					Physician <input type="checkbox"/> Nurse <input type="checkbox"/> Other <input type="checkbox"/>
CERTIFICATION OF INFORMANT	21 I (We) certify the foregoing to be true and correct to the best of my (our) knowledge and belief					Day Month Year
	Signature of Mother					
	21a The parents have agreed to the child's name shown in item 1 <input type="checkbox"/> Yes <input type="checkbox"/> No					
Signature of Father						
Signature of informant (other than Mother or Father)						
(Items 22 to 25 to be completed only by the funeral director)						
DISPOSITION	22 Burial, cremation or other disposition (Specify)				Proposed date of burial or disposition (Month, day, year)	
	23 Name and address of proposed cemetery, crematorium or place of disposition					
FUNERAL DIRECTOR	24 Name and address of funeral home (or person in charge of remains) (print or type)					Postal code
	25 Signature of funeral director (or responsible officer)		Business Code Number		Date: Month (by name), day, year	
CERTIFICATION OF DIVISION REGISTRAR	Burial Permit issued by — Address			Date issued (month, day, year)		
	I am satisfied as to the correctness and sufficiency of this statement and the medical certificate of stillbirth, and I register the stillbirth by signing this statement and the medical certificate of stillbirth			Signature of Division Registrar		
	Registration Number		Code Number		Date: Month (by name), day, year	
For office use only						

This form and Form B (Medical Certificate of Stillbirth) must be filed with a Division Registrar before a Burial Permit can be issued.

MEDICAL CERTIFICATE OF STILLBIRTH

Registration No. (office use only)

THIS IS A PERMANENT LEGAL RECORD. TYPE OR PRINT PLAINLY AND COMPLETE ALL ITEMS (See reverse for instructions, and legal requirements under the VITAL STATISTICS ACT.)

PERSONAL PARTICULARS OF DECEASED CHILD				
NAME OF CHILD	1. Surname Forename(s)	2. SEX		
DATE OF STILLBIRTH	3. Month (by name), day, year	4. Name of hospital (if not in hospital, give exact location where stillbirth occurred)		
PLACE OF STILLBIRTH	5. City, town, village or township (by name) Regional municipality, county or district			
OTHER PARTICULARS	6. Mother - Surname Forename(s)	7. Weight of child at birth Grams _____ or lb. _____ oz.	8. Kind of birth single <input type="checkbox"/> twin <input type="checkbox"/> triplet <input type="checkbox"/>	9. If twin, triplet, state whether this child was born 1st, 2nd, or 3rd.
	10. MEDICAL CERTIFICATE OF STILLBIRTH			
CAUSE OF STILLBIRTH	Disease or condition directly leading to stillbirth (This does not mean the mode of dying. It means the disease, injury, or complication which caused stillbirth.)		(a) _____ due to (or as a consequence of)	
	Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last.		(b) _____ due to (or as a consequence of)	
	Other significant conditions contributing to the stillbirth, but not related to the disease or condition causing it.		(c) _____	
OTHER INFORMATION	11. a) Was there manipulative, instrumental or other operative procedure for delivery? Yes <input type="checkbox"/> No <input type="checkbox"/>		b) If so, was foetus dead before the procedure? Yes <input type="checkbox"/> No <input type="checkbox"/>	
	c) State nature of procedure _____ (Such as low, middle or high forceps; version and extraction, Caesarian section, craniotomy)			
	12. Did death occur before labour? Yes <input type="checkbox"/> No <input type="checkbox"/>	During labour? Yes <input type="checkbox"/> No <input type="checkbox"/>	Was labour induced? Yes <input type="checkbox"/> No <input type="checkbox"/>	
CERTIFICATION (Attending physician, coroner, etc.)	13. a) Was there an autopsy? Yes <input type="checkbox"/> No <input type="checkbox"/>		b) If so, state findings _____	
	14. I Certify that I was <input type="checkbox"/> was not <input type="checkbox"/> in attendance at this stillbirth and that the statements herein are true and correct to the best of my knowledge and belief.		Signature (attending physician, coroner, etc.)	
	16. Name of physician or coroner (print or type)		15. Designation: Attending physician: <input type="checkbox"/> Coroner <input type="checkbox"/> Date signed - Month (by name), day, year	
Address				
CERTIFICATION OF DIVISION REGISTRAR	I am satisfied as to the correctness and sufficiency of this medical certificate of stillbirth and the statement of stillbirth and I register the stillbirth by signing this certificate and the statement of stillbirth.		Signature of Division Registrar	
	Registration Number	Code Number	Date: Month (by name), day, year	
For Office Use Only				

This form and Form 7 (Statement of Stillbirth) must be filed with a Division Registrar before a burial permit can be issued.

**STATEMENT OF
DEATH**

Registration (Department use only)

THIS IS A PERMANENT LEGAL RECORD
TYPE OR WRITE PLAINLY AND COMPLETE ALL ITEMS
(see reverse for instructions and legal
requirements under the Vital Statistics Act)

NAME OF DECEASED	1. Surname of deceased (print or type)		Social Insurance Number or Old Age Security (if available)	
	All given names			
DATE OF DEATH	3. Month (by name), day, year of death			
PLACE OF DEATH	4. Name of hospital or institution (otherwise give exact location where death occurred)			
	Borough, city, town, village, township, (by name)		Regional municipality, county, or district	

BIRTHDATE	5. Month (by name), day, year of birth	6. AGE (year)	If under 1 year (Months) | (Days)	If under 1 day (Hours) | (Minutes)
BIRTHPLACE	7. City or place of birth		Province (or country)	
MARITAL STATUS	8. Single, married, widowed or divorced (Specify)	9. If married, widowed or divorced, give full name of husband or full maiden name of wife		
OCCUPATION	10. Type of work done during most of working life		11. Type of business or industry in which deceased worked during most of working life	
FATHER	12. Surname and all given names of father (print or type)		13. BIRTHPLACE - City or place, province (or country)	
MOTHER	14. Maiden surname and all given names of mother (print or type)		15. BIRTHPLACE - City or place, province (or country)	

USUAL RESIDENCE	16. Complete address. If rural give exact location (not Post Office or Rural Route address)			For Office Use Only	
	Borough, city, town, village, township, (by name)	Regional municipality, county, or district	Province (or country)	Postal Code	

SIGNATURE OF INFORMANT	17. Signature of informant	18. Relationship to deceased
	19. Address of informant	20. Date: Month (by name), day, year

(Items 21 -25 to be completed only by the funeral director)

DISPOSITION	21. Burial, cremation or other disposition (Specify)	22. Proposed date of burial or disposition (month, day, year)	
	23. Name and address of proposed cemetery, crematorium or place of disposition		
FUNERAL DIRECTOR	24. Name and address of funeral home (or person in charge of services; print or type)		Postal Code
	25. Signature of funeral director (or responsible officer)	Business Code No.	Date: Month (by name), day, year

CERTIFICATION OF DIVISION REGISTRAR	Burial Permit issued by -		Address	Date issued (m, d, yr)
	I am satisfied as to the correctness and sufficiency of this statement and the medical certificate of death, and I register the death by signing the statement and the medical certificate of death -			
	Registration Number		Division Registrar Code Number	Date: Month (by name), day, year
			Signature of Division Registrar	

For Office of the Registrar General Use Only	For Division Registrar Use Only
--	---------------------------------

This form and Form 16 Medical Certificate of Death must be filed with a Division Registrar before a Burial Permit can be issued.

IMPORTANT: READ REVERSE SIDE BEFORE COMPLETING

Form 16
(VSA 1970)

Province of Ontario (Canada)
Office of the Registrar General

**MEDICAL CERTIFICATE
OF
DEATH**

Registration No. (Department use only)

This is a permanent legal record.
Type or print plainly in blue or black ink and complete all items.

To be completed by attending physician or coroner

PERSONAL PARTICULARS OF DECEASED			
NAME OF DECEASED	1 Surname of deceased All given names		2 SEX
	Social Insurance Number		
DATE OF DEATH	3 Month (by name), day, year of death	4 AGE (years)	If under 1 year (Months) (Days) (Hours) (Minutes)
	5 Name of hospital or institution (otherwise give exact location where death occurred)		CHECK (✓) IF D.O.A.
PLACE OF DEATH	Borough, city, town, village or township (by name)		Regional municipality, county or district

This form and Form 15, Statement of Death, must be filed with a Division Registrar before a Burial Permit can be issued.

MEDICAL CERTIFICATE OF DEATH	
CAUSE OF DEATH	<p>6</p> <p>Part I</p> <p>Immediate cause of death (a) due to, or as a consequence of</p> <p>Antecedent causes (if any giving rise to the immediate cause (a), above, stating the underlying cause last) (b) due to, or as a consequence of</p> <p>Part II</p> <p>Other significant conditions contributing to the death but not causally related to the immediate cause (a) above (c)</p>
	Approx. interval between onset & death
7 If deceased was a female, did the death occur either during pregnancy, including abortion and ectopic pregnancy, or within 42 days thereafter? Yes No	

AUTOPSY PARTICULARS	8 Autopsy being held? Yes No	9 Does the cause of death stated above take account of autopsy findings? Yes No	10 May further information relating to the cause of death be available later? Yes No
---------------------	------------------------------	---	--

ACCIDENTAL OR VIOLENT DEATH (if applicable)	11 If accident, suicide, homicide or undetermined, specify	12 Place of injury (e.g. home, farm, highway, etc.)	13 Date of injury (Month (by name), day, year)
14 How did injury occur? Describe circumstances.			

CERTIFICATION (attending physician, coroner, etc.)	15 I certify that to the best of my knowledge and belief the above named person died on the date and from the causes stated herein. Signature (attending physician, coroner, etc.)	16 Designation: Attending physician, Coroner, Other (specify)
	17 Name of physician or coroner	Date signed - Month (by name), day, year
Address		

CERTIFICATION OF DIVISION REGISTRAR	I am satisfied as to the correctness and sufficiency of this medical certificate of death and the statement of death and I register the death by signing this certificate and the statement of death.		
	Registration Number	Division Registrar Code Number	Date (Month (by name), day, year)
Signature of Division Registrar			

For Departmental Use Only

Cette formule est disponible en français.

Chile: samples as of June 1996

Birth registration document

Marriage registration document

Death registration document

5827536

CERTIFICO que se ha atendido de parto a doña:

NOMBRES Y APELLIDOS DE LA MADRE					CEDULA DE IDENTIDAD N°					
FECHA DEL PARTO Día Mes Año			HORA DEL PARTO Hora Min.		SEXO DEL NIJO M: Masculino F: Femenino		MÉDICO O MATRONA QUE ATENDIO EL PARTO			
Semanas gestación		Peso al nacer (gramos)		Talla al nacer (cm.)		TIPO DE PARTO 1: Simple 2: Doble 3: Triple 4: Otro		LOCAL 1: Hospital o Mat. 2: Casa Habitación 3: Otro		ATENCIÓN 1: Médico 2: Matrona 3: Sin atención profesional
ESTABLECIMIENTO O LUGAR DEL PARTO					COMUNA NULO					
Se tomará la impresión dígito pulgar derecha de la madre si no presentó su cédula de identidad, ni era conocida del Médico o de la Matrona.					FECHA CERTIFICACION Día Mes Año					
					Firma del Médico o Matrona y sello del establecimiento					

DECLARACIONES JURADAS (Sólo inscripciones por Testigos)

<p>Yo: RUN de años de edad, chileno, domiciliado en (Ciudad, calle y N°) declaro bajo fe de juramento que conozco desde hace años a doña RUN y me consta que con fecha a las horas (aprox.), dio a luz un hijo de sexo en el lugar (calle y N°) Comuna cuya inscripción de nacimiento está siendo requerida con esta fecha. Estoy consciente de que las falsas declaraciones son castigadas con penas de prisión y multa.</p> <p>En de de 19.....</p> <p>Firma del primer testigo</p>	<p>Yo: RUN de años de edad, chileno, domiciliado en (Ciudad, calle y N°) declaro bajo fe de juramento que conozco desde hace años a doña RUN y me consta que con fecha a las horas (aprox.), dio a luz un hijo de sexo en el lugar (calle y N°) Comuna cuya inscripción de nacimiento está siendo requerida con esta fecha. Estoy consciente de que las falsas declaraciones son castigadas con penas de prisión y multa.</p> <p>En de de 19.....</p> <p>Firma del segundo testigo</p>
<p>Art. 210. CODIGO PENAL. El que ante la autoridad o sus agentes perjure o diere falso testimonio en materia que no sea contenciosa, sufrirá las penas de prisión o multa en sus grados mínimo a medio y multa.</p> <p>Firmaron ante mí los testigos arriba identificados</p> <p>Firma y sello del Oficial Civil</p>	

INFORMACION ESTADISTICA (Datos a la fecha del nacimiento)

DATOS DE LA MADRE		HIJOS (incluyendo presente inscripción)				
Residencia Habitual de la Madre (calle, N°, localidad o comuna, provincia)		USO INE	Vivos	Fallecidos	Mortuatos	Total
EDAD (años cumplidos)	INSTRUCCION Ultimo curso Nivel	OCUPACION		USO INE	NIVEL OCUPACIONAL	
	1: Superior 2: Medio 3: Secundario 4: Básico o primario 5: Ninguno				1: Patrón 2: Empleado 3: Obrero 4: Trabajador por cuenta propia	
DATOS DEL PADRE		OCUPACION		USO INE	NIVEL OCUPACIONAL	
EDAD (años cumplidos)	INSTRUCCION Ultimo curso Nivel				1: Patrón 2: Empleado 3: Obrero 4: Trabajador por cuenta propia	

INFORMACION COMPLEMENTARIA

ESTADO CIVIL DE LA MADRE		INSCRIPCION DE MATRIMONIO DE LOS PADRES			
C - Casada S - Soltera V - Viuda X - No informado		Circunscripción		Inscripción N°	Reg. Año
NACIONALIDAD DEL TITULAR		ESTADO CIVIL DEL TITULAR			
C - Chileno E - Extranjero		N - Nacionalizado X - No informado		L - Legítimo C - Legitimado X - No informado	Reconocimiento en acto inscripción P - Padre M - Madre A - Ambos N - Ninguno

PARA SER LLENADO EN EL REGISTRO CIVIL POR EL REQUERENTE (Padre o Madre, etc.)

