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and Vital Statistics Systems
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**Revising current international standards on civil registration and vital statistics:
Proposed outline**

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Introduction and brief history

1. Vital statistics is a key component of a national statistical system. Defined as a collection of statistics on vital events in a lifetime of a person and their characteristics – birth, death, marriage and divorce, to name the more important ones – these statistics provide a crucial and critical information on the most valuable capital of every nation – its people.
2. Given the significance of accurate and reliable vital statistics in relation to the national statistical system, the United Nations Statistical Commission, as the apex body of the international statistical system, focused closely on the development of vital statistics systems since its inception, in 1948. Recognizing that civil registration is the most appropriate and reliable source for vital statistics, in 1950 it noted that registration is very limited in under-developed areas and requested the development of alternative methods that would provide at least some data on births and deaths and in 1951 the Statistical Commission indicated urgency in filling the gaps in vital statistics in under-developed areas due to the non-existence of functioning civil registration systems.
3. The original version of the *Principles for a Vital Statistics System: Recommendations for the Improvement and Standardization of Vital Statistics*² was adopted by the United Nations Statistical Commission in 1953 and were primarily designed as guidelines for countries using, or planning to use, civil registration as source for vital statistics; at the same time it recognized that other methods often provide useable data during transitional or interim period, pending the development of a satisfactory civil registration system.
4. In a follow-up to the implementation of these recommendations, in 1956 the Statistical Commission requested an exploration of sampling and other methods for countries not yet able to produce reliable statistics by the conventional registration method, thus acknowledging the inability of a considerable number of countries to adhere to the adopted 1953 principles.
5. The first revision of the principles and recommendations was adopted by the United Nations Statistical Commission in 1970 and published in 1973 – *Principles and Recommendations for a Vital Statistics System, Revision 1*³. A special emphasis was placed on the use of surveys and censuses to supplement the production of vital statistics in the situation where an incomplete national civil registration system could not be used as a reliable source.
6. Current version, published in 2001, of the international statistical standards for vital statistics is the second revision of the principles and recommendations – *Principles and Recommendations for a Vital Statistics System, Revision 2*⁴ and it was adopted by the United Nations Statistical Commission in 1999 and was primarily intended to assist in the design and operation of efficient and accurate civil registration and vital statistics

² United Nations Publication, Sales No. 53.XVI.8, United Nations, New York, 1953.

³ United Nations Publication, Sales No. E.73.XVII.9, United Nations, New York, 1973.

⁴ United Nations Publication, Sales No. E.01.XVII.10, United Nations, New York, 2001.

systems. At the same time, it recognized that civil registration alone will never provide the requisite indicators needed to monitor social and economic development⁵; it also describes other sources of data for both the estimation of vital rates and the estimations of denominators to calculate statistical rates and indicators.

7. Illustrating the development in outlining basic principles for vital statistics is the evolution of the definition of a vital statistics system. In the 1953 version of the principles and recommendations a vital statistics system was defined as including the legal registration, statistical recording and reporting of the occurrence of, and collection, compilation, analysis, presentation and distribution of statistics pertaining to vital events, which in turn include live births, deaths, foetal deaths, marriages, divorces, adoptions, legitimating, recognitions, annulments and legal separations⁶. Therefore, the vital statistics system, as a general principle, actually incorporates registration function as one of its component – and, in some countries, such as the Philippines, for example, the national statistical system is in charge of the registration of vital events.

8. As it became apparent that many countries were not in a position to adhere to this principle, either because the civil registration system was underdeveloped or as a consequence of the existence of two parallel national systems, one for registering events and the other for generating statistics, the first revision of the principles and recommendations, in 1973, states that a vital statistics system, irrespective of how it is organized, 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 characteristics of events themselves and of the person(s) concerned, and (b) compiling, analysing, evaluating, presenting and disseminating these data in statistical form⁷. Aside from civil registration, two other modes of generating vital statistics are explicitly mentioned – enumeration, in the context of population censuses and population surveys, and indirect estimation, thus acknowledging that number of countries were using these techniques in the absence of a functioning civil registration systems. Should this change be interpreted as an indication of moving away from civil registration in the context of vital statistics? Certainly not, as the recommendations unambiguously point out to civil registration as an irreplaceable source of regular, accurate and universal vital statistics – it was rather recognition of the reality of non-functioning of civil registration in most of the developing world at the time.

