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Herman Van Oyen:
The institutionalised population in health surveys

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Introduction

An overall objective of a health survey is to obtain a set of total population estimates through an interview or/and examination of a sample.
The objectives of a health interview survey, a health and examination survey are to provide among others a description of the health of the **total** population, of the determinants of health and of the use of health care services (care, cure, preventive, ….). Data of health surveys are not only presented as total population estimates but also often for specific subgroups or by specific characteristics. The strength of a health interview survey over and above other methods of health data collection is the fact that data are gather on different health related domains at the same time from the same person.

Health surveys often do not include the institutionalised population. As the reasons for some types of institutionalisation are health related but the institutionalisation rates into those health institutions are not only a function of health, these exclusion criteria may affect the estimation of health indicators for the total population, the comparison over time or between regions in a same country and the international comparisons.

The paper discusses reasons for inclusion of the institutionalised population in health interview survey within the context of international comparisons.

Inclusion of institutionalised populations in European Health Surveys

Table 1 gives an overview of 43 health related surveys in Europe by type of survey. In only one third of the surveys people with residence in homes for the elderly or nursing homes are included in the survey. Dwellers of psychiatric institutions or institutions for mentally handicapped are not excluded in 23% of the surveys. Boarding school students and people living in convents/monasteries are included in about one fifth of the surveys. A similar proportion is observed for people in prisons. The disability survey is

the type of survey which is the most likely to include different types of the institutionalised population: 60% of the surveys do not exclude people living in homes for the elderly, nursing homes, psychiatric institutions and institutions for the handicapped. In health interview surveys (HIS-surveys) and in multi purpose surveys, elderly people living in homes for the elderly or in nursing homes are only included in one third of the survey, while people with a residency in psychiatric institutions or institutions for mentally handicapped are only included in less than 20% of the surveys. Health examination surveys (HES-surveys) do only include people living in institutions in one fifth of the surveys. The standard of living surveys do not include any type of institutionalised populations.

Selection

Each observation in a health survey is the sum of two processes: the selection and the measurement. Issues related to the measurement are not discussed in this paper. Figure 1 gives an overview of different selection processes. For purpose of the meeting it is only necessary to discuss the relation between the target population or total population, the study population and the sampling frame.

The exclusion of the institutionalised population may be an important source of differential selection bias in health survey:

-Of the different type of institutions given in table 1 the first four are health institutions. This means that health is a major determinant for institutionalisation into one of them. However, health is not the only force. There are many other factors such as among others: the availability of institutions and their capacity; the accessibility, especially the financial accessibility, waiting lists; the existence of alternative care systems such as community based care. Next the social and cultural and political environment together with a historical build usage will determine the choice to use the institutionalised health care facilities.

-The definition of institutions are country specific. E.g. Institutions for the elderly can be defined as institutions designed for long term stay (i.e. more than 3 months). They do not include geriatric wards for short/medium stay which are meanly hospital based. The type of facilities within Europe is substantially different by country and also between regions within countries. There are seniories-services flats, sheltered residential care systems, hotel houses, rest houses, old age houses, nursing homes. The differences between these different types of services are related to the level of health and independence of the dwellers, the level of health care that can be provided and on the level of collective or hotel services provided. Even among institutions under the same denominator the country differences remain as given in table 2.

Table 2 also provides some information on differences in institutionalisation rates for the elderly within Europe. Within Europe there is a North-South gradient with a smaller proportion of institutionalised elderly in countries such like Spain.

People with residence in institutions remain an integral part of the total population. Excluding them from the target population may jeopardise the description of the health status of the total population of a country. This is especially true when the proportion of the institutionalised population is substantial and the difference in the health indicator under study between the institutionalised population and the community dwellers is large. E.g. estimated proportion of the functional limitations in the population will be bias when not including the part of the population who reside in homes for the elderly or nursing homes. This bias will be larger in older ages as this part of the population has the highest proportion of institutionalised people. The exclusion of institutionalised people also makes the comparison of health data more difficult not only between countries but also within a country when making comparison between regions and over time.