NOMBRE COMPLETO DEL INSCRITO

NULO

APELLIDOS MATERNO Y MATERNO DEL INSCRITO

REGISTRO DE MATRIMONIO
(Acta Contrato de Matrimonio)

(B) ORIGINAL

1779443

CIRCUNSCRIPCION	INSCRIPCION N°	REGISTRO	FECHA		
			Día	Mes	Año

ACTA DE MANIFESTACION

Ante mí comparecen los contrayentes abajo individualizados y exponen su deseo de contraer matrimonio con arreglo a la ley, para lo cual declaran no tener impedimentos ni prohibición alguna y corresponderles los siguientes hechos y menciones:

DEL CONTRAYENTE		FECHA NACIMIENTO		
NOMBRES		Día Mes Año		
APELLIDO PATERNO/APELLIDO MATERNO				
CEDULA IDENTIDAD	GABINETE	NACIONALIDAD		
ESTADO CIVIL <input type="checkbox"/> S. Soltero <input type="checkbox"/> V. Viudo	NOMBRE CONYUGE ANTERIOR	LUGAR Y FECHA DEFUNCION	Hijos Menores <input type="checkbox"/> C. Con <input type="checkbox"/> S. Sin	
DOMICILIO	DESDE	HACE	PROFESION U. OFICIO	
SOLO MENOR DE EDAD				
HIJO DE		Y DE		
CONSENTIMIENTO OTORGADO POR	EN SU CALIDAD DE	CEDULA DE IDENTIDAD		

DE LA CONTRAYENTE		FECHA NACIMIENTO		
NOMBRES		Día Mes Año		
APELLIDO PATERNO/APELLIDO MATERNO				
CEDULA IDENTIDAD	GABINETE	NACIONALIDAD		
ESTADO CIVIL <input type="checkbox"/> S. Soltera <input type="checkbox"/> V. Viuda	NOMBRE CONYUGE ANTERIOR	LUGAR Y FECHA DEFUNCION	Hijos Menores <input type="checkbox"/> C. Con <input type="checkbox"/> S. Sin	
DOMICILIO	DESDE	HACE	PROFESION U. OFICIO	
SOLO MENOR DE EDAD				
HIJA DE		Y DE		
CONSENTIMIENTO OTORGADO POR	EN SU CALIDAD DE	CEDULA DE IDENTIDAD		

DE LOS TESTIGOS	
NOMBRES Y APELLIDOS	CEDULA DE IDENTIDAD
NOMBRES Y APELLIDOS	CEDULA DE IDENTIDAD

Quienes saben leer y escribir, bajo juramento de decir la verdad, después de imponerse de los impedimentos y prohibiciones por haberse leído los artículos pertinentes de la Ley de Matrimonio Civil, declararon no existir ninguno respecto de las personas a que se refiere la presente acta, y constare la efectividad de lo declarado por los comparecientes, especialmente sus domicilios y residencias, por conocerlos con anterioridad a esta manifestación precedente.

CELEBRACION DEL MATRIMONIO:

En virtud de los antecedentes anteriores y teniendo presente que no existen inconvenientes para la celebracion del matrimonio, se dio lectura a los artículos 131, 133 y 134 del Código Civil.

Dia		Mes		Año	

--

SE PROCEDIO A LA CELEBRACION DEL MATRIMONIO con fecha _____ a las _____ horas.

en el lugar _____ y en el local ubicado en _____

El Oficial Civil que autoriza interrogó en los siguientes términos al CONTRAYENTE:

¿QUERIS POR VUESTRA MUJER A DOÑA _____
 el interrogado contestó en alta, clara e inteligible voz: "SI QUIERO" En seguida, pregunto a la CONTRAYENTE:

¿QUERIS POR VUESTRO MARIDO A DON _____
 y ésta de igual modo contestó: "SI, QUIERO". Inmediatamente el Oficial Civil, dirigiéndose a ambos, pronunció las siguientes palabras: "OS DECLARO CASADOS EN NOMBRE DE LA LEY"

Todo lo anterior se verificó en un solo acto y en presencia de los testigos. Extendida esta acta, fue leída a las personas que deben suscribirla,

se les invitó a que leyeran por sí mismas y la firmaran ante el Oficial Civil suscrito que procedió a inscribirla con el N° _____ del presente año.

CAPITULACIONES MATRIMONIALES EN EL ACTO DE MATRIMONIO:

S: Si _____
 N: No _____

LEGITIMACIONES: Los cónyuges declaran haber tenido las siguientes hijos comunes, a quienes legitiman en este acto.

Nº de hijos legitimados

OBSERVACIONES Y SUBINSCRIPCIONES

FIRMAS

X _____ X _____

X _____ X _____

Firma y Sello Oficial Civil

INFORMACION ESTADISTICA

1. DATOS DEL CONTRAYENTE

RESIDENCIA HABITUAL (calle, Nº, localidad ó comuna, provincial)		USO INE	Nº MATRIMONIOS ANTERIORES A ESTA INSCRIPCION	CAUSA DISOLUCION ULTIMO MATRIMONIO
				<input type="checkbox"/> 1: Nulidad <input type="checkbox"/> 2: Viudez
EDAD (años cumplidos)	INSTRUCCION (Ultimo Curso Nivel)	OCUPACION		NIVEL OCUPACIONAL
	<input type="checkbox"/> 1: Superior <input type="checkbox"/> 2: Media <input type="checkbox"/> 3: Secundaria <input type="checkbox"/> 4: Básico o Primario <input type="checkbox"/> 5: Ninguna			<input type="checkbox"/> 1: Patrón <input type="checkbox"/> 2: Empleado <input type="checkbox"/> 3: Obrero <input type="checkbox"/> 4: Trabajador por cuenta propia

2. DATOS DE LA CONTRAYENTE

RESIDENCIA HABITUAL (calle, Nº, localidad ó comuna, provincial)		USO INE	Nº MATRIMONIOS ANTERIORES A ESTA INSCRIPCION	CAUSA DISOLUCION ULTIMO MATRIMONIO
				<input type="checkbox"/> 1: Nulidad <input type="checkbox"/> 2: Viudez
EDAD (Años cumplidos)	INSTRUCCION (Ultimo Curso Nivel)	OCUPACION		NIVEL OCUPACIONAL
	<input type="checkbox"/> 1: Superior <input type="checkbox"/> 2: Media <input type="checkbox"/> 3: Secundaria <input type="checkbox"/> 4: Básico o Primario <input type="checkbox"/> 5: Ninguna			<input type="checkbox"/> 1: Patrón <input type="checkbox"/> 2: Empleado <input type="checkbox"/> 3: Obrero <input type="checkbox"/> 4: Trabajador por cuenta propia

(ESCRIBA CON LETRA DE IMPRENTA Y COLÓQUE EN CADA CUADRO LA LETRA O NUMERO QUE CORRESPONDA)

A. USO EXCLUSIVO MEDICO (O MATRONA EN CASO DE DEFUNCION FETAL)

1748519

1.- NOMBRE Y APELLIDOS DEL FALLECIDO				CEDULA DE IDENTIDAD			
SEXO	<input type="checkbox"/> M: MASCULINO <input type="checkbox"/> F: FEMENINO <input type="checkbox"/> S: Ignorante	FECHA DE NACIMIENTO	Día Mes Año	EDAD Años cumplidos	Sólo si es menor de un año		

TESTIGOS QUE CERTIFICAN LA IDENTIDAD DEL DIFUNTO (Cuando no tiene cédula de Identidad)

1. Nombre: _____ C.I. _____ Firma: _____

2. Nombre: _____ C.I. _____ Firma: _____

2.- DATOS DE LA DEFUNCION SOLO PARA FALLECIDO MENOR DE UN AÑO O DEFUNCION FETAL

FECHA: Día Mes Año Hora Hora Minutos

ESTADO CIVIL: 1: Esposado 4: Desconocido grado II 2: Desconocido grado I 3: Desconocido grado II 5: Ignorante

LOCAL: 1: Hospital o Clínica 2: Casa habitación 3: Otro

ESTABLECIMIENTO O DIRECCION: **NULO**

COMUNA: _____

3.- CAUSA DE LA MUERTE En caso de defunción fetal especifique la causa, no anote ILICITIMATO.

CAUSA INMEDIATA: (Enfermedad o condición que produjo directamente la muerte)

CAUSAS ORIGINARIAS: (Enfermedades, lesiones y tipo de accidente, suicidio u homicidio que ocasionó la causa inmediata)

ESTADOS MORBOSOS CONCOMITANTES: (Contribuyen a la defunción pero fuera de la cadena causal)

4.- FUNDAMENTO CAUSA DE MUERTE

1: Autopsia 4: Exs. Laboratorio 5: Cuadro Clínico 6: Información de Testigos

LUGAR DE OCURRENCIA: 1: Casa 2: Vía Pública 3: Trabajo 4: Otro

CIRCUNSTANCIAS TIPO: 1: Pasión 2: Conductor 3: Pasajero 4: Otra

1: Accidente 2: Suicidio 3: Homicidio 4: Ignorado

ATENCIÓN MEDICA ULTIMA ENFERMEDAD: 1: SI 2: NO 3: Ignorante

CALIDAD DE QUIEN CERTIFICA: MEDICO OTROS

FECHA CERTIFICADO: Día Mes Año

Nombre Médico: _____ RUC: _____ Domicilio: _____

NULO

Firma Médico y Sello Establecimiento

5.- INFORMACION ESTADISTICA (USO EXCLUSIVO REGISTRO CIVIL O ADMINISTRACION CEMENTERIOS)

RESIDENCIA HABITUAL DEL FALLECIDO: Calle número comuna o localidad región

INSTRUCCION: 1: Superior 2: Medio 3: Secundario 4: Básico o primario 5: Ninguno

OCCUPACION: _____

USO INE: _____ NIVEL OCUPACIONAL: 1: Patron 2: Empleado 3: Obrero 4: Trabajador por cuenta propia

6.- SOLO PARA FALLECIDO MENOR DE UN AÑO O DEFUNCION FETAL

Nombre de la Madre: _____

ESTADO CIVIL: 1: Soltera 2: Casada 3: Viuda

HUJOS Incluyendo presente inscripción: Vivos Fallecidos Mat. natos Totales

FECHA PARTO/ABORTO ANTERIOR AL PRESENTE HUJO: 1: Parto 2: Aborto

EDAD años cumplid. InSTRUCCION: 1: Superior 2: Medio 3: Secundario 4: Básico o primario 5: Ninguno

OCCUPACION: _____

USO INE: _____ NIVEL OCUPACIONAL: 1: Patron 2: Empleado 3: Obrero 4: Trabajador por cuenta propia

Nombre del Padre: _____

EDAD años cumplid. InSTRUCCION: 1: Superior 2: Medio 3: Secundario 4: Básico o primario 5: Ninguno

OCCUPACION: **NULO**

USO INE: _____ NIVEL OCUPACIONAL: 1: Patron 2: Empleado 3: Obrero 4: Trabajador por cuenta propia

FORMULARIO DE DISTRIBUCION GRATUITA. PROHIBIDA SU VENTA

Costa Rica: samples as of December 1991

Birth registration document

Death registration document

No. 1
PARA SER ENVIADO
AL REGISTRO CIVIL

REGISTRO CIVIL
REPUBLICA DE COSTA RICA
CERTIFICADO DE DECLARACION DE NACIMIENTO No. 534926

DATOS DEL DECLARADO AL MOMENTO DEL NACIMIENTO	6) NOMBRES DEL DECLARADO				
	PRIMER NOMBRE		SEGUNDO NOMBRE		
	7) ESTA DECLARACION ES DE UN NIÑO NACIDO:		8) SEXO:		
	SOLO <input type="checkbox"/> GEMELO <input type="checkbox"/> TRILIZO <input type="checkbox"/> OTRAS <input type="checkbox"/> ESPECIFIQUE		HOMBRE <input type="checkbox"/> MUJER <input type="checkbox"/>		
DATOS DEL PADRE AL MOMENTO DEL NACIMIENTO	9) LUGAR DE NACIMIENTO:				
	BARRIO O CASERIO		DISTRITO	CANTON	PROVINCIA
	10) NACIO EN:				
	SU HOGAR <input type="checkbox"/> INSTITUCION HOSPITALARIA <input type="checkbox"/> ANOTE EL NOMBRE		OTRO LUGAR (ESPECIFIQUE)		
DATOS DE LA MADRE AL MOMENTO DEL NACIMIENTO	11) FECHA Y HORA DE NACIMIENTO:				
	HORA	DIA (EN NUMEROS)	MES (EN LETRAS)	AÑO	
	7) PADRE				
	12) EDAD:	8) PROFESION U OFICIO	10) NACIO EN:	11) NACIONALIDAD:	
DATOS DE LA MADRE AL MOMENTO DEL NACIMIENTO	AÑOS CUMPLIDOS	MAESTRO, CARPINTERO, PEGON, ETC.	INDIQUE EL PAIS		
	12) ESTADO CIVIL				
	SOLTERO <input type="checkbox"/> CASADO <input type="checkbox"/> SEPARADO JUDICIALMENTE <input type="checkbox"/> DIVORCIADO <input type="checkbox"/> VIUDO <input type="checkbox"/>	FECHA	NOMBRE Y APELLIDOS DEL CONYUGE	FECHA	NOMBRE Y APELLIDOS DEL EX-CONYUGE
	13) RESIDENCIA HABITUAL				
CALLE O AVENIDA	CASA No.	BARRIO O CASERIO	DISTRITO	CANTON	PROVINCIA
DATOS DE LA MADRE AL MOMENTO DEL NACIMIENTO	14) MADRE:				
	15) EDAD:	16) PROFESION U OFICIO	17) NACIO EN:	18) NACIONALIDAD:	
	AÑOS CUMPLIDOS	MAESTRA, COSTURERA, OFICIOS DOMESTICOS, ETC.	INDIQUE EL PAIS		
	19) ESTADO CIVIL				
SOLTERA <input type="checkbox"/> CASADA <input type="checkbox"/> SEPARADA JUDICIALMENTE <input type="checkbox"/> DIVORCIADA <input type="checkbox"/> VIUDA <input type="checkbox"/>	FECHA	NOMBRE Y APELLIDOS DEL CONYUGE	FECHA	LUGAR EN DONDE CONTRAJO MATRIMONIO	JUZGADO Y LUGAR
FECHA	NOMBRE Y APELLIDOS DEL EX-CONYUGE	FECHA	LUGAR EN DONDE CONTRAJO MATRIMONIO	JUZGADO Y LUGAR	LUGAR DE SEPULTURA
20) RESIDENCIA HABITUAL					
CALLE O AVENIDA	CASA No.	BARRIO O CASERIO	DISTRITO	CANTON	PROVINCIA
DATOS DE LOS DECLARANTES Y TESTIGOS	21) ESTE PARTO FUE ATENDIDO POR:				
	ENFERMERA <input type="checkbox"/> MEDICO <input type="checkbox"/> OBSTETRICA <input type="checkbox"/> COMADRONA <input type="checkbox"/> OTRA PERSONA <input type="checkbox"/>	22) NUMERO DE MESES DE ESTE EMBARAZO:	NACIO VIVO <input type="checkbox"/> NACIO MUERTO <input type="checkbox"/>	ANOTELOS	
	23) a) INCLUYENDO ESTE NACIMIENTO, ANOTE:				23) b) CUANTOS ABORTOS HA TENIDO
	TOTAL DE NIJOS TENIDOS POR ESTA MADRE	CUANTOS NACIERON VIVOS	CUANTOS NACIERON MUERTOS	CUANTOS NACIERON VIVOS PERO MURIERON	CUANTOS NIJOS LE QUEDAN VIVOS	NACIDOS MUERTOS DE MENOS DE 7 MESES
24) ASI LO DECLARAN:				NOMBRE Y APELLIDOS	No. DE CEDULA O DOC. DE IDENTIFICACION
COMO	PADRE RECOMENDADO O INTERESADO	FIRMA	No. DE CEDULA O DOC. DE IDENTIFICACION		
COMO	MADRE RECOMENDADA O INTERESADA	FIRMA	No. DE CEDULA O DOC. DE IDENTIFICACION		
25) SI NO SABE FIRMAR, LO HARA OTRA PERSONA A RUEGO DE UNO O DE AMBOS					
NOMBRE Y APELLIDOS	FIRMA	No. DE CEDULA O DOC. DE IDENTIFICACION			
26) DIRECCION DEL DECLARANTE O INTERESADO					
BARRIO O CASERIO	DISTRITO	CANTON	PROVINCIA		
DIRECCION DE SU CASA					
POR MEDIO DE UN PUNTO DE REFERENCIA, PLAZA, PULPERIA, CAMINO, FINCA, RIO, ETC.					
POR NUMERO DE CALLES, AVENIDAS Y CASAS:					
27) a) TESTIGO 1:			27) b) TESTIGO 2:		
NOMBRE Y APELLIDOS	FIRMA	No. DE CEDULA O DOC. DE IDENTIFICACION	NOMBRE Y APELLIDOS	FIRMA	No. DE CEDULA O DOC. DE IDENTIFICACION
OBSERVACIONES					
28) ANTE:					
NOMBRE:	1. APELLIDO	2. APELLIDO	No. DE CEDULA		
PUESTO QUE DESEMPEÑA	REGISTRADOR AUXILIAR DE	BARRIO O CASERIO	DISTRITO	CANTON	PROVINCIA
29) FECHA DE DECLARACION					
DIA (EN NUMEROS)	MES (EN LETRAS)	AÑO (EN NUMEROS)	FIRMA DEL REGISTRADOR		
ESTE CERTIFICADO QUEDA INSCRITO EN:					