9. The second revision of the principles and recommendations, published in 2001, defines a vital statistics system as the total process of (a) collecting information by civil registration or enumeration on the frequency of occurrence of specified and defined vital events, as well as relevant characteristics of the event themselves and of the persons or persons concerned, and (b) compiling, processing, analyzing, evaluating, presenting and

⁵ Ibid, para 8.

⁶ *Principles for a Vital Statistics System: Recommendations for the Improvement and Standardization of Vital Statistics*, United Nations Publication, Sales No. 53.XVI.8, United Nations, New York, 1953, paragraph 101.

⁷ *Principles and Recommendations for a Vital Statistics System, Revision 1*, United Nations Publication, Sales No. E.73.XVII.9, United Nations, New York, 1973, paragraph 37.

disseminating these data in statistical form⁸. The current set of international standard, therefore, omits the mention of indirect estimations of vital statistics, under the assumption that these techniques were introduced in the 1970's as *ad hoc* and temporary measures until more accurate methods would be developed, primarily universal and regular civil registration.

10. The purpose of this brief overview of the development of principles and recommendations and the definition of a vital statistics system is to lay ground for the current discussion regarding the revision of these essential concepts. While it is without doubt that the civil registration is the most accurate, reliable, regular and universal source of vital statistics and that as such it should be either completely incorporated as a component of a vital statistics system or having direct correspondence with it, the fact that civil registration by itself cannot provide all the necessary statistical information, on one side, and the development of other registration and enumeration methods on the other, require considering several adjustments to the current set of principles and recommendations.

Restructuring and updating the content of the principles and recommendations for vital statistics systems

11. The current version of the principles and recommendations elaborates on vital statistics and civil registration in an interchangeable manner and this is certainly true for a number of countries that incorporate these two components into one functioning system. Such system does not distinguish between the two since the civil registration record automatically becomes a vital statistics input record. Consequently, the procedures for recording births and deaths are equally important for civil registration in legal terms as for vital statistics in terms of source of statistics and the work of civil registrars and statisticians is interdependent.

12. Vital statistics generated out of such a system offers the most valuable regular, accurate, relevant and small-area information on fertility and mortality; enables the computation of proximate population estimates and projections; enables identifying fertility patterns at small-area levels, cohort studies, construction of life tables to name but a few of the many uses of vital statistics generated directly from civil registration in an attempt to illustrate its critical importance in terms of providing relevant statistical information.

13. In assessing the role of vital statistics generated from civil registration it is necessary to raise two points. The first is the fact that there are other types of events of recognized demographic importance, such as migratory movements and naturalization are not usually subject to civil registration and, thus, require developing separate statistical instruments for capturing and quantifying. Similarly, civil registration does not cover, by definition, the non-registered marital unions, such as common-law, customary or consensual ones, and these also require designing separate techniques for generating

⁸ *Principles and Recommendations for a Vital Statistics System, Revision 2*, United Nations Publication, Sales No. E.01.XVII.10, United Nations, New York, 2001, paragraph 13.

statistics. The second point refers to the fact that vital statistics generated from civil registration, if they are to be fully exploited, need to be complemented by information pertaining to income, poverty, living conditions, access to safe water, access to health services and so forth and these would be available from statistical surveys conducted within the national statistical system.

14. In restructuring the current set of principles and recommendations for vital statistics systems, the starting point would be in setting the content and the characteristics of such a system, irrespective of the source of statistics, and then to elaborate on different sources, including civil registration. At the same time, the general principle – that vital statistics need to be primarily generated from a functioning civil registration system – remains firmly in place.

15. The structure of the revised set of principles and recommendations consists of three major groupings or parts (the complete outline is presented in the annex to this paper). The first part focuses on the vital statistics system – its definition, major features and characteristics. The second part elaborates on the sources of vital statistics system and the third part discusses key elements of this system. The remainder of this paper follows this general blueprint and will present more detailed outline of each of these parts, while at the same time outlining some of the relevant issues that emerged in the past decade and would require inclusion in the revised version.

