Mortality in Sweden

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With 13 figures and 31 tables

Foreword

This work has been carried out as part of a research programme on the epidemiology and genetics of mental and neurological diseases in Sweden. This programme is supported by the National Institutes of Health, U.S.A. (U.S. Public Health Service, research grant NB 04108), directed by Professor Torsten Sjögren, M.D., and sponsored by the Institute for Medical Genetics of the University of Uppsala, Sweden.

As a teacher of statistics and research worker at the University of Lund many years ago, as an actuary of the Skandia Insurance Group and later the head of its life department, and not least during a very long period of collaboration with Professor Sjögren, I have had much occasion to study the interaction between mortality, on the one hand, and other demographical changes, heredity, environmental factors, medical progress and social evolution on the other.

Some of the aspects and results submitted in this monograph have been presented earlier—at the international congresses of human genetics in Copenhagen (1956) and Rome (1961), the session of the International Statistical Institute in Tokyo (1961), the meeting of the International Union for Population Research in New York (1961) and the international congress of gerontology in Copenhagen (1963). In a series of monographs, published together with Professor Sjögren (1949, 1954, 1957, 1959, 1960 and 1963) and dealing in the first place with different forms of neuropsychiatric disease, great significance has been assigned to the questions of analysing...
demographic trends and of evaluating selective factors and displacement effects of various kinds; in particular, mention may be made in the present connection of the studies of a large west Swedish rural population (AB-bo, 1954), an isolated parish in the north of Sweden (X-sjö, 1960) and the City of Stockholm (1963). An important problem is to investigate how mortality has developed and how medical and social progress as well as other changes in the community have affected mortality (and morbidity). Another and equally important problem is to analyse how changes in mortality may affect future mortality (and morbidity). The main object of this study is to elucidate in a concrete way the mechanism of these interactions.

3

For the sake of concreteness and also for a number of other reasons the principle has been adopted of using only data from published official statistics. This means that anyone who wishes to become familiar with the material studied will have the same possibilities of doing so as the author and can perform his own rearrangements and evaluations of the statistics. Some parts of the study have been presented (printed in Swedish) at the Scandinavian life insurance congress in Copenhagen in September 1964.

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4

Contents
Foreword 3
List of tables 6
List of figures 7
Explanation of terms and symbols 8
Sources 10
Introduction 11
General aspects 11
Social evolution and demographic changes in Sweden 12
The causes of the decline in mortality 14
Plan and problems 16
The material 18
Sources of error and selective effects 20
Displacement effects 25
The information value of the statistical measures 28
General demographic data 30
Mortality by sex and age 36
Remaining mean expectation of life 45
Mortality by marital state 49
Mortality in the large cities 57
Mortality by month 60
Mortality from certain causes 69
Fatal accidents by sex, domicile and type 1951–61 105
Standard comparison of expected numbers of deaths from different causes according to rural and urban mortality 1956–60 109
Standard comparison between urban and rural death rates for different causes 1956–60 110
Deaths from neoplasms and lung cancer in certain areas 1951–61... 112
Number of deaths by age 1960, and estimated numbers 1965–80 (according to population forecast for 1962–80) 119
Figures
Map of Sweden 13
Population by sex and age 1930–80 34
Mortality rates by sex and age 1901–62 35
Observed and standardized death rates by sex 1940–61 43
Mean expectation of life 1901–61 48
Standardized death rates by month 1940–60 63
Death rates by groups of causes 1936–60 71
Share of deaths from the main causes in groups by sex and age 1951–55 and 1956–60 90
Mortality from certain causes by month 1951–55. Index figures.... 95
Deaths from certain types of accidents by sex and domicile 1951–61 106
Deaths from lung cancer, cervical cancer, prostate cancer and infectious renal disease by sex and domicile 1951–61 117
Age distribution of deaths (according to population forecast for 1962–80) 120
Explanation of terms and symbols
Since 1951 the statistics of causes of death in Sweden have been presented in accordance with the WHO scheme “Manual of the international statistical classification of diseases, injuries and causes of death”, Geneva 1948 and 1949. As a rule, the data in the present study refer to the Intermediate List (the A List).
The following notations for the main groups are used (abbreviations in italics).
I. Infective and parasitic diseases (Al–A43) – Infect.
II. Neoplasms (A44–60) – Neopl.
Allergic, endocrine system, metabolic, and nutritional diseases (A61–A64, A66 part)
Diseases of the blood and blood-forming organs (A65, A66 part)
V. Mental, psychoneurotic, and personality disorders (A67–A69)
VI. Diseases of the nervous system and sense organs (A70–A78) – Nerv.
VII. Diseases of the circulatory system (A79–A86) – Circ.
VIII. Diseases of the respiratory system (A87–A97) – Resp.
IX. Diseases of the digestive system (A98–A107) – Digest.
X. Diseases of the genito-urinary system (A108–A114) – Gen.-urin.
XI. Deliveries and complications of pregnancy, childbirth, and the puerperium (A115–A120)
XII. Diseases of the skin and cellular tissue (A121, A126 part)
Diseases of the bones and organs of movement (A122–A125, A126 part)
Congenital malformations (A127–A129)
XV. Certain diseases of early infancy (A130–A135) XVI. Symptoms, senility, and ill-defined conditions (A136–A137) XVII. Accidents, poisoning, and violence, except suicide (AE138–AE147, AE149–AE150) – Accidents XVIII. Suicide (AE148) – Suicide