AL LLENAR ESTA DECLARACION DEBE HACERLO A MACQUINA, BOLIGRAFO O LAPIZ TINTA APRIETANDO CON FIRMEZA AL ESCRIBIR

SELLO
DE LA
OFICINA

1) NOMBRE Y APELLIDOS DEL DIFUNTO					
Nombre		1er. apellido		2do. apellido	
2) a) NACIONALIDAD			5) EDAD CUMPLIDA: _____ AÑOS		
b) N° DE CEDULA			SI ES MENOR DE UN AÑO _____ MESES		
3) SEXO: HOMBRE <input type="checkbox"/> MUJER <input type="checkbox"/>			SI ES MENOR DE 1 MES _____ DÍAS		
4) ULTIMO ESTADO CIVIL: MENOR <input type="checkbox"/> SOLTERO <input type="checkbox"/> CASADO <input type="checkbox"/>			SI ES MENOR DE 1 DIA _____ HORAS		
VIUDO <input type="checkbox"/> DIVORCIADO <input type="checkbox"/> UNION LIBRE <input type="checkbox"/> SEPARADO JUDICIAL <input type="checkbox"/>			SI ES MENOR DE 1 HORA _____ MINUTOS		
6) RESIDENCIA HABITUAL			Provincia _____		
Cantón _____			Distrito _____		
Nombre y apellidos del último cónyuge _____			Barrio o caserío _____		
7 a) CUANDO NO HAY CERTIFICADO MEDICO EL REGISTRADOR DEBE LLENAR LA SIGUIENTE SECCION: CAUSA DE MUERTE ENFERMEDAD SEGUN DATOS SUMINISTRADOS POR LOS FAMILIARES O PERSONAS QUE INFORMAN SOBRE LA DEFUNCION.					
7 b) SI LA MUERTE SE DEBIO A FACTORES EXTERNOS SE DEBE ESTABLECER SI FUE: SUICIDIO <input type="checkbox"/> HOMICIDIO <input type="checkbox"/> ACCIDENTE <input type="checkbox"/>					
Describe las lesiones y causas de accidente, modo, circunstancias y lugar					
8) MURIO EN SU HOGAR <input type="checkbox"/>					
Nombre del hospital o institución _____					
Otro lugar (especifique) _____		Provincia _____		Cantón _____	
Distrito _____		Barrio o caserío _____			
9) FECHA DE MUERTE		10) OCUPACION:			
Hora	Día	Mes	Año	Especifique si es peón agrícola, carpintero, etc.	
			19		
11) SEPULTADO EN:			Provincia _____		
Cantón _____			Distrito _____		
Provincia _____			Nombre del cementerio _____		
12) DATOS DEL PADRE:			13) DATOS DE LA MADRE:		
Nombre _____			Nombre _____		
1er. apellido _____			1er. apellido _____		
2 do. apellido _____			2 do. apellido _____		
Nacionalidad _____			Nacionalidad _____		
14 b) FECHA DE NACIMIENTO PARA TODAS LAS EDADES		Día	Mes	Año	a) - NACIO MUERTO SI <input type="checkbox"/> NO <input type="checkbox"/>
				19	c) - N° DE MESES DE EMBARAZO _____
15) DATOS DEL DECLARANTE:					
Nombre y apellidos _____				Número cédula _____	
Parentesco con el difunto _____			Dirección del declarante especificado por calles _____		
Avenidas, N° de casa, iglesias, pulperías, etc.					
16) SI NO SABE FIRMAR LO HARA OTRA PERSONA A RUEGO PORTADORA DE CEDULA N° _____					
17) ANTE:					
Nombre y apellidos del registrador _____			Puesto que desempeña _____		
Provincia _____			Cantón _____		
Cantón _____			Distrito _____		
Barrio o caserío _____			Barrio o caserío _____		
18) FECHA DE ESTA DECLARACION		Día	Mes	Año	Firma del registrador _____
				19	

CASILLA
PARA USO DEL
REGISTRO
CIVIL

ASIENTO
FOLIO
TOMO
PROVINCIA

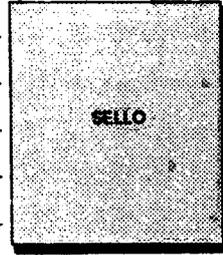
ASIENTO
FOLIO
TOMO
PROVINCIA

INSCRITO EL MATRIMONIO EN _____
INSCRITO EL NACIMIENTO EN _____
EMPLAZADO QUE EFECTUO LA CANCELACION _____
FECHA _____

ASIENTO
FOLIO
TOMO
PROVINCIA

ESTE CERTIFICADO QUEDA INSCRITO _____
EMPLAZADO QUE LA INSCRIBIO _____
CALIFICADO POR _____
EL NACIMIENTO _____
EL MATRIMONIO _____

OBSERVACIONES: _____



NOTA: CUANDO HAY ASISTENCIA MEDICA EL CERTIFICADO MEDICO RESPECTIVO DEBE PEGARSE AL REVERSO DE ESTE FORMULARIO.

Ecuador: samples as of December 1995

Live birth registration document

Death registration document

Foetal death registration document

Marriage registration document

Divorce registration document



INFORME ESTADISTICO DE NACIDO VIVO

ANTES DE LLENAR ESTE INFORME, LEA LAS INSTRUCCIONES ESCRITAS AL REVERSO

1) OFICINA DE REGISTRO CIVIL DE 2) PROVINCIA 3) CANTON PARROQUIA 4) FECHA DE INSCRIPCION Años 19... Mes... Día... 5) ACTA DE INSCRIPCION No.

(A) DATOS DEL NACIDO VIVO

6) SEXO		7) FECHA DE NACIMIENTO	8) NACIDO EN	9) ASISTIDO POR	10) TIPO DE NACIMIENTO	11) LUGAR DE NACIMIENTO
Hombre <input type="checkbox"/> 1 Mujer <input type="checkbox"/> 2	Año 19... Mes... Día...	Establecimiento del Ministerio de Salud <input type="checkbox"/> 1 Establecimiento del IESS <input type="checkbox"/> 2 Otro Establecimiento del Estado <input type="checkbox"/> 3 Hospital, Clínica o Consultorio Particular <input type="checkbox"/> 4 Casa <input type="checkbox"/> 5 Otro (especificar) <input type="checkbox"/> 6	Médico <input type="checkbox"/> 1 Obstetra <input type="checkbox"/> 2 Enfermera <input type="checkbox"/> 3 Auxiliar <input type="checkbox"/> 4 Comadrona <input type="checkbox"/> 5 Otro <input type="checkbox"/> 6	Simple <input type="checkbox"/> 1 Doble <input type="checkbox"/> 2 Triplo <input type="checkbox"/> 3 Cuadruplo o más <input type="checkbox"/> 4	Provincia Cantón Ciudad Parroquia rural Localidad	Urbana <input type="checkbox"/> 1 Rural <input type="checkbox"/> 2 Periférico <input type="checkbox"/> 3

(B) DATOS DE LA MADRE

14) NOMBRES Y APELLIDOS	20) ALFABETISMO E INSTRUCCION	21) RESIDENCIA HABITUAL DE LA MADRE
15) EDAD DE LA MADRE (En años cumplidos a la fecha del parto)	¿SABE LEER Y ESCRIBIR? SI <input type="checkbox"/> 1 NO <input type="checkbox"/> 2 Ninguna <input type="checkbox"/> 1 Centro de Alfabetización <input type="checkbox"/> 2 Primaria <input type="checkbox"/> 3 Secundaria <input type="checkbox"/> 4 Superior <input type="checkbox"/> 5 USO INEC <input type="checkbox"/> 6	Provincia Cantón Ciudad Parroquia rural Localidad
16) ¿CUANTOS HIJOS VIVOS TIENE ACTUALMENTE? (Incluido el que responde)	Último grado o curso Aprobado <input type="checkbox"/> 1 PASE AL NIVEL <input type="checkbox"/> 2	Urbana <input type="checkbox"/> 1 Rural <input type="checkbox"/> 2 Periférico <input type="checkbox"/> 3
17) ¿CUANTOS HIJOS QUE NACIERON VIVOS HAN MUERTO? (a la fecha del parto)	USO INEC <input type="checkbox"/> 9	Residente <input type="checkbox"/> 1 No residente <input type="checkbox"/> 2
18) ¿CUANTOS HIJOS NACIERON MUERTOS?		
19) ¿RECIBIO ATENCION PROFESIONAL DURANTE ESTE EMBARAZO? SI <input type="checkbox"/> 1 No de acuerdo <input type="checkbox"/> 2 NO <input type="checkbox"/> 2 USO INEC <input type="checkbox"/> 9		

(C) DATOS DEL PROFESIONAL QUE ATENDIO EL NACIMIENTO

24) MEDICO 1 OBSTETRIZ 2 ENFERMERA 3
 Nombre y Apellido Firma
 Dirección de la consulta o domicilio Ciudad Calle y No. Teléf.

25) NOMBRE DEL ESTABLECIMIENTO DE SALUD DONDE OCURRIO EL NACIMIENTO:
 Dirección Ciudad Calle y No. Teléf.

(D) NACIMIENTO SIN ATENCION PROFESIONAL

26) AUXILIAR DE ENFERMERIA 1 COMADRONA 2 OTRA PERSONA 3 (especificar)

(E) PERSONA QUE SOLICITA LA INSCRIPCION DEL NACIDO VIVO

27) Padres 1 Hermanos 2 Tíos o Abuelos 3 Otros parientes 4 Otros no parientes 5

OBSERVACIONES:

NOTA: ESTE DOCUMENTO Y SU TRAMITACION SON GRATUITOS

NOTA: ESTE DOCUMENTO Y SU TRAMITACION SON GRATUITOS

443



INSTITUTO NACIONAL DE ESTADÍSTICA Y CENSOS

ANTES DE LLEVAR ESTE INFORME, LEA LAS INSTRUCCIONES ESCRITAS AL REVERSO

INFORME ESTADISTICO DE DEFUNCION

1) OFICINA DE REGISTRO CIVIL DE	2) PROVINCIA	3) FECHA DE INSCRIPCION Año 19... Mes... Día...
	CANTON PARROQUIA	4) ACTA DE INSCRIPCION No.

(A) DATOS DEL FALLECIDO

5) APELLIDOS		NOMBRES	
6) SEXO	7) FECHA DE NACIMIENTO	8) FECHA DE FALLECIMIENTO	9) EDAD AL FALLECER
Hombre <input type="checkbox"/> 1 Mujer <input type="checkbox"/> 2	Año 19... Mes... Día...	Año 19... Mes... Día...	Horas (si es menor de 1 día) <input type="checkbox"/> 1 Días (si es menor de 1 mes) <input type="checkbox"/> 2 Meses (si es menor de 1 año) <input type="checkbox"/> 3 Años cumplidos <input type="checkbox"/> 4 Ignorada <input type="checkbox"/> 9
10) LUGAR DE FALLECIMIENTO			
Provincia Cantón Ciudad Parroquia rural Localidad			
USO DEL INEC			
11) ZONA		Urbana <input type="checkbox"/> 1 Rural <input type="checkbox"/> 2 Periférica <input type="checkbox"/> 3	
SITUACION DEL EMBARAZO (Para mujeres de 12 a 49 años):			
12) ¿ESTUVO EMBARAZADA CUANDO FALLECIO?		13) ¿EN LAS ÚLTIMAS 6 SEMANAS AL FALLECIMIENTO DIO A LUZ?	
SI <input type="checkbox"/> 1 → N° meses <input type="checkbox"/> PASE AL NUMERAL 15 NO <input type="checkbox"/> 2 Se ignora <input type="checkbox"/> 9		SI <input type="checkbox"/> 1 NO <input type="checkbox"/> 2 Se ignora <input type="checkbox"/> 9	
14) ¿RECIBIO ATENCION MEDICA? (Control del embarazo)		15) ESTADO CIVIL O CONYUGAL (Para personas de 12 años y más)	
SI <input type="checkbox"/> 1 → N° Consultas <input type="checkbox"/> NO <input type="checkbox"/> 2 Se ignora <input type="checkbox"/> 9		Soltero <input type="checkbox"/> 1 Casado <input type="checkbox"/> 2 Viudo <input type="checkbox"/> 3 Divorciado <input type="checkbox"/> 4 Unión libre <input type="checkbox"/> 5 Ignorado <input type="checkbox"/> 9	
16) OCURRIDO EN		17) CERTIFICADO POR	
Establecimiento del Minist. de Salud <input type="checkbox"/> 1 Establecimiento del IESS <input type="checkbox"/> 2 Otro Establecimiento del Estado <input type="checkbox"/> 3 Hospital, Clínica o Consultorio Particular <input type="checkbox"/> 4 Casa <input type="checkbox"/> 5 Otro <input type="checkbox"/> 6 (Especifique)		MEDICO: Tratante <input type="checkbox"/> 1 No Tratante <input type="checkbox"/> 2 NO MEDICO: Autoridad Civil o de Policía <input type="checkbox"/> 3 Otro <input type="checkbox"/> 4 (Especifique)	
18) RESIDENCIA HABITUAL DEL FALLECIDO (Para menores de 1 año, residencia de la madre)		19) ZONA	
Provincia Cantón Ciudad Parroquia rural Localidad		Urbana <input type="checkbox"/> 1 Rural <input type="checkbox"/> 2 Periférica <input type="checkbox"/> 3	
USO DEL INEC		20) Residente <input type="checkbox"/> 1 No residente <input type="checkbox"/> 2	
21) ALFABETISMO E INSTRUCCION (Para personas de 6 años y más)		22) CARACTERÍSTICAS ECONÓMICAS (Para personas de 10 años y más)	
¿SABIA LEER Y ESCRIBIR? SI <input type="checkbox"/> 1 NO <input type="checkbox"/> 2 Nivel: Ninguno <input type="checkbox"/> 1, Centro de Alfabetización <input type="checkbox"/> 2, Primaria <input type="checkbox"/> 3, Secundaria <input type="checkbox"/> 4, Superior <input type="checkbox"/> 5, Ignorado <input type="checkbox"/> 9		¿TRABAJABA? ¿Cuál fue la profesión u oficio? ¿Cuál fue la ocupación? ¿A qué actividad se dedica o que produce el establecimiento, negocio o lugar en el que trabajaba? ¿QUE CATEGORIA DE OCUPACION TENIA EN EL TRABAJO? Patrono o socio activo <input type="checkbox"/> 1, Cuenta propia <input type="checkbox"/> 2, Empleado u obrero <input type="checkbox"/> 3, Sólo estudiante? <input type="checkbox"/> 1, Sólo quehaceres domésticos? <input type="checkbox"/> 2, Sólo jubilado? <input type="checkbox"/> 3, Trabajador familiar sin remuneración <input type="checkbox"/> 4, Otra <input type="checkbox"/> 5, Se ignora <input type="checkbox"/> 9, Sólo pensionista? <input type="checkbox"/> 4, Otro <input type="checkbox"/> 5, Se ignora <input type="checkbox"/> 9	

