

# Social change and health in Sweden

250 YEARS OF POLITICS AND PRACTICE

Jan Sundin and Sam Willner

Swedish National Institute of Public Health R 2007:21

ISBN: 978-91-7257-534-9

ISSN: 1651-8624

Graphic design: AB Typoform

Photos on front cover, from the left: IBL bildbyrå, Photos.com, Popperfoto/IBL bildbyrå,  
Photos.com and Sydsvenskan/IBL bildbyrå

Printing: Alfa Print AB, Solna 2007

# Table of contents

List of tables and figures	6
Glossary	7
Preface	10
Foreword	13
<b>1. Introduction</b>	<b>17</b>
Introduction	18
Outline	18
250 years of public health	20
Health transition after 1750	21
Aims, concepts and perspectives	26
Reference list	38
<b>2. Pre-Enlightenment: Life and death in God's hand</b>	<b>43</b>
Introduction	44
State, church and people	44
War	47
The Black Death	48
Summary: Public health before the Enlightenment	52
Reference list	53
<b>3. Mercantilism, the Enlightenment and the birth of epidemiology</b>	<b>55</b>
Introduction	56
Mortality according to the statistics	59
Famines	61
Men and women	61
Town and country	63
Science, learned societies and enlightened priests	65
Popular advice from Sweden's first paediatrician	68
The enemies according to an enlightened provincial doctor	71
Local administration, literacy and church discipline	74
Summary: The public health legacy of the Age of Enlightenment	77
Reference list	78
<b>4. Society in transition: Population growth, proletarianisation and increased life expectancy (c. 1800–1870)</b>	<b>81</b>
A society in transition	82
Epidemiological trends	83

Children and adults	84
Men and women	85
Regional and social differences	88
Material deprivation and mortality	90
Health administration, provincial doctors and midwives	92
Public health and local administration	94
Smallpox vaccination	96
Breastfeeding, infant care and cleanliness	100
Pre-industrial urban areas and hygiene	102
Cholera – the last large-scale epidemic	103
Strong liquor – a point of order and a health risk	104
Social control and stigmatisation: Supervision of prostitutes	106
Summary: The first phase of the epidemiological revolution	108
Reference list	111
<b>5. Industrialisation and hygienism (c. 1870–1920)</b>	115
Introduction	116
Epidemiological trends	118
Men and women	122
Regional and social differences in mortality	125
The growth of medical knowledge and medical institutions	126
A national statistics agency, Statistics Sweden	128
Industrialisation, ideologies and the welfare state	129
Occupational health	131
Healthcare administration as a local issue	133
Urban hygienism	134
Urban water – two local examples	137
Alcohol legislation and the orderly worker	139
Philanthropy – humanitarian aid and social control	141
Philanthropy and public institutions – corporative cooperation	142
Popular movements – social and political grassroots in a new society	144
Summary: Hygienism, economic growth and social stabilisation	146
Reference list	147
<b>6. Between two wars: Towards the Swedish welfare state (1920–1945)</b>	151
Introduction	152
The epidemiological regime	153
Social and regional differences	154
The institutionalisation of maternal and child healthcare	155
District nurses in the line of public health duty	156
The fight against tuberculosis	157

The Bratt system – solidarity among decent folk	159
Solving societal problems with the help of “social medicine”	160
Social utopia: Scientific faith and paternalism	162
From urban to rural health risks: “Dirty Sweden” goes rural	163
The birth of the welfare state	168
Summary: Increased life expectancy, welfare and social hygiene	172
Reference list	173

<b>7. Harvest time for welfare policy and medical progress (1945–2006)</b>	177
Introduction	178
Epidemiological trends	178
Men and women	182
Social differences in health	186
Regional differences in mortality	188
Harvest time for the welfare state	190
Urbanisation, housing crisis and the “million-homes” programme	192
Biomedical progress	193
The health service in economic crisis	195
Occupational and environmental health risks	196
Swedish Public Health Institute	197
Epidemiology, risk factors and health	198
Restructuring the economy, social stress and health	199
Care of the body, the perfect body ideal and health as market commodities	200
Swedish public health in a global individualistic world	203
A comprehensive Swedish public health policy	205
Health – a field of compromise	207
Summary: Harvest time for welfare policy	208
Reference list	209