Alternative methods

When the institutionalised population is excluded from the health survey one can explore alternative methods or sources to adjust for the design. A very simple but crude alternative is to give all dwellers of a type of institution a defined state of health. This method has been applied often, e.g. in calculations of the disability free life expectancy. It means that institutionalisation was defined as a level of disability. Another approach is to use administrative data. One of the main drawbacks is that the objectives of the collections of those data are so different from the objectives of a health survey that integration with a health interview survey may be difficult or not possible. E.g. the institutions for elderly people in Belgium are most often a mixture of homes for the elderly people and nursing homes bed. They are paid partly by the government on the basis of the amount of nursing care their dwellers need. This is estimated by the number and types of bed of the institution, the average occupation and a yearly cross-sectional evaluation of the care level needed. As gender is probably not an important factor in the management of the care for a level of needed, gender is not included into the data. A last option is to have a health survey for the institutionalised population. To be optimal useful this specific survey should be develop in close relation to the health survey in other to cover the same time period, the same health domains and to use the same (or adapted) instruments.

Problems related to the inclusion of the institutionalised populations

The inclusion of the institutionalised population may bring forward some practical problems, which may interfere with the general organisation of the health survey. In the first place the dweller are part of a collective household and may have lost some of his individual rights. This loss is the most extreme for a prisoner but also the occupant of a home for the elderly has lost some of his autonomy and has to comply with house rules. Secondly the institution may not be favourable to outsiders as they may experience the interview or

part of the interview as an evaluation of the organisation. The definition of a proxy within an institution may be different compared to a proxy in a community setting who is in general a family member and a non-health professional. Within institutions the proxy information will in general be provided by a health professional. Another problem may be that measurement instruments have to be adapted which adds to the development cost of the survey for a relative small proportion of the population. Further, unless some oversampling is planned, the number of interviews or examinations done in institutes may be to small to have institution specific estimates. A lost problem may be that the sampling frame, such as a national register, may not correctly represent all forms of institutionalisation. E.g. only one third of the residence in home for the elderly or nursing homes in Belgium are registered within the national register to have the address in the institution. The others still have their residence in their private home or have change the address to the address of one of the children.

Conclusion

Inclusion of the institutionalised population is health survey is necessary in order to have unbiased estimates of the total population. Inclusion of the institutionalised population is also necessary to make the results of health surveys comparable over time and between countries. Up to now most attention in international comparison goes to the instruments. The differentials in the designs and especially the differential selection that have been created by excluding the institutionalised part of the population have received much lesser attention. This is not correct as any observation in a survey is a combination of both the measurement and the selection.

Table 1. Inclusion of the institutionalised population in health related surveys in Europe

		Type of institution							
	N	Homes for the elderly	Nursing homes	Psychiatric institutions	Institution for mentally handicapped	Boarding schools	Convents/ Monasteries	Prisons	Other
HIS-survey	14	5	5	2	2	2	2	2	0
Disability-survey	5	3	3	3	3	2	1	1	1
HES-survey	5	1	1	1	1	1	1	1	0
Multi-purpose survey	11	4	3	2	2	2	2	2	0
Standard of living survey	2	0	0	0	0	0	0	0	0
Other	6	2	2	2	2	2	2	2	0
Total	43	15	14	10	10	9	8	8	1

Statistics Netherlands, KTL Finland, European Commission

Table 2. Description of institutions for the elderly in different European countries

			% of pop
Belgium	Old age home	independent or partly dependent elderly who need few care	65+ : 6.5% 75+ : 13.0%
	Nursing home	physically and mentally dependent elderly	
France	Old age home	80 to 100 elderly / OAH, independent or partly or completely dependent	65+ : 6.5% 80+ : 17.5%
	Nursing home		
Germany	Old age home	Partly dependent elderly	65+ : 5%
	Nursing home	physically and mentally dependent elderly who need extensive care, therapy and medical attention	
Italy	Old age home	60/ institution, aged, non self-sufficient or disabled	
	Nursing home		
Spain	Old age home	Elderly who need no care or very few care and who are independent	65+ : 3%
	Nursing Home	Physically or mentally dependent elderly	
Switzer-land	Old age home	Independent and few dependent elderly	
	Nursing Home	Physically and mentally dependent elderly.	
U.K.	Old age home	Older people with mild-moderate disability	
	Nursing Home	Older people with moderate-severe disability and nursing care needs	

Figure 1 Selection