NOTA: ESTE DOCUMENTO Y SU TRAMITACION SON GRATUITOS

449

(B) CERTIFICADO MEDICO DE DEFUNCION
(Escriba con letras de imprenta)

23) CAUSAS DE DEFUNCION CERTIFICADAS POR MEDICO	<p><i>Enfermedad o estado patológico que produjo la muerte directamente</i></p> <p>CAUSAS ANTECEDENTES Causas antecedentes o estados morbosos, si existiera alguno, que produjeron la causa arriba consignada, mencionándose en último lugar la causa básica o fundamental.</p> <p>OTROS ESTADOS PATOLOGICOS SIGNIFICATIVOS Que contribuyeron a la muerte pero no relacionadas con la enfermedad o estado morbooso que le produjo.</p> <p><i>*No quiere decirse con esto, la manera o modo de morir. Ej.: debilidad cardiaca, asfexia, etc., significa propiamente la enfermedad, lesión o complicación que causó el fallecimiento.</i></p>	<p align="center">Tiempo aproximado entre el comienzo de la enfermedad y la muerte</p> <p>a) _____ debida a (o como consecuencia de)</p> <p>b) _____ debida a (o como consecuencia de)</p> <p>c) _____ causa básica</p>
	<p align="right">USO INEC</p>	
24) Datos del Médico que Certifica	<p>Nombres y apellidos Firma</p> <p>Dirección de la consulta o domiciliar: Ciudad Calle y No. Telf.</p> <p align="right">Colegio Médico No. o Registro del M.A.P.</p>	

25) Nombre del Establecimiento de Salud donde ocurrió la defunción:

Dirección: Ciudad Calle y No. Teléfono

26) EN CASO DE MUERTE VIOLENTA	<p align="center">TIPO</p> <p>Accidente <input type="checkbox"/> 1</p> <p>Suicidio <input type="checkbox"/> 2</p> <p>Homicidio <input type="checkbox"/> 3</p> <p>Indeterminado <input type="checkbox"/> 4</p>	<p align="center">INDIQUE LA CLASE DE ACCIDENTE Y LUGAR DONDE OCURRIÓ</p> <p>CLASE: _____ Ej: (caída, ahogamiento, envenenamiento, etc.)</p> <p>LUGAR: _____ Ej: (casa, calle, oficina, lugar de trabajo, etc.)</p>
	<p>En caso de accidente de tránsito especifique: _____ Ej: (choque, volcamiento, arrollamiento, etc.)</p>	
	<p>27) ¿SE REALIZÓ AUTOPSIA? SI <input type="checkbox"/> 1 NO <input type="checkbox"/> 2</p>	

(C) MUERTE SIN CERTIFICACION MEDICA

28) CAUSA PROBABLE DE LA MUERTE: _____

Síntomas _____

Informantes {

Nombres y apellidos _____	Firma _____	Dirección _____
Nombres y apellidos _____	Firma _____	Dirección _____

(D) DATOS DE LA PERSONA QUE SOLICITA LA INSCRIPCION DE LA DEFUNCION

29) NOMBRES Y APELLIDOS **EDAD (años cumplidos)** [] [] []

30) RELACION DE PARENTESCO CON EL FALLECIDO QUE INSCRIBE:

Cónyuge <input type="checkbox"/> 1	Padres o Suégras <input type="checkbox"/> 5
Hijo (a) <input type="checkbox"/> 2	Otros parientes <input type="checkbox"/> 6
Yerno o Nuera <input type="checkbox"/> 3	Otros no parientes <input type="checkbox"/>
Nieta (a) <input type="checkbox"/> 4	

OBSERVACIONES: _____

ANTES DE LLENAR ESTE INFORME, LEA LAS INSTRUCCIONES ESCRITAS AL REVERSO

2) PROVINCIA	USO INEC
CANTON	PARROQUIA
3) FECHA DE REGISTRO	Año 19 <input type="text"/> <input type="text"/> Mes <input type="text"/> <input type="text"/> Día <input type="text"/> <input type="text"/>
1) OFICINA DE REGISTRO CIVIL DE	4) No. <input type="text"/>

(A) DATOS DE LA DEFUNCION FETAL

5) SEXO	6) FECHA DE OCURRENCIA	7) OCURRIDO EN	8) ASISTIDO POR	9) TIPO DE EMBARAZO	10) LUGAR DE OCURRENCIA
Hombre <input type="checkbox"/> 1	Año 19 <input type="text"/> <input type="text"/>	Establecimiento del Minist. de Salud <input type="checkbox"/> 1 Establecimiento del IESS <input type="checkbox"/> 2 Otro Establecimiento del Estado <input type="checkbox"/> 3 Hospital, Clínica o Consultorio Particular <input type="checkbox"/> 4 Casa <input type="checkbox"/> 5 Otro (especifique) <input type="checkbox"/> 6	Médico <input type="checkbox"/> 1 Obstetriz <input type="checkbox"/> 2 Enfermera <input type="checkbox"/> 3 Auxiliar <input type="checkbox"/> 4 Comadrona <input type="checkbox"/> 5 Otro <input type="checkbox"/> 6	Simple <input type="checkbox"/> 1 Doble <input type="checkbox"/> 2 Triple <input type="checkbox"/> 3 Cuádruple o más <input type="checkbox"/> 4	Provincia <input type="text"/> Cantón <input type="text"/> Ciudad <input type="text"/> Parroquia rural <input type="text"/> Localidad <input type="text"/>
Mujer <input type="checkbox"/> 2	Mes <input type="text"/> <input type="text"/>				USO INEC <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
	Día <input type="text"/> <input type="text"/>				USO DEL INEC 11) ZONA Urbana <input type="checkbox"/> 1 Rural <input type="checkbox"/> 2 Periférica <input type="checkbox"/> 3
					12) PERIODO DE GESTACION EN SEMANAS <input type="text"/>
					13) CAUSA QUE OCASIONO LA DEFUNCION FETAL <input type="text"/>

(B) DATOS DE LA MADRE

14) NOMBRES Y APELLIDOS <input type="text"/>	20) ALFABETISMO E INSTRUCCION	21) RESIDENCIA HABITUAL DE LA MADRE
15) EDADE DE LA MADRE (años cumplidos a la fecha de ocurrido el hecho) <input type="text"/>	¿SABE LEER Y ESCRIBIR?	Provincia <input type="text"/>
16) ¿CUANTOS HIJOS VIVOS TIENE ACTUAL MENTE? <input type="text"/>	SI <input type="checkbox"/> 1 NO <input type="checkbox"/> 2	Cantón <input type="text"/>
17) ¿CUANTOS HIJOS QUE NACIERON VIVOS HAN MUERTO? (a la fecha de ocurrido el hecho) <input type="text"/>	Nivel	Ciudad <input type="text"/>
18) ¿CUANTOS HIJOS NACIERON MUERTOS? (incluyendo el que registra) <input type="text"/>	Ultimo grado o curso Aprobado	Parroquia rural <input type="text"/>
19) ¿RECIBIÓ ATENCION PROFESIONAL DURANTE ESTE EMBARAZO?		Localidad <input type="text"/>
SI <input type="checkbox"/> 1 No. de veces <input type="text"/>		USO INEC <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
NO <input type="checkbox"/> 2		USO DEL INEC
USO INEC <input type="checkbox"/> 9	Ninguno <input type="checkbox"/> 1 [0] Centro de Alfabetización <input type="checkbox"/> 2 [0] Primaria <input type="checkbox"/> 3 Secundaria <input type="checkbox"/> 4 Superior <input type="checkbox"/> 5 USO INEC <input type="checkbox"/> 9	22) ZONA Urbana <input type="checkbox"/> 1 Rural <input type="checkbox"/> 2 Periférica <input type="checkbox"/> 3 23) Residente <input type="checkbox"/> 1 No residente <input type="checkbox"/> 2

(C) DATOS DEL PROFESIONAL QUE ATENDIO LA DEFUNCION FETAL

24) MÉDICO <input type="checkbox"/> 1	OBSTETRIZ <input type="checkbox"/> 2	ENFERMERA <input type="checkbox"/> 3
Nombres y apellidos <input type="text"/>		
Firma <input type="text"/>		
Dirección de la consulta o domiciliaria: Ciudad <input type="text"/> Calle y No. <input type="text"/> Teléf. <input type="text"/>		

25) NOMBRE DEL ESTABLECIMIENTO DE SALUD DONDE OCURRIÓ LA DEFUNCION FETAL:

Dirección: Ciudad Calle y No. Teléf.

(D) DEFUNCION FETAL SIN ATENCION PROFESIONAL

26) AUXILIAR DE ENFERMERIA 1 COMADRONA 2 OTRA PERSONA 3 (especifique)

Nombres y apellidos

(E) PERSONA QUE SOLICITA EL REGISTRO DE LA DEFUNCION FETAL

27) Padres 1 Hermanos 2 Tíos o Abuelos 3 Otros parientes 4 Otros no parientes 5

OBSERVACIONES:

NOTA: ESTE DOCUMENTO Y SU TRAMITACION SON GRATUITOS

INFORME ESTADISTICO DE DIVORCIO

2) PROVINCIA	<input type="checkbox"/> SO	<input type="checkbox"/> NEC
CANTON	PARROQUIA	
3) FECHA DE INSCRIPCION. Año 19 <input type="text"/>	Mes <input type="text"/>	Día <input type="text"/>
4) No.		
5) FECHA DE SENTENCIA DEL DIVORCIO Año 19 <input type="text"/> Mes <input type="text"/> Día <input type="text"/>	6) FECHA DEL MATRIMONIO Año 19 <input type="text"/> Mes <input type="text"/> Día <input type="text"/>	7) DURACION DEL MATRIMONIO (años cumplidos) <input type="text"/>

ANTES DE LLENAR ESTE INFORME, LEA LAS INSTRUCCIONES ESCRITAS AL REVERSO

1) OFICINA DE REGISTRO CIVIL DE

NOTA: ESTE DOCUMENTO Y SU TRAMITACION SON GRATUITOS

(A) DATOS DEL DIVORCIADO

8) APELLIDOS	11) INSTRUCCION Ninguna <input type="checkbox"/> 1 Centro de Alfabetización <input type="checkbox"/> 2 Primaria <input type="checkbox"/> 3 Secundaria <input type="checkbox"/> 4 Superior <input type="checkbox"/> 5 USO INEC <input type="checkbox"/> 9	12) RESIDENCIA HABITUAL DEL DIVORCIADO
NOMBRES		Provincia
9) EDAD (años cumplidos a la fecha de la Sentencia) <input type="text"/>		Cantón
10) NUMERO DE HIJOS A CARGO DEL DIVORCIADO <input type="text"/>		Ciudad
		Parroquia rural:
		Localidad
		País
		USO INEC <input type="text"/>

(B) DATOS DE LA DIVORCIADA

13) APELLIDOS	16) INSTRUCCION Ninguna <input type="checkbox"/> 1 Centro de Alfabetización <input type="checkbox"/> 2 Primaria <input type="checkbox"/> 3 Secundaria <input type="checkbox"/> 4 Superior <input type="checkbox"/> 5 USO INEC <input type="checkbox"/> 9	17) RESIDENCIA HABITUAL DE LA DIVORCIADA
NOMBRES		Provincia
14) EDAD (años cumplidos a la fecha de la Sentencia) <input type="text"/>		Cantón
15) NUMERO DE HIJOS A CARGO DE LA DIVORCIADA <input type="text"/>		Ciudad
		Parroquia rural:
		Localidad
		País
		USO INEC <input type="text"/>

Philippines: samples as of January 1993

Certificate of live birth

Certificate of foundling

Certificate of death

Certificate of foetal death

Certificate of marriage

Application for marriage licence

For births before 3 August 1988/on or after 3 August 1988

AFFIDAVIT OF ACKNOWLEDGMENT/ADMISSION OF PATERNITY

We, _____ and _____
parents/parent of the child mentioned in this Certificate of Live Birth, do hereby solemnly swear that the information
contained herein are true and correct to the best of our/our knowledge and belief.

(Signature of Father)
Community Tax No. _____
Date Issued _____
Place Issued _____

(Signature of Mother)
Community Tax No. _____
Date Issued _____
Place Issued _____

SUBSCRIBED AND SWORN to before me this _____ day of _____
at _____, Philippines.

(Signature of Administering Officer)

(Name in Print)

(Title/Designation)

(Address)

Not applicable for births before 27 February 1931

AFFIDAVIT FOR DELAYED REGISTRATION OF BIRTH

(Either the person himself if 18 years old or over, or father/mother/guardian may accomplish this affidavit)

I, _____, of legal age, single/married and
with residence and postal address at _____
after having been duly sworn to in accordance with law, do hereby depose and say:

1. That I am the applicant for the delayed registration of my birth/of the birth of _____
2. That I/he/she was born on _____ at _____
3. That I/he/she was attended at birth by _____ who resides at _____
4. That I/he/she is a citizen of _____
5. That my/his/her parents were married on _____ at _____
* not married but was acknowledge by my/his/her father whose
name is _____
6. That the reason for the delay in registering my/his/her birth was due to _____
7. That a copy of my/his/her birth certificate is needed for the purpose of _____
8. (For the applicant only) That I am married to _____
 (For the father/mother/guardian) That I am the _____ of the said person.

(Signature of affiant)
Community Tax No. _____
Date Issued _____
Place Issued _____

SUBSCRIBED AND SWORN to before me this _____ day of _____
at _____, Philippines.