<b>8. Conclusions – lessons from the past</b>	213
Introduction	214
Social determinants and health – a Swedish example	214
Health and the response of society	222
Health and social change	227
Sweden and its European neighbours – converging systems	230
Swedish history and the world today	233
Health and lessons from history	238
Reference list	246

Appendix	250
----------	-----

# List of tables and figures

## TABLES

Table 1.1	Remaining average life expectancy at different ages, 1751–2002.
Table 3.1	Causes of death among men and women 20–44 years old. Sweden, 1779–1782. Age-standardised deaths per 100,000.
Table 5.1	Mortality from certain infectious diseases (and infection-related diagnoses) in Swedish towns, 1875–1879 and 1921–1930. Deaths per 100,000. Standardised for sex and age after 1875–1879.
Table 6.1	Causes of death per 100,000, 1921–1930.
Table 7.1	Cause-of-death patterns for men and women aged 15–19 and 50–59 years. Deaths per 100,000.

## FIGURES

Figure 1.1	The demographic transition. Sweden, 1750–2000.
Figure 1.2	Health, economic capital (EC), cultural capital (CC) and social capital (SC).
Figure 3.1	Sex-specific mortality in the 25–49 age group for major causes of death in the town of Linköping and surrounding countryside parishes, 1750–1814.
Figure 4.1	Life expectancy for males. Sweden, France and England & Wales, 1800–2001.
Figure 4.2	Excessive male mortality in the 25–49 age group (%). Sweden, 1751–1900. Five-year periods.
Figure 4.3	Sex-specific mortality in the 25–49 age group for major causes of death. Sweden, 1826–1830.
Figure 4.4	Smallpox mortality per 100,000. Sweden, 1749–1900.
Figure 4.5	Health and social change – Sweden, c. 1800–1850
Figure 5.1	Mortality specified for age, sex and marital status. Sweden, 1881–1890. Deaths per 1,000.
Figure 7.1	Incidence and deaths from tuberculosis per 100,000 in Sweden, 1911–2000.
Figure 7.2	Age-standardised mortality from various causes, 1911–2001.
Figure 7.3	Age-standardised mortality in the 25–64 age group among married and non-married people, 1901–2004.
Figure 7.4	Causes of death and marital status, 1969–1978, 45–64 age group.
Figure 7.5	Age-standardised mortality for Swedish counties in the 20–59 age group.
Appendix	Sex- and age-specific mortality and sex ratio in mortality. Sweden, 1750–2000.

# Glossary of key organisations, political bodies and protagonists of public health mentioned in the text

**Bratt, Ivan** (1878–1956), physician and creator of the general rationing system for purchase of alcohol.

**Berch, Anders** (1711–1774), first Professor of Economics at Uppsala University.

**Berg, Fredrik Theodor** (1806–1887), first Director-General of Statistics Sweden.

**Bäck, Abraham** (1713–1795), physician, President of the Collegium Medicum, Stockholm, close friend of Linnaeus.

**Centerpartiet** (Centre Party). Originally the Swedish farmers' party. Founded as *Bondeförbundet* (Farmers' Union) in 1913, it changed its name to the Centre Party in 1957.

**Chydenius, Anders** (1729–1803), priest, Enlightenment philosopher and MP.

**Collegium Medicum** – see under National Board of Health and Welfare.

**Hagström, Johan Otto** (1716–1792), provincial doctor, disciple of Linnaeus.

**Hansson, Per Albin** (1885–1946), Social Democrat Prime Minister and the most famous Swedish spokesman of the welfare state.

**Hellstenius, Johan** (1834–1888), Swedish statistician.

**Kinberg, Olof** (1873–1960), forensic psychiatrist.

**Landsting** – see under Local government.

**Linnaeus** – see under von Linné, Carl.

**von Linné, Carl** (1707–1778) (generally known as *Linnaeus* outside Sweden), physician, botanist, zoologist. Father of modern taxonomy.

**Local government.** The original form of local government in Sweden was based on the *sockenstämma* (general parish meeting) handling both ecclesiastical and secular affairs, and the *ting* (a countryside district court led by a local judge before all free farmers) or the *rådstuga* (its counterpart in towns). The local government reform of 1862 saw the establishment of the *landsting* (county councils), who took over the responsibility for hospitals. In urban areas, the municipality became subsequently responsible for the municipal medical officer system, midwives, isolation hospitals and the healthcare committees.