16. The outline of Part One:

PART ONE. THE VITAL STATISTICS SYSTEM

Chapter 1. Definition, concepts and use of vital statistics

- A. Definition of vital statistics
- B. Recommended definitions of each vital event for statistical purposes
- C. Uses of vital statistics (in general, more specific uses are elaborated under core topics)

Chapter 2. The vital statistics system

- A. Definition of vital statistics system and sources of data
- B. Priority in data collection
- C. Principles for the collection and compilation of vital statistics
 - Universal coverage
 - Continuity
 - Confidentiality
 - Regular dissemination
 - Quality control
- D. Designation of responsibilities, organizational structures of a national vital statistics system
- E. Integration and coordination in the vital statistics system

- F. Core topics to be collected in a vital statistics system – output oriented approach. Definitions, classifications, uses of and sources that can be used to collecting such data.
- G. Operational principles for compiling and processing of vital statistics
- H. Presentation of results and data dissemination (including the recommended tabulations presented in the annex)

17. A much more detailed elaboration of both of the chapters in this part are subject of papers no. 2 and 3, prepared for this meeting by the United Nations Statistics Division, therefore, only some of the major points are presented here. The first chapter presents the definition of vital statistics and vital events, as well as uses of vital statistics. The second chapter lay down the principles for collection, compilation and dissemination of vital statistics.

18. As for the core topics, several core topics in the current version of the principles and recommendations, such as father's age (for live birth), mother's marital status and date of marriage were considered by some countries as non-core at workshops organized by United Nations Statistics Division in the previous decade. Therefore, it would be necessary to re-visit the list of core topics and variables in terms of needs and uses of statistics. In addition, there is a need to elaborate in much more detail on the value of statistics for each core topic - for policy, demographic analysis, public-health interventions and so forth.

19. The outline of Part Two:

PART TWO. SOURCES OF VITAL STATISTICS

Chapter 1. Sources of vital statistics – a mapping chapter that links the required core data versus data sources

Chapter 2. Civil registration system

- A. Definition of civil registration
- B. Role of civil registration
- C. Characteristics of civil registration
 - Compulsory nature
 - Universal coverage
 - Continuity and permanence
 - Confidentiality
- D. The civil registration process
- E. Limitations of civil registration

Chapter 3. Population registers

- A. Definition
- B. Links to the civil registration system
- C. Advantages and limitations

Chapter 4. Health services records

- A. Definition and concepts
- B. Advantages and limitations
- C. Compilation of cause of deaths statistics

Chapter 5. Other administrative records

- A. Concepts and definitions
- B. Court records
- C. Religious establishment records

Chapter 6. Population censuses and surveys

- A. Population censuses – core topics
- B. Household sample surveys

20. Part Two consists of six chapters, following the need to elaborate each of the five sources of vital statistics, following an introductory chapter. The second chapter – as per the essential general principle that vital statistics should be generated from civil registration – focuses on civil registration and its different aspects that are essential for ensuring it is functional, reliable, and regular source of statistics. It also emphasizes the critical importance of civil registration for ensuring legal protection and adherence to a long list of international covenants regarding the protection of basic human rights, as well as its significance in the administrative functioning of civil service and protection of citizens. Civil registration encompasses a number of functions that are essential for a functioning of a state and these need to be clearly outlined.

21. In a number of workshops conducted by the United Nations Statistics Division in the past ten years the issue of differentiating civil registration and population registers, as sources for vital statistics, emerged often. It was also noted that in some cases the installation and functioning of population registers is regarded as the ultimate solution and a replacement of the registration of births, deaths and other vital events, which may not be necessarily the case. More elaborated discussion is necessary to guide countries on how different types of population registers could be used to generate vital statistics as well as the limitations of using population registers for statistical purposes. Guidelines should also be provided on the use of regular-interval sample surveys to complement information obtained from population registers (such as income, for example).

22. Health institutions records are sometimes used to generate and, much more frequently, to complement vital statistics. This is especially true in the case of causes of death, which is a crucial component of comprehensive national health statistics, as the certification of the causes of deaths is the primary responsibility of health services, not civil registration. The current principles and recommendations do not elaborate on the advantages and limitations of health services records as sources for vital statistics. Additional guidelines might be provided in regard to certifying causes-of-deaths, coding and training of medical personnel on providing information related to causes-of-death.