(Signature of Administering Officer)

(Name in Print)

(Title/Designation)

(Address)

Republic of the Philippines
CERTIFICATE OF FOUNDLING

Province _____ City/Municipality _____		Registry No. _____
C H I L D	1. NAME _____	2. SEX _____
	3. AGE WHEN FOUND _____	4. DATE AND TIME WHEN FOUND _____
	5. PLACE WHERE FOUND _____	
	6. COLOR OF THE EYES _____	7. COLOR OF THE HAIR _____
	8. DISTINCT BODY FEATURES OR MARKS _____	
	9. CONDITION OF THE CHILD WHEN FOUND _____	
F I N D E R	10. Name _____ Address _____ Telephone No. (if any) _____ Occupation _____	
	I N F O R M A N T	
11. Name _____ Address _____ Telephone No. (if any) _____ Date _____		
12. CERTIFICATION <i>This is to certify that the information given above are true and correct to my own knowledge and belief.</i> <p style="text-align: right;">_____ (Signature of informant) Community Tax No. _____ Date Issued _____ Place Issued _____</p> <p><i>SUBSCRIBED AND SWORN to before me this _____ day of _____, Philippines.</i> at _____</p> <p style="text-align: right;">_____ (Signature over printed name of Administering Officer).</p>		
C I V I L R E G I S T R A R	13. CERTIFICATION OF THE CIVIL REGISTRAR <i>This is to certify that the foundling herein named is reported to this Office for registration on _____ and properly recorded in the Register of Foundling.</i> <p style="text-align: right;">_____ (Signature over printed name of the Civil Registrar).</p>	

FOR AGES 0 TO 7 DAYS		
11. DATE OF BIRTH <small>day (month) (year)</small>	12. AGE OF THE MOTHER	13. METHOD OF DELIVERY 1 Normal spontaneous Vertex 2 Others (Specify)
14. LENGTH OF PREGNANCY: _____ completed weeks		
15. TYPE OF BIRTH 1 Single 2 Twin 3 Triplet, etc.	16. IF MULTIPLE BIRTH, CHILD WAS 1 First 2 Second 3 Others (Specify)	
MEDICAL CERTIFICATE		
17. CAUSES OF DEATH a. Main disease/condition of infant _____ b. Other diseases/conditions of infant _____ c. Main maternal disease/condition affecting infant _____ d. Other maternal disease/condition affecting infant _____ e. Other relevant circumstances _____		
CONTINUE TO FILL UP ITEM 18		

POSTMORTEM CERTIFICATE OF DEATH

I HEREBY CERTIFY that I have this _____ day of _____ performed an autopsy upon the body of the deceased and that the cause of death was as follows:

Signature _____	Title/Designation _____
Name in Print _____	Address _____

CERTIFICATION OF EMBALMER

I HEREBY CERTIFY that I have embalmed _____ after having followed all the regulations prescribed by the Department of Health.

Signature _____	Title/Designation _____
Name in Print _____	License No. _____
Address _____	Issued on _____ at _____
	Expiry Date _____

Republic of the Philippines)
Province of _____	) S.S.
City/Municipality of _____)

AFFIDAVIT FOR DELAYED REGISTRATION OF DEATH

I, _____ of legal age, single/married, after being duly sworn to in accordance with law, do hereby depose and say:

1. That _____ died on _____ in _____ and was buried/cremated in _____ on _____.
2. That the deceased was/was not attended to at the time of his death.
3. That the reason for the delay in registering this death was due to _____.

(Signature of affiant)

Community Tax No. _____
Date Issued _____
Place Issued _____

SUBSCRIBED AND SWORN to before me this _____ day of _____ at _____, Philippines.

_____ (Signature of Administering Officer)	_____ (Title/Designation)
_____ (Name in Print)	_____ (Address)

Republic of the Philippines
CERTIFICATE OF FETAL DEATH

(Fill out completely, accurately and legibly. Use ink or typewriter.
Place X before the appropriate answer in Items 2, 3a, 5b, 5c, 20, 22a, 23 and 25.)

Province _____ Registry No. _____
City/Municipality _____

LEGAL

STATISTICAL

1. NAME OF FETUS (First) _____ (Middle) _____ (Last) _____
(if given)

2. SEX
1 Male _____ 2 Female _____
3 Undetermined _____

3. DATE OF DELIVERY (day) _____ (month) _____ (year) _____

4. PLACE OF DELIVERY (Name of Hospital/Clinic/Institution/
House No., Street, Barangay) _____ (City/Municipality) _____ (Province) _____

5a. TYPE OF DELIVERY
1 Single _____ 2 Twin _____
3 Triplet, etc. _____

b. IF MULTIPLE DELIVERY, FETUS WAS
1 First _____ 2 Second _____
3 Others, Specify _____

c. METHOD OF DELIVERY
1 Normal spontaneous vertex _____
2 Others (Specify) _____

d. BIRTH ORDER (live births and fetal deaths including this delivery) (first, second, third, etc.) _____

e. WEIGHT OF FETUS _____ grams

TO BE FILLED UP AT THE OFFICE OF THE CIVIL REGISTRAR

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____ 11 _____

12 _____

13 _____

14 _____

15 _____

16 _____

17 _____

18 _____

19 _____

20 _____

21 _____

22 _____

23 _____ 24 _____ 25 _____

26 _____

27 _____

28 _____

29 _____

30 _____ 31 _____ 32 _____ 33 _____

34 _____

35 _____

36 _____

37 _____ 38 _____ 39 _____ 40 _____

41 _____

42 _____

43 _____

44 _____

45 _____

46 _____ 47 _____ 48 _____ 49 _____ 50 _____

51 _____

52 _____

53 _____

54 _____

55 _____

56 _____

57 _____

58 _____

59 _____

60 _____

61 _____

62 _____

63 _____

64 _____

65 _____

66 _____

67 _____

6. MAIDEN NAME (First) _____ (Middle) _____ (Last) _____

7. CITIZENSHIP _____ **8. RELIGION** _____ **9. OCCUPATION** _____

10. Age at the time of this delivery _____ years

11a. Total number of children born alive _____ **b. No. of children still living** _____ **c. No. of children born alive but are now dead** _____

12. RESIDENCE (House No./Street/Barangay) _____ (City/Municipality) _____ (Province) _____

13. NAME (First) _____ (Middle) _____ (Last) _____

14. CITIZENSHIP _____ **15. RELIGION** _____ **16. OCCUPATION** _____

17. Age at the time of this delivery _____ years

18. DATE AND PLACE OF MARRIAGE OF PARENTS (if applicable): _____

MEDICAL CERTIFICATE

19. CAUSES OF FETAL DEATH

a. Main disease/condition of fetus _____

b. Other diseases/conditions of fetus _____

c. Main maternal disease/condition affecting fetus _____

d. Other maternal disease/condition affecting fetus _____

e. Other relevant circumstances _____

20. FETUS DIED: 1 Before labor _____ 2 During labor/delivery _____ 3 Unknown _____

21. LENGTH OF PREGNANCY _____ completed weeks

22a. ATTENDANT 1 Physician _____ 2 Nurse _____ 3 Midwife _____ 4 Midot (Traditional Midwife) _____
5 Others (Specify) _____ 6 None _____

22b. CERTIFICATION
I hereby certify that the foregoing particulars are correct as near as I am able to ascertain and I further certify that the fetus was born dead at _____ on _____ at _____

Signature _____
Name in Print _____
Title or Position _____
Address _____
Date _____

REVIEWED BY:
Signature over printed name of Health Officer _____
Date _____

23. CORPSE DISPOSAL 1 Burial _____ 2 Cremation _____ 3 Others (Specify) _____

24. BURIAL/CREMATION PERMIT Number _____ Date issued _____

25. AUTOPSY 1 Yes _____ 2 No _____

26. NAME AND ADDRESS OF CEMETERY OR CREMATORY _____

27. INFORMANT
Signature _____ Address _____
Name in Print _____
Relationship to the fetus _____ Date _____

28. PREPARED BY
Signature _____
Name in Print _____
Title or Position _____
Date _____

29. RECEIVED AT THE OFFICE OF THE CIVIL REGISTRAR
Signature _____
Name in Print _____
Title or Position _____
Date _____

FETAL DEATH is death prior to the expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy; the death is indicated by the fact that after such separation, the fetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

POSTMORTEM CERTIFICATE OF DEATH

I HEREBY CERTIFY that I have performed an autopsy upon the body of the deceased this _____ day of _____, _____ and that the cause of death was as follows:

Signature

Title: Designation

Name in Print

Address

Republic of the Philippines
CERTIFICATE OF MARRIAGE

Province _____
 City/Municipality _____

Registry No. _____

Name of Contracting Parties	(HUSBAND)			(WIFE)				
	First	Middle Initial	Last	First	Middle Initial	Last		
Date of Birth/Age	Day	Month	Year	Age	Day	Month	Year	Age
Place of Birth								
Sex (Male or Female)								
Citizenship								
Residence								
Religion								
Civil Status								
Name of Father	First	Middle Initial	Last	First	Middle Initial	Last		
Citizenship								
Name of Mother	First	Middle Initial	Last	First	Middle Initial	Last		
Citizenship								
Persons who gave consent or advice	First	Middle Initial	Last	First	Middle Initial	Last		
Relationship								
Residence								

FOR OCRG USE ONLY:
 Population Reference No.
 (Husband)

(Wife)

TO BE FILLED UP AT THE
 OFFICE OF CIVIL REGISTRAR

80

--	--	--	--	--	--	--	--

87

88

--	--

90

--	--

92

--

93

--

94

--	--	--	--	--	--	--	--

99

--	--	--	--	--	--	--	--

104

--

105

--

106

--

107

--

108

--	--	--	--	--	--	--	--

113

--	--	--	--	--	--	--	--

119

--

RECEIVED AT THE OFFICE
 OF THE CIVIL REGISTRAR

Signature

Name in Print

Title or Position

Date Received

Place of Marriage

(Office of the House of Barangay or Church or Mosque of)

(Address)

Date:

(day) (month) (year)

Time:

THIS IS TO CERTIFY: That I

and I, both of legal age, of our own free will and accord, and in the presence of the persons solemnizing this marriage and of the witnesses named below, take each other as husband and wife and certifying further that we

- have not entered into a marriage settlement.
- have entered into a marriage settlement, a copy of which is hereto attached.

IN WITNESS WHEREOF, we signed marked with our finger prints, this certificate in quadruplicate this

day of

(Signature of Husband)

(Signature of Wife)

THIS IS TO CERTIFY: THAT BEFORE ME, on the date and place above written, personally appeared the above-mentioned parties, with their mutual consent, lawfully joined together in marriage which was solemnized by me in the presence of the witnesses named below, all of legal age.

I CERTIFY FURTHER THAT

- Marriage license No. _____ issued on _____ at _____ in favor of said parties, was exhibited to me.
- no marriage license was necessary, a marriage being solemnized under Art. _____ of Executive Order No. 209.
- the marriage was solemnized in accordance with the provisions of Presidential Decree No. 1093.

(Signature of Solemnizing Officer)

(Printed Name)

(Religious Affiliation, Registry No. and Expiration Date, if applicable)

WITNESSES

(Print Name and Sign)

OATH OF SOLEMNIZING OFFICER.

I, _____, solemnizing officer, do solemnly swear:

- That I have ascertained the qualifications of the contracting parties and have found no legal impediment for them to marry as required by Art. 34 of the Family Code;
- That this marriage was performed in articulo mortis;
- That the residence of one or both of the contracting parties: barangay/barrto/sitio _____ (and) _____ is so located that there is no means of transportation to enable the concerned party/parties to appear personally before the Local Civil Registrar;
- That the marriage was among Muslims or among members of the ethnic cultural communities, provided the marriage was solemnized in accordance with their customs or practices;

And that I took the necessary steps to ascertain the ages and relationships of the contracting parties and that neither of them are under any legal impediment to marry each other.

.....
Signature of Solemnizing Officer

SUBSCRIBED AND SWORN to before me this _____ day of _____
who exhibited to me his Community Tax No. _____ issued on _____
at _____

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

Signature over Printed Name of Administering Officer whose
Commission Expires on _____

NOTE - In case of a marriage on the point of death, when the dying party, being physically unable, cannot sign the Instrument by signature or mark, it shall be sufficient for one of the witnesses to the marriage to sign in his name, which in fact shall be attested by the person solemnizing the marriage as follows:

I HEREBY CERTIFY that the contracting party.....
being on the point of death and physically unable to sign the foregoing marriage contract by signature or mark, one of the witnesses to the marriage signed for him or her by writing the dying party's name and beneath it, the witness' own signature preceded by the preposition 'By'.

.....
Signature and Printed Name of Solemnizing Officer

APPLICATION FOR MARRIAGE LICENSE

The Civil Registrar City/Municipality of _____ Province of _____				The Civil Registrar City/Municipality of _____ Province of _____			
Sir/Madam: <i>May I apply for a license to contract marriage with _____ and to this effect, being duly sworn, I hereby depose and say that I have all the necessary qualifications and none of the legal disqualifications to contract the said marriage, and that the following data are true and correct to the best of my knowledge and information:</i>				Sir/Madam: <i>May I apply for a license to contract marriage with _____ and to this effect, being duly sworn, I hereby depose and say that I have all the necessary qualifications and none of the legal disqualifications to contract the said marriage, and that the following data are true and correct to the best of my knowledge and information:</i>			
First Middle Last _____ _____ _____	Name of Applicant		First Middle Last _____ _____ _____	Name of Applicant			
Day Month Year Age _____ _____ _____ _____	Date of Birth/Age		Day Month Year Age _____ _____ _____ _____	Date of Birth/Age			
City/Municipality Province _____ _____		Place of Birth		City/Municipality Province _____ _____			
Sex (Male or Female)							
Citizenship							
Residence							
Religion							
Civil Status							
IF PREVIOUSLY MARRIED: How was it dissolved?							
City/Municipality Province _____ _____		Place where dissolved		City/Municipality Province _____ _____			
Day Month Year _____ _____ _____		Date when dissolved		Day Month Year _____ _____ _____			
Degree of Relationship of contracting parties							
First Middle Last _____ _____ _____		Name of Father		First Middle Last _____ _____ _____			
Citizenship							
Residence							
First Middle Last _____ _____ _____		Name of Mother		First Middle Last _____ _____ _____			
Citizenship							
Residence							
First Middle Last _____ _____ _____		Persons who gave consent or advice		First Middle Last _____ _____ _____			
Relationship							
Citizenship							
Residence							
_____ (Signature of applicant)			_____ (Signature of applicant)				
SUBSCRIBED AND SWORN to before me this day of _____ at _____, Philippines.			SUBSCRIBED AND SWORN to before me this day of _____ at _____, Philippines.				
_____ (Signature - see printed name of the Civil Registrar)			_____ (Signature - see printed name of the Civil Registrar)				

Singapore: samples as of December 1993

Report form for registration of birth

Report form for registration of death

Report form for registration of stillbirth

South Africa: samples as of December 1994

Notice of birth

Late registration of birth

Death register

Medical certificate in respect of death/stillbirth

Burial order

Marriage register

Statistics of divorces



REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS

NOTICE OF BIRTH

BEFORE COMPLETING THE NOTIFICATION PLEASE READ THE INFORMATION OVERLEAF AND FURNISH AN ADDRESS AND TELEPHONE NUMBER

CHILD

Surname

Forenames in full

Date of birth 1 9 Place of birth: City/town

Magisterial district Country

Was the child born in a maternity home or hospital? (State Yes/No) Sex

Are the parents of the child lawfully married to each other (State Yes/No) Are the parents married according to customary union* (State Yes/No)

FATHER OF CHILD

Identity number Date of birth 1 9

Surname

Forenames in full

Place of birth

Citizenship Permanent residence permit No.

MOTHER OF CHILD

Identity number Date of birth 1 9

Present surname

Maiden name

Forenames in full

Place of birth

Citizenship Permanent residence permit No.