**Medicinalstyrelsen** – see under National Board of Health and Welfare.

**Myrdal, Gunnar** (1898–1987) and **Myrdal, Alva** (1902–1986), husband and wife team, mentioned among the most famous architects of the Swedish welfare state.

**National Board of Health and Welfare** (Socialstyrelsen). *Collegium Medicum*, which gradually developed from a professional association for physicians into an authority, was replaced in 1813 by the National Board of Health (*Sundhetskollegium*). Another important organisation, the Surgical Society (*Chirurgiska Societeten*), was also dissolved and amalgamated with the new authority. In 1877, Sundhetskollegium was replaced by *Medicinalstyrelsen* (National Medical Board), which adopted overall authority over the medical profession and institutions, including responsibility for the hospitals. To assist the Board, chief provincial medical officers were appointed in every county to carry out inspections. In 1912 *Socialstyrelsen* (National Board of Social Affairs) was founded. In the 1960s, this was merged with Medicinalstyrelsen and became the National Board of Health and Welfare.

**Nordström, Ludvig “Lubbe”** (1882–1942), writer and journalist, broadcaster.

**Oxenstierna, Axel** (1583–1654), Chancellor of Sweden.

**von Rosenstein, Nils Rosén** (1706–1773), writer, professor at Uppsala University, often referred to as father of modern paediatrics.

**Rådstuga** – see under Local government.

**von Schultzenheim, David Schultz** (1732–1823), first Director-General of Sundhetskollegium.

**Sveriges socialdemokratiska arbetareparti** (Swedish Social Democratic Party). Founded in 1889, the oldest and largest political party in Sweden.

**Statistics Sweden (Statistiska centralbyrån)**. *Tabellverket* established in 1749 for the collection of public records was replaced in 1860 by a national statistics agency, Statistics Sweden, providing the country with a national organisation for the collection and processing of statistical data, not just on demographic conditions, but also on the business sector and trade, the justice system and other areas of activity that were of significance.

**Statistiska centralbyrån** – (SCB) see under Statistics Sweden.

**Strindberg, August** (1849–1912), novelist and playwright.

**Sundhetskollegium** – see under National Board of Health and Welfare.

**Systembolaget** (Swedish Alcohol Retailing Monopoly). *Public alcohol monopoly retailer*, founded in 1955, although Sweden’s first alcohol monopoly started in the mid-19th century. The “Gothenburg system” received much international attention in the late nineteenth century. This involved a monopoly on sales in municipally owned taverns and off-premise retail shops, introduced in Gothenburg in 1865. The intention was to reduce or eliminate private profit-making from liquor sales, and thus to control or decrease alcohol consumption. The system was later adopted in most Swedish towns and from 1905, all sales of liquor were officially handled by government-controlled companies. Rationing of alcohol was established in 1917 by Ivan Bratt.