As a rule, the deaths in group XVI (senility, and ill-defined conditions) – Cause unknown–have been proportionately distributed over known causes within the relevant category by sex and age (or by sex, domicile and age).

In the tables by causes of death, data are in general given concerning the groups for which abbreviations are stated above, and concerning Diabetes (A63); the remaining causes are taken together (Other known causes). In some tables a differentiation is made between Influenza (A88) and Other respiratory diseases (A87, A89–A97).

Unless otherwise stated, the data refer to all Sweden.

“Age” means exact age. “When the expression “age group” is used, the age is rounded off downwards (attained age).

Population figures for a calendar year refer to the end of the year.

In 5-year or 10-year statistics the data are grouped in such a way that the last year of the period ends with the figure 0 or 5, or 0, respectively (hence, for instance, 1951–55 and 1956–60; 1951–60). In classifications by age, as a rule 5-year groups of attained age are used, the first year being a multiple of 5 (hence, for instance, 70–74, 75–79).

Unless otherwise stated, absolute numbers are annual or monthly totals. In the text, all relative figures for a certain group by sex and age are given as annual rates per thousand of the average population in the group. In the tables, the relative figures are given per 10,000 (or in some tables, for the sake of space, per 100,000). As is customary, however, death rates for the first year of life are related to the number of live-born children (not to the average population).

In some of the tables “exaggerated exactitude” has to a certain extent been used – in order to illustrate the mechanism of the evolution of mortality.

Measures of mortality

\[ \mu_x = \text{force of mortality at age } x \]

\[ q_x = \text{mortality rate at age } x \]

\[ k_x = \text{death rate in age group } x \] (the annual number of deaths in the group, related to the average population of the group or, for the first year of life, to the number of live-born children)

Abbreviations

Sex M = Males F = Females

Marital state s = single m = married w = widowed d = divorced

County (domicile) Denoted by the capital letter used in registration numbers for motor vehicles (cf. Fig. 1 and Table 20) Area U = Urban (towns) R = Rural (rural districts)

Um = Urban mortality Rm = Rural mortality

Figures

The reader should notice that–in order to avoid obscurity–simple plotting of class data is used, although in many instances histograms would have been appropriate.

Symbols

% = Per cent

\(-\) = Magnitude nil
Sources
I. From the series Official Statistics of Sweden (Sveriges officiella statistik)
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      Census of the Population in 1960 (Folkräkningen den 1 november 1960) Census of the Population in 1950 (Folkräkningen den 31 december 1950) Corresponding censuses on December 31 in 1940, 1930, etc.
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      10. Statistical Year-Book of Stockholm (Statistisk årsbok for Stockholms stad). –Annually