I, (Forenames in full and Surname)

declare that the information above is correct.

Signature Relationship to child

1 9

ACKNOWLEDGEMENT OF PATERNITY I.R.O. AN ILLEGITIMATE CHILD

I hereby declare that I am the natural father of the above child.

Signature Initials and Surname

Mother's permission to the acknowledgement of paternity

Signature 1 9

Space for bar code

Taal	Stat	Geb
A	E	I
U	M	E

Left thumb-print of the person whose notification is given.

Office stamp

Notice approved by

Signature

Date 19 / /

LATE REGISTRATION OF BIRTH

AFFIDAVIT

I
Identify No.
hereby make oath and say:

(i) That I am the (relationship)
of (applicant)
who was born on the day of 19.....
at
His/her parents are (father)
and (mother)

(ii) That I remember the event well because

(iii) That the particulars submitted above are to the best of my knowledge true and correct.

.....
Date

.....
Signature of deponent

1. I certify that before administering the oath/affirmation I asked the deponent the following questions and wrote down his/her answers in his/her presence:

(1) Do you know and understand the contents of this declaration?

Answer:

(2) Do you have any objection to taking the prescribed oath?

Answer:

(3) Do you consider the prescribed oath to be binding on your conscience?

Answer:

2. I certify that the deponent has acknowledged that he/she knows and understands the contents of this declaration which was sworn to/affirmed before me and the deponent's signature/thumb print was placed thereon in my presence.

.....
Justice of the Peace/Commissioner of Oaths

Designation (Rank) Ex Officio Republic of South Africa

Forenames and surname

Address

Date Place

REPUBLIC OF SOUTH AFRICA · REPUBLIEK VAN SUID-AFRIKA

B921018

DEATH REGISTER · STERFTEREGISTER

Act 81 of 1963 · Wet 81 van 1963

Warning.—The penalty for false information willfully given is the same as that for perjury.
 Waarskuwing.—Die straf vir die opsetlike verstrek van vals inligting is dieselfde as vir meened.

No information regarding items 1, 2, 4, 6, 9, 10, 11, 12, 13, 14 and 19 should be furnished in the case of a stillbirth.
 In die geval van 'n doodgeboorte moet geen inligting ten opsigte van items 1, 2, 4, 6, 9, 10, 11, 12, 13, 14 en 19 verstrek word nie.

**A. PARTICULARS OF "DECEASED"/STILLBORN CHILD
 BESONDERHEDE VAN "DORLEDENE/DOODGEBORE KIND**

1. ID. No.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2. Date of birth Geboortedatum	Day Dag	Month Maand	Year Jaar
3. Surname Van	.....						
4. Maiden name (if married, divorced or widow) Noolensvan (indien getroud, geskeel of weduwee)	.....						
5. Forenames in full Volle voornam	.....						
6. Country of birth Land van geboorte	.....				7. Sex Geslag	.....	
8. Population group Bevolkingsgroep	.....				9. Marital status Huwelikstatus	.....	
10. Occupation Beroep	.....				11. Home language Huistaal	.....	
12. Type of pension (if any) Tipe van pensioen (indien enige)	.....						
13. Last residential address Laaste woonadres	.....						
14. If the deceased was not a South African citizen and had been in the Republic only temporarily, state: indien die ooreledene nie 'n Suid-Afrikaanse burger was nie en net tydelik in die Republiek was, meld:	.....						
(a) Number of temporary residence permit or passport Nommer van tydelike verblyfpermit of paspoort	.....						
(b) Temporary residence permit or passport issued at Tydelike verblyfpermit of paspoort uitgereik te	.....						

**B. PARTICULARS OF DEATH
 BESONDERHEDE VAN DOOD**

15. Date of death/stillbirth: Datum van "afsterwe/doodgeboorte	Day Dag	Month Maand	Year Jaar
16. Place of death/stillbirth (state name of town/city) Plek van "afsterwe/doodgeboorte (meld naam van dorp/stad)	.....	
17. Did the person die in a hospital or nursing home? (Answer Yes or No) Is die persoon in 'n hospitaal of verpleeginrigting oorlede? (Antwoord Ja of Nee)	.....	
18. Causes of death (if stillbirth, state "Stillbirth") Oorsaak van dood (in geval van doodgeboorte, meld "Doodgeboorte")	.....	
19. Duration of disease or of last illness Duur van kwaal of laaste siekte	.....	
20. Name of "medical practitioner/midwife" Naam van "mediese praktisyn/vroedvrou	.....	
21. Intended place of burial Voorgenome begraafplek	.....	

**C. PARTICULARS OF INFORMANT
 BESONDERHEDE VAN AANGEWER**

22. Initials and surname Voorletters en van	23. Capacity Hoedanigheid
24. Address Adres	.....
25. Date Datum	26. Signature/Thumbprint Handtekening/Duimafdruk

**D. DECLARATION BY "REGISTRAR/ASSISTANT REGISTRAR OF DEATHS
 VERKLARING DEUR "REGISTRATEUR/ASSISTENT-REGISTRATEUR VAN STERFGEVALLE**

27. This "death/stillbirth" was registered by me on this Hierdie "sterfgeval/doodgeboorte" is deur my geregistreer op hede die	day of dag van	19
28. Signature Handtekening	29. Initials and surname Voorletters en van	
30. "Force No./Designation No." "Mags No./Benoemings No."	("Police officer/designated assistant registrar") ("Polisiebeampte/benoemde assistent-registrateur")	
31. Name and address of undertaker Naam en adres van begrafsionderemmer	32. Office stamp (official registrar/assistant registrar) Kantoorstempel (amptelike registrateur/assistent-registrateur)	

* Delete whichever is not applicable.
 Skrap wat nie van toepassing is nie.

**MEDIESE SERTIFIKAAT TEN OPSIGTE VAN DOOD/DOODGEBOORTE
 MEDICAL CERTIFICATE IN RESPECT OF DEATH/STILL-BIRTH**

MOET IN SWART INK INGEVUL WORD • MUST BE COMPLETED IN BLACK INK

LW: Net vir gebruik deur 'n geneesheer.

NB: Only for use by a medical practitioner.

OPMERKINGS: Ingeval van dood weens natuurlike oorsake, vul Blok B in. Ingeval van dood weens onnatuurlike oorsake, vul Blok C in. Ingeval van doodgeboorte, kyk voetnota.

REMARKS: Where death occurred due to natural causes, complete Block B. Where death occurred due to unnatural causes complete Block C. In case of still-birth, see footnote.

A. OORLEDENE/DOODGEBORE KIND • DECEASED/STILL-BORN CHILD			
*Identifisnommer Identity number	<input type="text"/>	Geslag Sex	<input type="text"/>
Van Surname	<input type="text"/>		
*Volle voorname Forenames in full	<input type="text"/>		
Geboortedatum Date of birth	<input type="text"/>	Geskatte ouderdom, indien geboortedatum onbekend Estimated age, if date of birth is unknown	<input type="text"/> Jaar Years
Datum van afsterwe/doodgeboorte Date of death/still-birth	<input type="text"/>		
Plek van afsterwe Place of death	<input type="text"/>		
B. OORSAAK VAN DOOD • CAUSE OF DEATH			
Finale siekte of toestand wat tot dood gelei het Final disease or condition resulting in death	<input type="text"/>		
Bydraende oorsaak, indien enige, wat tot dood gelei het Contributory cause, if any, resulting in death	<input type="text"/>		
Onderliggende oorsaak (siekte/besering wat gebeurde gebeurde gelei het wat tot dood gelei het) Underlying cause (disease/injury that initiated events resulting in death)	<input type="text"/>		
	Duur van siekte Duration of illness	<input type="text"/>	
Ek sertifiseer hiermee dat die besonderhede hierbo verstrek na my beste wete en oortuiging waar en juis is en dat die sterfte/doodgeboorte uitsluitlik die gevolg was van natuurlike oorsake soos hierbo aangedui. I hereby certify that to the best of my knowledge and belief the particulars given above are true and correct and that the death/still-birth was due solely and exclusively to natural causes as mentioned above.			
Handtekening van geneesheer • Signature of medical practitioner		Datum • Date	
C. SERTIFISERING INGEVAL VAN DOOD WEENS ONNATUURLIKE OORSAKE • CERTIFICATION WHERE DEATH OCCURRED DUE TO UNNATURAL CAUSES			
Ek sertifiseer hiermee dat die persoon wie se besonderhede hierbo verstrek is, weens onnatuurlike oorsake gesterf het en dat die lyk nie langer vir die doeleindes van artikel 3 van Wet 58 van 1959 nodig is nie. I hereby certify that the person whose particulars are given above, has died due to unnatural causes and that the corpse is no longer required for the purpose of section 3 of Act 58 of 1959.			
Handtekening van geneesheer • Signature of medical practitioner		Datum • Date	
D. BESONDERHEDE VAN GENEESHEER • PARTICULARS OF MEDICAL PRACTITIONER			
Voorletters en van Initials and surname	<input type="text"/>		
Geregistreerde kwalifikasies Registered qualifications	<input type="text"/>		
Adres Address	<input type="text"/>		

Die van toepassing ten opsigte van "Doodgeboorte" nie
 Not applicable in case of "Still-birth"
 Ingeval van doodgeboorte, meld "Doodgeboorte" en meld maats by geboorte, indien bekend.
 In case of still-birth, state "Still-birth" and state mass at birth, if known.

Case No.



REPUBLIC OF SOUTH AFRICA
CENTRAL STATISTICAL SERVICES

STATISTICS OF DIVORCES

EXPLANATORY NOTES:

Sections 1--8 to be completed by plaintiff and thereafter the form must be handed to the registrar.
Regarding Section 1.1, the name and address of only the plaintiff must be furnished.
Regarding Sections 1.2--4, the information must be furnished for BOTH the husband and wife.

	Husband	Wife
1. IDENTITY		
1.1 Name and address of plaintiff	...............	...............
1.2 Population group*	<input type="checkbox"/> 1 White <input type="checkbox"/> 2 Coloured <input type="checkbox"/> 3 Asian <input type="checkbox"/> 4 Black	<input type="checkbox"/> 1 White <input type="checkbox"/> 2 Coloured <input type="checkbox"/> 3 Asian <input type="checkbox"/> 4 Black
1.3 Occupation at time of divorce	.....	.....
1.4 Plaintiff*	<input type="checkbox"/> 1 Husband	<input type="checkbox"/> 2 Wife
2. Marital status at time of marriage*	<input type="checkbox"/> 1 Bachelor <input type="checkbox"/> 2 Widower <input type="checkbox"/> 3 Divorcee	<input type="checkbox"/> 1 Spinster <input type="checkbox"/> 2 Widow <input type="checkbox"/> 3 Divorcee
3. Number of times married	<input type="text"/>	<input type="text"/>
4. Age in completed years at time of divorce	<input type="text"/>	<input type="text"/>
5. Present marriage solemnized*	<input type="checkbox"/> 1 In Church	<input type="checkbox"/> 2 In Magistrate's office
6. Type of contract*	<input type="checkbox"/> 1 With antenuptial contract	<input type="checkbox"/> 2 Without antenuptial contract
7. Number of minor children involved	<input type="text"/>	
8. Date of marriage	Month.....	19..... Year
N.B. Sections 9 -- 10 to be completed by registrar		
9. Date of divorce	Month.....	19..... Year
10. Supreme Court	.....

* Mark applicable block with a cross

Registrar

Thailand: samples as of December 1994

Birth certificate

Death certificate



0 1

Form 4 part 1

Death Certificate

Registration office of...

No...../.....

1	1.1 Name Surname	1.2 Population identification Number	1.3 Sex M <input type="radio"/> F <input type="radio"/>	1.4 Age Yr.
2	1.5 Nationality Occupa- <input type="radio"/> Thai	1.7 Marital status Single Mr Di Is Wi <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	1.8 Place of residence	
The event	2.1 Date: Mo Yr Time.....	2.2 Examiner <input type="radio"/> Midwife <input type="radio"/> Other	2.3 Death Certi- fication <input type="radio"/> Had <input type="radio"/> None	2.4 Cause
Place	3.1 Place of death		2.3 Lenth of staying Yr Mo day	
4	4.1 Father's name Surname	4.2 Population identification no.		
Mother	4.3 Mother's name Surname	4.4 Population identification no.		
5	5.1 Name Surname	5.2 Population identification no.		
Informant	5.3 Relationship <input type="radio"/> Father <input type="radio"/> Mother <input type="radio"/> Household <input type="radio"/> Relative <input type="radio"/> Examiner <input type="radio"/> Other		5.4 Place of residence	
6	6.1 Type of disposition <input type="radio"/> Saved <input type="radio"/> Buried <input type="radio"/> Cremated <input type="radio"/> Other	6.2 Place Commune District Province		
7	Date of notification Mo Yr	8. Notification form <input type="radio"/> Had <input type="radio"/> None		
9	The registrar's signature () The registrar of.....	Informant's signature ()		
11	Change of disposition	12 Signature of the registrar of change		
		..... ( ) The registrar of		