**Tabellverket** – see under Statistics Sweden.

**Tegnér, Esaias** (1782–1846), Swedish author and bishop, coined the phrase “peace, vaccine and potatoes”.

**Ting** – see under Local government.

**Wallis, Curt** (1845–1922), doctor and MP.

**Wargentín, Pehr** (1717–1783), Secretary of the Academy of Sciences.

**Wretholm, Carl Josua** (c. 1800–1870), provincial doctor in Haparanda in the extreme north of Sweden.

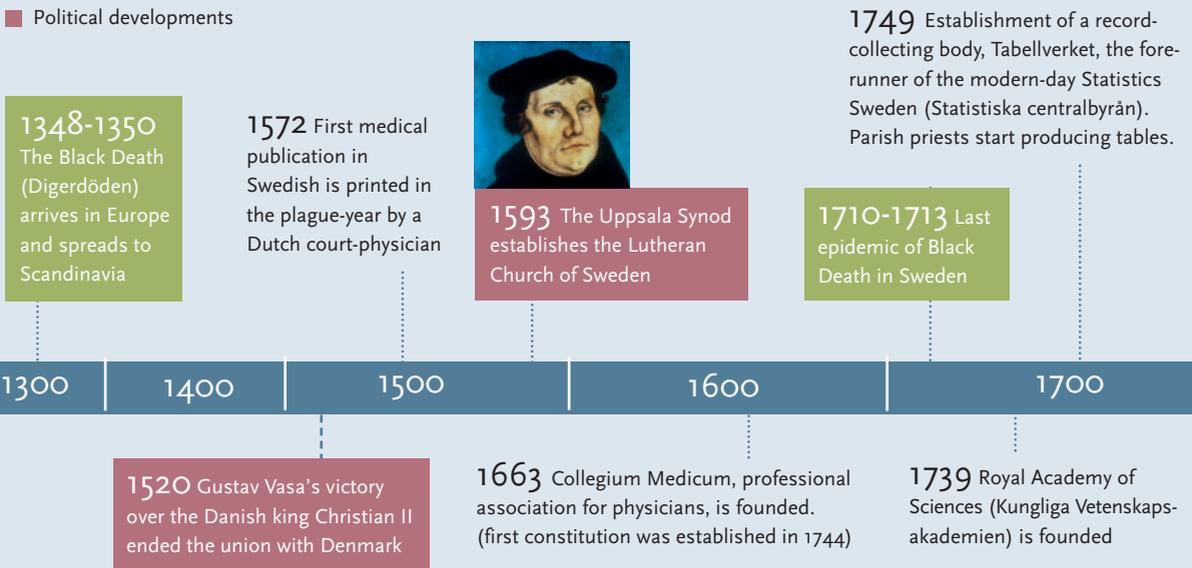
# Preface

The impressive improvements in health for the Swedish population during the last two and a half centuries can be ascribed to many reasons. There has been a multifold of important public health measures including the regular collection of vital statistics from 1749 on a national level through the state church, which also played an important role in the early and widespread vaccination coverage against smallpox. Preventive mother and child care, access to health care free of charge, restrictive alcohol policy, accident prevention in several sectors and anti-tobacco campaigns have also been important. However, the increased living standard due to universal welfare policy strategies including social security, high educational standard, high degree of employment for women and men, regional and housing subsidies, appears to be equally or even more important.

The Swedish National Institute of Public Health, SNIPH, has been responsible for supporting the implementation of the Swedish public

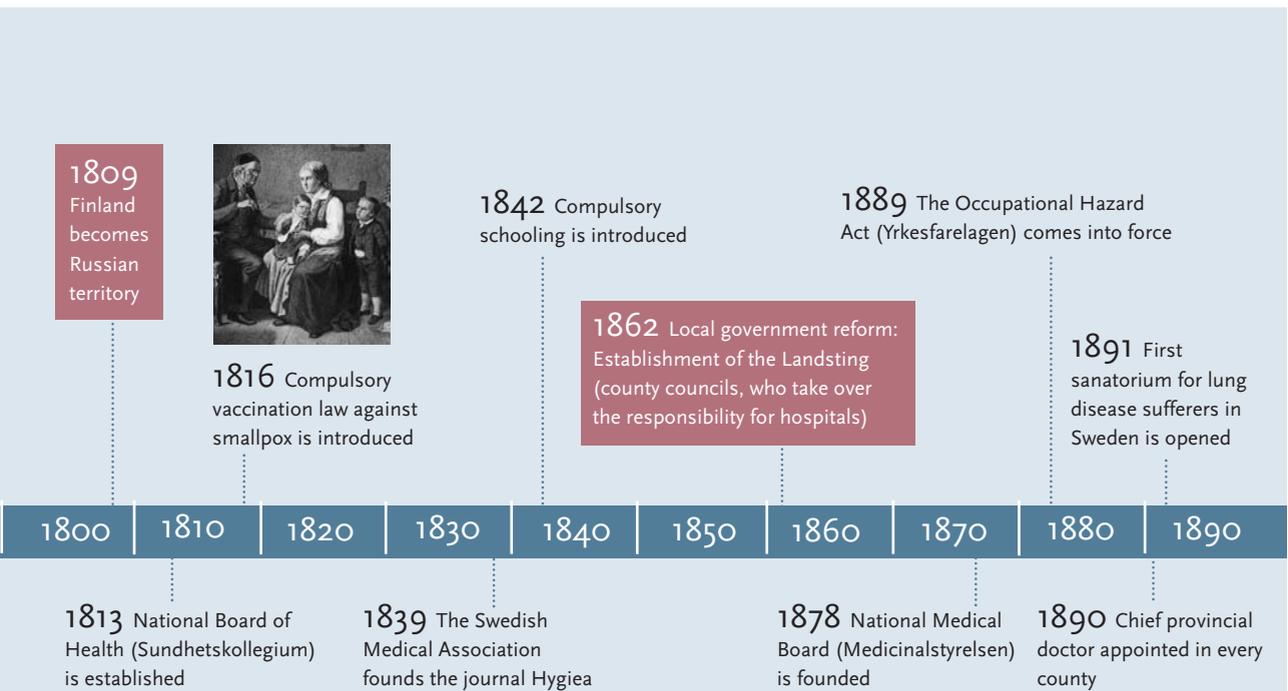
## Timeline of dates in public health history in Sweden