23. A list of other administrative sources – such as court records in cases of divorces, or from religious institutions for marriages in countries where these institutions are authorized to carry marital ceremonies and records – is used to generate statistics on vital events and these also need to be elaborated in more details.

24. Finally, population censuses and surveys have been extensively used in many countries to generate vital statistics and there is already a solid body of international guidelines in that respect. For the chapter on population censuses and sample surveys, the revision should use the same definitions and concepts and to make clear references to the current set of principles and recommendations for population and housing censuses⁹, as well as to the *Handbook on the Collection of Fertility and Mortality Data*¹⁰. However when referencing to other publications, it would be beneficial to incorporate directly the text to make these principles and recommendations more independent (stand-alone) for users.

25. The outline of Part Three:

PART THREE. KEY ELEMENTS OF THE VITAL STATISTICS SYSTEM

Chapter 1. Computerization

Chapter 2. Evaluating the quality of vital statistics

Chapter 3. Strategies for improving vital statistics systems

26. The last part of the revised set of principles and recommendations elaborates on three key elements of the vital statistics system. While the introduction of current information technologies affects all sources of vital statistics¹¹, the focus of the first chapter in this part is on the use of computerization in registration systems – civil registration, population registers, and health institutions – and its impact on the generation of accurate vital statistics. In the past period of time a number of projects using contemporary technology were introduced and lessons were learned, providing useful references for countries that are considering improvement of registration systems. While the general guidelines presented in the *Handbook on Civil registration and Vital Statistics Systems: Computerization*,¹² are still valid and applicable, there is a need to provide updates.

27. Quality of vital statistics is clearly dependent on the quality of registration systems in countries where they are used as sources. Therefore, the assessment of the validity of statistics inevitably involves ensuring that the coverage and functioning of registration systems meets the necessary standards. There are well developed methods and techniques

⁹ *Principles and Recommendations for Population and Housing Censuses, Revision 2*, United Nations Publication, Sales No. E.07.XVII.8, New York, 2008.

¹⁰ United Nations Publication, Sales No. E.03.XVII.11, New York, 2004.

¹¹ The use of information technologies for population censuses and surveys is elaborated in detail in a number of United Nations handbooks; therefore, this topic will be cross-referenced accordingly.

¹² United Nations Publication, Sales No. E.98.XVII.10, United Nations, New York, 1998.

that can be useful to all national statistical systems, as quality control represents a key consideration and principle of official statistics.

28. Without reliable vital statistics the national statistical system misses one of the key components. Improving vital statistics very often, if not always, refers to the functioning of the registration system. But beyond that there are strategies within the national statistical office, such as advanced analysis, matching of the records, micro-record analysis, and so forth that should be introduced as regular procedures to improve the reach and usefulness of vital statistics.

29. The final chapter in this part focuses on strategies for improving vital statistics system. At this particular moment a number of countries are introducing steps aimed at improving civil registration and vital statistics. Quite often these developments include introducing population registers as critical tools for both the purpose of civil registration and the future population censuses. Certainly all these efforts start with the legislative activity related to civil registration and statistical laws, include the strengthening and functioning of the civil administration and the links between registration and statistics.

* * *

30. Throughout the current version of principles and recommendations there is a need to adjust the international classifications that are referenced in the publication - for example, the latest revision for the classification of occupations is ISCO-08, while the ISCO-88 version is referred in the current issue. Certain definitions and classifications may have changed over the past ten years. Revision is also needed when defining certain core or non-core topics in the principles and recommendations to align these lists with the most recent guidelines on population censuses¹³ (e.g., economic activity status).

31. The revised *Principles and Recommendations for a Vital Statistics System* will include a glossary at the end that will provide additional facility for users; a more comprehensive subject index will also be added.

¹³ *Principles and Recommendations for Population and Housing Censuses, Revision 2*, United Nations Publication, Sales No. E.07.XVII.8, New York, 2008.

Annex I. Complete proposed outline for the revised principles and recommendations

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