United States of America (State of Colorado): samples as of 1997

Certificate of live birth

Certificate of foetal death

Delayed certificate of birth

Instructions and application for correction of birth certificate

Report of paternity determination

Statement of paternity

Report of adoption

Application for marriage licence

Report of marriage dissolution, declaration of invalidity and legal separation

Certificate of death

Authority for final disposition

STATE OF COLORADO
CERTIFICATE OF LIVE BIRTH 105

1 CHILD NAME (First, Middle, Last)		STATE FILE NUMBER	
2 DATE AND HOUR OF BIRTH (Month, Day, Year)		3 SEX	
4 CITY, TOWN, OR LOCATION OF BIRTH		5 COUNTY OF BIRTH	
6 PLACE OF BIRTH: <input type="checkbox"/> Hospital <input type="checkbox"/> Free-standing Birthing Center <input type="checkbox"/> Clinic/Doctor's Office <input type="checkbox"/> Other (Specify) _____		7 FACILITY NAME (Street and Number or Rural Route Number, City or Town, State, ZIP Code)	
8 I certify that this child was born alive at the place and time and on the date stated.		9 DATE SIGNED (Month, Day, Year)	
10 ATTENDANT'S NAME AND TITLE (If other than Certified Nurse-Midwife) Name _____ <input type="checkbox"/> M.D. <input type="checkbox"/> R.N. <input type="checkbox"/> C.N.M. <input type="checkbox"/> REGISTERED MIDWIFE <input type="checkbox"/> Other (Specify) _____		11 CERTIFIER'S NAME AND TITLE (Type/Print) Name _____ <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. <input type="checkbox"/> Hospital Admin. <input type="checkbox"/> C.N.M. <input type="checkbox"/> REGISTERED MIDWIFE <input type="checkbox"/> Other (Specify) _____	
12 ATTENDANT'S MAILING ADDRESS (Street and Number or Rural Route Number, City or Town, State, ZIP Code)		13 REGISTRAR'S SIGNATURE	
14 DATE FILED BY REGISTRAR (Month, Day, Year)		15 MOTHER NAME (First, Middle, Last (Maiden))	
16 DATE OF BIRTH (Month, Day, Year)		17 BIRTHPLACE (State or Foreign Country)	
18a. RESIDENCE-STATE		18b. COUNTY	
18c. CITY, TOWN OR LOCATION		18d. ZIP	
19a. STREET AND NUMBER		19b. INSIDE CITY LIMITS? Yes <input type="checkbox"/> No <input type="checkbox"/>	
19c. MOTHER'S MAILING ADDRESS (If different than residence)		19d. ZIP	
20 FATHER NAME (First, Middle, Last)		21 DATE OF BIRTH (Month, Day, Year)	
22 BIRTHPLACE (State or Foreign Country)		23 I certify that the personal information provided on this certificate is correct to the best of my knowledge and belief. Signature of Parent or Other Informant _____	
24 RELATION TO CHILD		INFORMATION FOR MEDICAL AND HEALTH USE ONLY	
25 RACE (American Indian, Black, White, etc.) (Specify)		26 HISPANIC ORIGIN? (If yes, specify Cuban, Mexican, Puerto Rican, etc.) NO YES	
27 EDUCATION (Specify only highest grade completed: Elementary or secondary 8 through 12; College 13 through 16 or 17)		28 SOCIAL SECURITY NUMBER	
29 RACE (American Indian, Black, White, etc.) (Specify)		30 HISPANIC ORIGIN? (If yes, specify Cuban, Mexican, Puerto Rican, etc.) NO YES	
31 EDUCATION (Specify only highest grade completed: Elementary or secondary 8 through 12; College 13 through 16 or 17)		32 SOCIAL SECURITY NUMBER	
33 PREGNANCY HISTORY (Complete each section)		34 MOTHER MARRIED? (At birth, conception or any time between 1, 2, or 3)	
35 DATE LAST NORMAL MENSES BEGAN (Month, Day, Year)		36 MONTH OF PREGNANCY PRENATAL CARE BEGAN (First, Second, Third, etc.) (Specify)	
37 PRENATAL VISITS (Total number, if none so state)		38 BIRTH WEIGHT (Specify unit)	
39 CLINICAL ESTIMATE OF GESTATION (Weeks, Days)		40a PLURALITY (Single, Twin, Triplet, etc.) (Specify)	
40b IF NOT SINGLE BIRTH (Born first, second, third, etc.) (Specify)		41a APGAR SCORE 41a 1 Minute 41b 5 Minutes	
42 PRENATAL BLOOD TEST Check screenings that apply: <input type="checkbox"/> Syphilis <input type="checkbox"/> HIV <input type="checkbox"/> Hepatitis B		43a MOTHER TRANSFERRED PRIOR TO DELIVERY? (If yes, enter name of facility transferred to) No Yes	
43b INFANT TRANSFERRED? (If yes, enter name of facility transferred to) No Yes		44a MEDICAL RISK FACTORS FOR THIS PREGNANCY (Check all that apply)	
44b OTHER RISK FACTORS FOR THIS PREGNANCY (Complete all items)		45 OBSTETRIC PROCEDURES (Check all that apply)	
46 COMPLICATIONS OF LABOR AND/OR DELIVERY (Check all that apply)		46a CONGENITAL ANOMALIES OF CHILD (Check all that apply)	
47 METHOD OF DELIVERY (Check all that apply)		47a ABNORMAL CONDITIONS OF THE NEWBORN (Check all that apply)	
48 PARENTS' REQUESTS: SOCIAL SECURITY NUMBER BE ISSUED FOR CHILD <input type="checkbox"/> Yes <input type="checkbox"/> No			

1. _____
 2. _____
 3. _____
 4. _____
 5. _____

COLORADO
DEPARTMENT OF
HEALTH

AD RS 18a
Rev. 1-60

STATE OF COLORADO DELAYED CERTIFICATE OF BIRTH

THIS IS A
PERMANENT
RECORD.
USE BLACK INK
OR TYPEWRITER
WITH BLACK
RIBBON.

USE THIS FORM
IN REGISTERING
BIRTHS OCCURRING
IN COLORADO
MORE THAN 6
YEARS AGO

REGISTRANT'S 1. NAME AT BIRTH			2. DATE OF BIRTH		
FIRST	MIDDLE	LAST	MONTH	DAY	YEAR
3. PLACE OF BIRTH			4. COLOR OR RACE		5. SEX
COUNTY			CITY OR TOWN		
6. FATHER: FULL NAME			7. BIRTHPLACE		
STATE			STATE OR COUNTRY		
8. MOTHER: MAIDEN NAME			9. BIRTHPLACE		
STATE			STATE OR COUNTRY		
I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS CORRECT TO THE BEST OF MY KNOWLEDGE					
10. SIGNATURE OF APPLICANT			RELATION TO REGISTRANT		
APPLICANT'S ADDRESS					
SUBSCRIBED AND SWORN TO BEFORE ME ON _____ 19 _____					
(REAL)		MY COMMISSION EXPIRES _____		NOTARY PUBLIC OR REGISTRAR	
APPLICANT - DO NOT WRITE BELOW THIS LINE - FOR USE OF REGISTRAR					
ABSTRACT OF SUPPORTING EVIDENCE					
NAME AND KIND OF DOCUMENT					DATE OF ORIGINAL DOCUMENT
1					
2					
3					
4					
5					
INFORMATION CONCERNING REGISTRANT AS STATED IN DOCUMENT OF CORRESPONDING NUMBER ABOVE					
	BIRTH DATE OR AGE	BIRTHPLACE	NAME OF FATHER	NAME OF MOTHER	
1					
2					
3					
4					
5					
I HEREBY CERTIFY THAT NO PRIOR CERTIFICATE OF BIRTH FOR THIS REGISTRANT HAS BEEN FOUND IN THE STATE REGISTRAR'S OFFICE AND THAT THE DOCUMENTARY EVIDENCE ABSTRACTED ABOVE HAS BEEN EXAMINED AND ACCEPTED AS PROOF OF THE FACTS OF BIRTH SET FORTH ABOVE.					
REGISTRAR | DATE FILED					

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
INSTRUCTIONS AND APPLICATION FOR CORRECTION OF BIRTH CERTIFICATE**

To correct an error on a birth certificate, complete this APPLICATION and return it to the address below with at least one item of DOCUMENTARY EVIDENCE which shows the correct information. NOTE: In cases involving correction of a name of the child or his parents, or the date of birth, additional proof may be required. Usually, both parents need to sign the correction form if the registrant is less than 18 years of age.

DOCUMENTS which usually are best for showing CORRECT birth information are hospital records, certified baptismal certificates or other church records, school census or transcript records, insurance policy (application page), military record (DD 214), certified birth record of a son or daughter (state-or county-issued), certified birth record of parent (state-or county-issued), and certified copy of marriage record or marriage license application. All the correct birth facts (name, date, place of birth, parents' name) must be on the document submitted. The documents will be returned. AFFIDAVITS ARE NOT ACCEPTABLE. NOTE: IF THE INDIVIDUAL NAMED IN THE CERTIFICATE IS 18 YEARS OF AGE OR OLDER, THE APPLICATION MUST BE SIGNED BY THAT PERSON OR HIS LEGAL REPRESENTATIVE. One or more items of documentary evidence which support the alleged facts and which have EXISTED FOR AT LEAST FIVE YEARS PRIOR TO THE DATE OF APPLICATION FOR AMENDMENT or were created within seven years of change will appear on all certified copies issued hereafter. A birth certificate may be corrected in this way only once. Thereafter, a court order may be required. SEE OTHER SIDE FOR ADDITIONAL INFORMATION.

Name of Registrant _____
as shown on Birth Certificate _____

Birth Date _____ Place of Birth _____

Mother's Maiden Name _____ Father's Name _____

<u>Information as it appears on the Certificate</u>	<u>CORRECT INFORMATION</u>
_____	_____
_____	_____
_____	_____

The information above is true to the best of my knowledge, and I (we) request the certificate be changed accordingly.

Signature of Applicant	Relationship to Registrant	Signature of Applicant	Relationship to Registrant
------------------------	----------------------------	------------------------	----------------------------

Address	City	State	Zip	Your daytime telephone number
---------	------	-------	-----	-------------------------------

Subscribed and sworn to before me on this _____ day of _____, 19____

in _____ County of Occurrence	_____ Notary Public	_____ My Commission Expires
----------------------------------	------------------------	--------------------------------

There is a \$20.00 charge for processing the correction. If a new copy of the corrected certificate is desired, the fee is \$15.00. Each additional copy of the same record ordered at the same time is \$6.00 per copy. Please enclose \$35.00. We will exchange a previously ordered certified copy within 30 days of issue.

Return this notarized form, DOCUMENTS, Fees, and a long self-addressed envelope to:

Correction Coordinator
Vital Records Section - HSVRD-VR-A1
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530
(303) 692-2226

TYPES OF DOCUMENTARY EVIDENCE NEEDED TO CORRECT RECORDS

ALL DOCUMENTS MUST HAVE BEEN CREATED 5 YEARS PRIOR TO CORRECTION REQUEST. THE DOCUMENT MUST SHOW THE NAME EXACTLY AS YOU WISH IT TO APPEAR ON THE RECORD ALONG WITH BIRTH DATE OR AGE. THE REGISTRANT IS THE PERSON NAMED ON THE RECORD.

Type of Correction
First and middle names
of registrant:

Document Needed to Change Record

Registrant's certified infant baptismal certificate.

Registrant's school census or transcript. For Denver School Census records call (303) 764-3200.

Registrant's insurance policy application page.

Certified copy of registrant's son or daughter's birth record (state or county issued).

A computer printout of SSS information from the Social Security Administration office.

Registrant's Military Record-DD214. The military record will sometimes show parents' names on the national life policy which is mandatory for each service person.

Registrant's parents' naturalization certificates.

Registrant's medical or hospital records.

Who needs to sign the
correction form?

If the registrant is less than a year old both parents must sign the correction request. No documentary evidence is required.

If the registrant is 1 year or older a parent needs to present documentary evidence or a certified copy of a legal name change. Only one parent's signature on the correction form is required.

*Spelling of Registrant's
Surname:

Registrant's certified infant baptismal certificate.

Registrant's parents' naturalization certificates.

Registrant's school census or transcript. For Denver School Census records call (303) 764-3200.

Registrant's medical or hospital records.

Registrant's father's birth certificate (state or county issued) or father's infant baptismal record.

Registrant's mother's birth certificate (if registrant carries mother's maiden name).

Registrant's parents' death certificate (if registrant is listed as the informant).

Who needs to sign
correction forms?

If the registrant is less than 1 year old and documentary evidence is presented only one parent needs to sign the correction form.

If registrant is 1 year or older and documentary evidence or a certified copy of a legal name change is presented only one parent needs to sign the correction form.

*If you wish to change the surname completely, for example, from Jones to Smith, you need to obtain a certified copy of a legal name change in the county of your residence.

Date of Birth:

The date of birth can be changed by using two (2) documents more than 5 years old showing full and correct name and date of birth or a letter from the hospital where the birth occurred. For non-hospital births a letter from the attending physician's record is necessary. If you wish to change a date of birth on a delayed certificate of birth the documentary evidence must be dated prior to the filing of the delayed certificate.

AD RS 24R (7/94)

**SECTION III
HUSBAND**

I, _____, hereby acknowledge that I was married to
Husband's Full Name (please print)
_____, at the time of conception or birth of
Mother's Maiden Name
_____, but I am **NOT** the biological father of this child.
Child's Name at Birth

HUSBAND

MOTHER

I acknowledge that I was married to the man named above at the time of conception or birth of the child named above, however, he is not the biological father of this child.

Signature of Husband

Signature of Mother

WITNESS
I hereby witness the signature of

WITNESS
I hereby witness the signature of

on this _____ day of _____ 19 _____

on this _____ day of _____ 19 _____

Signature of Witness

Signature of Witness

Witness' Address - Street

Witness' Address - Street

City State ZIP

City state ZIP

Daytime Phone Number of Witness

Daytime Phone Number of Witness

Please be advised that there are penalties including those pursuant to C.R.S. 18-5-114 for falsely witnessing this document.

- There is no charge to you for processing this form if it is completed at the hospital with the original Certificate of Live Birth. Leave this form with the hospital staff who will mail it to the Colorado Vital Records Section for you.
- If this form is completed after the hospital's deadline for completing the Certificate of Live Birth, take or mail this form for approval to the Colorado Certification Section at the address below. There is a \$20.00 charge to add the father's name to the birth certificate. If you want a copy of the birth certificate with the father's name added, the fees are \$15.00 for the first copy and \$6.00 for each additional copy of the same record ordered at the same time. Return this completed form, fees and a long self-addressed envelope to:

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
CERTIFICATION SECTION-HSVRD-VR-A1
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530
(303) 692-2230**

AD RS 14a (3/95)

STATEMENT OF PATERNITY

INSTRUCTIONS:

1. If the mother was not married at the time of conception or birth or any time between, complete Section I and Section II of this form.
2. If the mother was married at the time of conception or birth or any time between, the mother and biological father must complete Section I and Section II; and the mother and husband must complete Section III on the reverse side of this form.

**SECTION I
FATHER**

I, _____, hereby acknowledge that I am the natural father of
 _____, child of myself and _____
 (Child's name at birth) (Mother's Maiden Name)

born on _____ 19 _____ in _____ County, and
 (child's date of birth)

request that my name be entered on the birth certificate as father of this child. I provide the following information about myself for completion of the birth certificate:

1. Father's Date of Birth _____/_____/19_____
2. Father's State or Foreign Country of Birth _____
3. Father's Race (American Indian, Black, White) _____
4. Hispanic Origin? (Yes or No) _____ If yes, specify _____
5. Father's Education _____ (Specify highest grade completed)
6. The child's name shall be shown on the birth certificate as

 (First) (Middle) (Last)

**SECTION II
FATHER**

MOTHER

I acknowledge that the man named above is the biological father of my child and request that he be listed on my child's birth certificate and the name of the child shall be as shown in Item 6.

Signature of Father

Signature of Mother

Father's Social Security Number

Mother's Social Security Number

Father's Address - Street

Mother's Address - Street

City State ZIP

City State ZIP

Father's Daytime Telephone Number

Mother's Daytime Telephone Number

WITNESS

I hereby witness the signature of

WITNESS

I hereby witness the signature of

on this _____ day of _____ 19 _____

on this _____ day of _____ 19 _____

Signature of Witness

Signature of Witness

Witness's Address - Street

Witness's Address - Street

City State ZIP

City State ZIP

Daytime Phone Number of Witness

Daytime Phone Number of Witness

Please be advised that there are penalties including those pursuant to C.R.S. 18-5-114 for falsely witnessing this document.