- Pandemics
- Political developments



health policy adopted by the Swedish Parliament, the Riksdag, in 2003, and for reporting on the implementation process as well as the results. The policy has been made available in English in a supplement to the Scandinavian Journal of Public Health (volume 32, supplement 64; eds. Hogstedt C, Lundgren B, Moberg H, Pettersson B and Ågren G) as well as in a summary of the first Public Health Policy Report published in 2005. SNIPH has also contributed to the evaluation of Swedish public health research in another supplement (no. 65) to the Scandinavian Journal of Public Health 2005.

Today's public health policies and results can to a large extent be explained by history and experiences from earlier decades and even centuries. Therefore, we were very pleased to publish a book in 2005 on the health of the Swedish people in a historical perspective (eds. Sundin J, Hogstedt C, Lindberg J and Moberg H) in Swedish in cooperation with Professor Jan Sundin and Associate Professor Sam Willner from Linköping University and others. We are now equally pleased to be able to publish a summarised and modified version in English by Professor Jan Sundin and Associate Professor Sam Willner focusing on the health development in relation to social changes over the last 250 years. Bernt Lundgren, Christer Hogstedt and Henrik



Moberg from SNIPH were responsible for the discussions with the authors and the processing of the book.

The new Swedish public health policy from 2003 has attracted much attention internationally due to its focus on structural determinants as well as lifestyle factors. The policy has been mentioned in the WHO Bangkok Charter on Health Promotion in a Globalized World and the WHO strategy for prevention and control of non-communicable diseases in the European Region, as well as by the Independent WHO Commission on Social Determinants. It is our hope that this publication shall contribute to the understanding of the background and context for this policy.

Historical lessons from one country can not be transferred uncritically to another country or be used as a basis for future decisions. However, the likelihood of the effects of different policies could be indicated by comparing differences and similarities in the contexts. We hope that this book will prove useful for policy comparisons and in the training of public health policy-makers, researchers, administrators and field workers.

Östersund, December 2007

*Gunnar Ågren*  
Director General

1904 The National Institute of Medicine (Statsmedicinska anstalten) is established.

1907 Institute of Bacteriology is established.

1912 National Board of Social Affairs (Socialstyrelsen) is established

1917 National Bacteriological Laboratory (Statens Bakteriologiska Laboratorium) is founded.



1918-1920  
Spanish Influenza pandemic

1900

1910

1904 National anti-tuberculosis association is founded

1913 A limited national basic pension for all is introduced

1917 Introduction of alcohol rationing (Brattssystemet or motbokssystemet)

1919 State subsidies to municipalities and county councils employing properly trained district nurses are introduced

# Foreword

The increase in life expectancy in Sweden from an average age of about 35 in the mid-eighteenth century to about 80 years in the new millennium is a spectacular achievement. It is a story about the interplay between disease, medicine, and economic, social, cultural and political conditions, sometimes within, sometimes beyond the influence of conscious human action. One of the trends in this story is the convergence of public health policies and outcomes in Europe but local contexts have also had a considerable impact upon the conditions for a healthy life. The history of Swedish public health is no exception. In this book, we highlight both what has been shaped within a national or Scandinavian setting and what has been part of influences and policies imported from abroad.