STATE OF COLORADO REPORT OF ADOPTION

CHILD'S NAME AFTER ADOPTION	1. CHILD FIRST	MIDDLE	LAST	
ADOPTING PARENTS THIS INFORMATION NEEDED TO PREPARE NEW BIRTH CERTIFICATE IF THIS IS A STEPPARENT ADOPTION, THE INFORMATION CONCERNING THE BIOLOGICAL PARENT MUST BE FURNISHED	2. MOTHER'S NAME FIRST MIDDLE MAIDEN			
	2A. BIRTH DATE	2B. BIRTH PLACE		
	2C. RESIDENCE AT TIME OF CHILD'S BIRTH	STATE	COUNTY	CITY OR TOWN STREET & NUMBER ZIP <input type="checkbox"/> INSIDE CITY LIMITS? <input type="checkbox"/> YES <input type="checkbox"/> NO
	3. FATHER'S FULL NAME FIRST MIDDLE LAST			
	3A. BIRTH DATE	3B. BIRTH PLACE		
	4. MAILING ADDRESS OF PARENTS		ZIP	4A. TELEPHONE ()
5. CHECK ONLY IF YES IS THIS A SINGLE PARENT ADOPTION? <input type="checkbox"/> YES		5A. CHECK ONLY IF YES IS THIS A STEPPARENT ADOPTION? <input type="checkbox"/> YES		
ATTORNEY OR AGENCY <small>(See Items D & G on Back)</small>	6. NAME AND MAILING ADDRESS OF ATTORNEY OR AGENCY		ZIP 6A. TELEPHONE ()	
	7. A NEW BIRTH CERTIFICATE WILL BE PREPARED UNLESS CHECKED <input type="checkbox"/> NO		7A. IF THE CHILD WAS BORN IN A FOREIGN COUNTRY, WERE THE BIRTH PARENTS UNITED STATES CITIZENS AT THE TIME OF THE CHILD'S BIRTH? <input type="checkbox"/> YES <input type="checkbox"/> NO	
INFORMATION ON ORIGINAL BIRTH CERTIFICATE <small>(Use Item F on Back)</small>	8. CHILD'S NAME AT BIRTH FIRST MIDDLE LAST			
	8B. BIRTH DATE	8C. BIRTH PLACE CITY COUNTY STATE		
	9. MOTHER'S NAME FIRST MIDDLE MAIDEN			
	10. FATHER'S NAME FIRST MIDDLE LAST			
CERTIFICATION OF CLERK OF COURT	<p>I hereby certify that the child identified above was adopted by the above named parents on the _____ day of _____, 19____, and is now to bear the name of _____ as set forth in the decree of adoption in the District/Juvenile Court of _____ County, Colorado.</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">CASE NUMBER SIGNATURE AND SEAL OF COURT DATE</p> <p style="text-align: center;">BY _____ DEPUTY CLERK</p>			

RETURN ALL REPORTS OF ADOPTION TO:

VITAL RECORDS / ADOPTION COORDINATOR
COLORADO DEPARTMENT OF PUBLIC HEALTH
AND ENVIRONMENT
HSVRD-VR-A1
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80222-1530

FOR PROCESSING WITHOUT DELAY
SEE ITEM E ON BACK.

COLORADO DEPARTMENT OF PUBLIC HEALTH
AND ENVIRONMENT ADDRESS (REV. 10/96)

07474614-2

STATE OF COLORADO

APPLICATION FOR MARRIAGE LICENSE

To the County Clerk:

We the undersigned hereby make application for a license to unite in marriage and under oath we depose and state that the following information is true and correct to our best knowledge and belief and there exists no legal impediment to said proposed marriage.

MALE
First Name, Middle Name, Last Name, Date of Birth (Month, Day, Year), Address (Number, Street, City, State), Place of Birth, Social Security No., Present Marital Status (Single, Widowed, Divorced), Parents or Guardian (Father, Mother, Guardian), Proof of Age (BC, DL, BAPT, G.I., OTHER)

FEMALE
First Name, Middle Name, Last Name, Date of Birth (Month, Day, Year), Address (Number, Street, City, State), Place of Birth, Social Security No., Present Marital Status (Single, Widowed, Divorced), Parents or Guardian (Father, Mother, Guardian), Proof of Age (BC, DL, BAPT, G.I., OTHER)

Are the Parties Currently Married? [] No [] Yes
Are the Parties Related? [] No [] Yes How

Signatures: Male, Female

Subscribed and sworn to before me this ___ day of ___ 19___ at ___ o'clock ___ M

County Clerk and Recorder

By ___ Deputy County Clerk

Type of Ceremony: [] Religious [] Civil Date of ___

CONSENT OF PARENTS (OR GUARDIAN) FOR THE MARRIAGE OF MALES UNDER 18 YEARS OF AGE

CONSENT OF PARENTS (OR GUARDIAN) FOR THE MARRIAGE OF FEMALES UNDER 18 YEARS OF AGE

STATE OF COLORADO } ss.

STATE OF COLORADO } ss.

We, the Parents (or Guardian) of ___

We, the Parents (or Guardian) of ___

hereby consent to the granting of a License to marry, waiving the question of minority in accordance with the above application.

hereby consent to the granting of a License to marry, waiving the question of minority in accordance with the above application.

Signature: _____

Signature: _____

Subscribed and sworn to before me this ___ day of ___ 19___

Subscribed and sworn to before me this ___ day of ___ 19___

County Clerk

County Clerk

By ___ Deputy

By ___ Deputy

STATE OF COLORADO CERTIFICATE OF DEATH

STATE FILE NUMBER _____

DECEDENT

1. DECEDENT'S NAME (First, Middle, Last)					2. SEX	3. DATE OF DEATH (Month, Day, Year)
4. SOCIAL SECURITY NUMBER	5a. AGE - Last Birthday (Years)	5b. UNDER 1 YEAR Mos : Days	5c. UNDER 1 DAY Hrs : Mins	6. DATE OF BIRTH (Month, Day, Year)	7. BIRTHPLACE (City and State or Foreign Country)	
8. WAS DECEDENT EVER IN U.S. ARMED FORCES? <input type="checkbox"/> Yes <input type="checkbox"/> No		9a. PLACE OF DEATH (Check only one) HOSPITAL: <input type="checkbox"/> Inpatient <input type="checkbox"/> ER/Outpatient <input type="checkbox"/> DOA <input type="checkbox"/> OTHER <input type="checkbox"/> Nursing Home <input type="checkbox"/> Residence <input type="checkbox"/> Other (Specify)				
9b. FACILITY NAME (If not institution, give street and number)			9c. CITY, TOWN, OR LOCATION OF DEATH		9d. COUNTY OF DEATH	
10a. DECEDENT'S USUAL OCCUPATION (Give kind of work done during most of working life. Do not use retired.)		10b. KIND OF BUSINESS/INDUSTRY		11. MARITAL STATUS - Married, Never Married, Widowed, Divorced (Specify)	12. SPOUSE (If wife, give maiden name)	
13a. RESIDENCE - STATE	13b. COUNTY	13c. CITY, TOWN, OR LOCATION		13d. STREET AND NUMBER		
13e. INSIDE CITY LIMITS? <input type="checkbox"/> Yes <input type="checkbox"/> No	13f. ZIP CODE	14. WAS DECEDENT OF HISPANIC ORIGIN? (Specify No or Yes - If yes, specify Cuban, Mexican, Puerto Rican, etc.) <input type="checkbox"/> No <input type="checkbox"/> Yes Specify		15. RACE: American Indian, Black, White, etc. (Specify)		16. DECEDENT'S EDUCATION (Specify only highest grade completed) Elementary or secondary (0 through 12) College (13 through 16 or 17)

PARENTS

17. FATHER NAME (First, Middle, Last)	18. MOTHER NAME (First, Middle, Last (Maiden Name))	19. INFORMANT NAME and relationship to deceased.
---------------------------------------	---	--

DISPOSITION

20a. METHOD OF DISPOSITION <input type="checkbox"/> Burial <input type="checkbox"/> Cremation <input type="checkbox"/> Removal from State <input type="checkbox"/> Donation <input type="checkbox"/> Other (Specify)	20b. PLACE OF DISPOSITION (Name of cemetery, crematory, or other place)	20c. LOCATION - City or Town, State
--	---	-------------------------------------

21a. SIGNATURE OF FUNERAL DIRECTOR OR PERSON ACTING AS SUCH	21b. NAME AND ADDRESS OF FACILITY: ZIP:
---	--

22a. REGISTRAR'S SIGNATURE	22b. DATE FILED (Month, Day, Year)
----------------------------	------------------------------------

23. TIME OF DEATH M _____	24. DATE PRONOUNCED DEAD Month _____ Day _____ Year _____ Hour _____	25. WAS CORONER NOTIFIED? (Yes or No)
------------------------------	---	---------------------------------------

CERTIFIER

TO BE COMPLETED ONLY BY CERTIFYING PHYSICIAN		TO BE COMPLETED BY CORONER	
26. To the best of my knowledge, death occurred at the time, date and place, and due to the cause(s) and manner as stated. Signature _____		27. On the basis of examination and/or investigation, in my opinion death occurred at the time, date and place, and due to the cause(s) and manner as stated. Signature _____	
28. DATE SIGNED (Month, Day, Year)		29. DATE SIGNED (Month, Day, Year)	
30. NAME, TITLE AND MAILING ADDRESS OF CERTIFIER/CORONER (Type/Print)			
ZIP:			
31. NAME OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type/Print)			

CAUSE OF DEATH

32. MANNER OF DEATH <input type="checkbox"/> Natural <input type="checkbox"/> Pending Investigation <input type="checkbox"/> Accident <input type="checkbox"/> Undetermined Manner <input type="checkbox"/> Suicide <input type="checkbox"/> Homicide	33a. DATE OF INJURY (Month, Day, Year)	33b. TIME OF INJURY M _____	33c. INJURY AT WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No	33d. DESCRIBE HOW INJURY OCCURRED
33e. PLACE OF INJURY - At home, farm, street, factory, office building, etc. (Specify)			33f. LOCATION (Street and Number or Rural Route Number, City, County, State)	
34. IMMEDIATE CAUSE [ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c). Do not enter mode of dying (e.g. Cardiac or Respiratory Arrest) alone.]				Interval between onset and death
PART I CONDITIONS IF ANY WHICH GAVE RISE TO IMMEDIATE CAUSE STATING THE UNDERLYING CAUSE LAST				Interval between onset and death
(a) DUE TO OR AS A CONSEQUENCE OF _____				Interval between onset and death
(b) DUE TO OR AS A CONSEQUENCE OF _____				Interval between onset and death
(c) _____				Interval between onset and death
PART II OTHER SIGNIFICANT CONDITIONS - Conditions contributing to death but not related to cause in PART I (e.g., alcohol abuse, obesity, smoker).				35. AUTOPSY (Yes or No)
				36. IF YES were findings considered in determining cause of death?

CAUSE OF DEATH

1 _____
2 _____
3 _____
4 _____
5 _____



**COLORADO DEPARTMENT OF HEALTH
AUTHORITY FOR FINAL DISPOSITION**

This final disposition permit, when completely filled out and bearing the required signature, constitutes authority for burial, interment, cremation, removal from the state, or other authorized disposition of the deceased named below, in accordance with Section 25-2-111 C.R.S. 1982. This permit must accompany the remains to their destination.

Name of Decedent _____ Date of Death _____

Sex _____ Age _____ Date of birth _____ Place of Death _____
City County

Name of Funeral Establishment _____

Address of Funeral Establishment _____

Type of Disposition _____ Place _____
Cemetery or Crematory City State

I have examined the completed death certificate for the decedent named above and authorize final disposition of the remains. (To be signed by the office designated or established pursuant to Section 25-2-103 C.R.S. 1982 in the county where the death occurred, or if such an office does not exist in the county where the death occurred by the coroner or the coroner's designate.)

Signature, Title Address Date

Items below are to be completed by the cemetery or crematory official.
 Where there is no full-time person in charge of the cemetery, the funeral director may sign as sexton.

Body was _____ Date _____ In Lot _____ Block _____ Section _____

Place _____

Signature, Title Date

REFERENCES

- International Institute for Vital Registration and Vital Statistics, *Organizational Arrangements for a Vital Registration System*, Working Papers, No. 1 (April 1977).
- , *Organization and Status of Civil Registration and Vital Statistics in Various Countries of the World*, Technical Report Series, No. 29 (December 1986).
- International Labour Organization, *International Standard Classification of Occupation*, ISCO-88 (Geneva, 1992).
- United Nations, *Handbook of Household Surveys* (United Nations publication, Sales No. E.83.XVII.13).
- , *Handbook of Population and Housing Censuses*, part I, *Planning, Organization and Administration of Population and Housing Censuses* (United Nations publication, Sales No. E.92.XVII.8).
- , *Handbook of Population and Housing Censuses*, part II, *Demographic and Social Characteristics* (United Nations publication, Sales No. E.91.XVII.9).
- , *Handbook of Population and Housing Censuses*, part IV, *Economic and Activity States* (United Nations publication, Sales No. E.96.XVII.3).
- , *Handbook of Statistical Organization* (United Nations publication, Sales No. E.79.XVII.17).
- , *Handbook of Vital Statistics Systems and Methods*, vol. I, *Legal, Organizational and Technical Aspects*, Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.91.XVII.5).
- , *Handbook of Vital Statistics Systems and Methods*, vol. II, *Review of National Practices*, Studies in Methods, Series F, No. 35 (United Nations publication, Sales No. E.84.XVII.11).
- , *International Standard Industrial Classification of All Economic Activities, Revision 3*, Statistical Papers, Series M, No. 4 (United Nations publication, Sales No. E.90.XVII.11).
- , *Manual on Population Census Data Processing Using Microcomputers* (United Nations publication, Sales No. E.90.XVII.19).
- , *Principles and Recommendations for Population and Housing Censuses*, Statistical Papers, Series M (United Nations publication, forthcoming).
- , *Principles and Recommendations for a Vital Statistics System*, Statistical Papers, Series M, No. 19, Rev. 1 (United Nations publication, Sales No. E.73.XVII.9).
- , *Supplementary Principles and Recommendations for Population and Housing Censuses* (United Nations publication, Sales No. E.90.XVII.9).
- World Health Organization, *International Classification of Diseases, Ninth Revision* (Geneva).
- , *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision*, vols. 1, 2 and 3 (Geneva, 1992).

كيفية الحصول على منشورات الأمم المتحدة

يمكن الحصول على منشورات الأمم المتحدة من المكتبات ودور التوزيع في جميع أنحاء العالم . استعلم عنها من المكتبة التي تتعامل معها أو اكتب إلى : الأمم المتحدة . قسم البيع في نيويورك أو في جنيف .

如何获取联合国出版物

联合国出版物在全世界各地的书店和经售处均有发售。请向书店询问或写信到纽约或日内瓦的联合国销售组。

HOW TO OBTAIN UNITED NATIONS PUBLICATIONS

United Nations publications may be obtained from bookstores and distributors throughout the world. Consult your bookstore or write to: United Nations, Sales Section, New York or Geneva.

COMMENT SE PROCURER LES PUBLICATIONS DES NATIONS UNIES

Les publications des Nations Unies sont en vente dans les librairies et les agences dépositaires du monde entier. Informez-vous auprès de votre libraire ou adressez-vous à : Nations Unies, Section des ventes, New York ou Genève.

КАК ПОЛУЧИТЬ ИЗДАНИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ

Издания Организации Объединенных Наций можно купить в книжных магазинах и агентствах во всех районах мира. Наводите справки об изданиях в вашем книжном магазине или пишите по адресу: Организация Объединенных Наций, Секция по продаже изданий, Нью-Йорк или Женева.

COMO CONSEGUIR PUBLICACIONES DE LAS NACIONES UNIDAS

Las publicaciones de las Naciones Unidas están en venta en librerías y casas distribuidoras en todas partes del mundo. Consulte a su librero o diríjase a: Naciones Unidas, Sección de Ventas, Nueva York o Ginebra.