After completing an anthology in Swedish on this topic, we agreed with our sponsors and collaborators at the Swedish National Institute of Public Health that the story might also be of interest outside Sweden. Hence, the readers we have in mind are primarily international colleagues, advanced level students and people involved in the implementation of welfare and health policies. Our friends at the Swedish

1921 First general election based on universal and equal suffrage for both men and women to both houses

1938 Saltsjöbaden Agreement between employers and employees is concluded

1949 Occupational Safety and Health Act comes into force

1955 Abolition of the rationing system for alcohol (motboks-systemet)

1938 Swedish Public Health Institute (Statens institut för folkhälsan) is established

1947 Universal child benefit is introduced

1951 Three-week statutory holiday is introduced

1920

1930

1940

1950

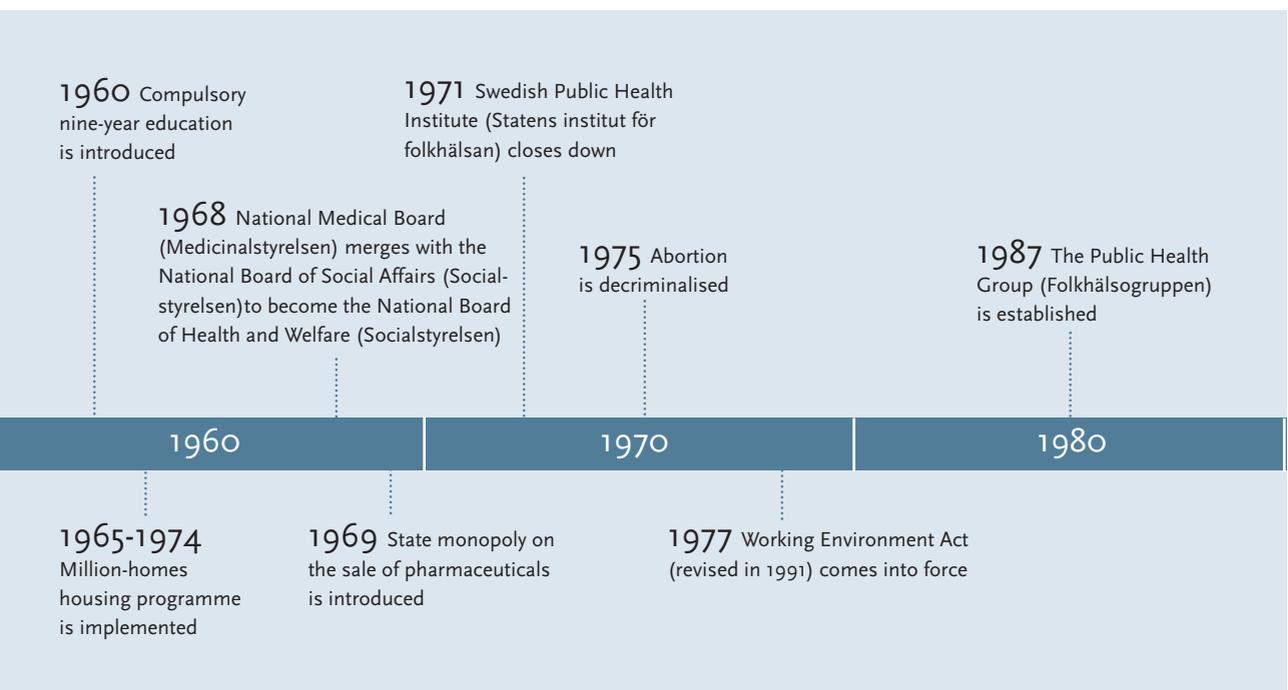
1935 Sterilisation for undesirables becomes law. (Not abolished until 1970)

1946 All citizens receive a minimum old-age pension, large enough to live on

1955 Compulsory health insurance is introduced

National Institute of Public Health, particularly Director General Gunnar Ågren, research directors Christer Hogstedt and Bernt Lundgren, and Henrik Moberg, who is now an investigator at the National Board of Health and Welfare, have provided us with constructive critique and suggestions, which greatly improved the content of the book. Bernt Lundgren has also written a passage in Chapter 7 about the present Swedish public health policy. Administrator Elisabeth Jonsson-Svedberg has put the references into the End Note system and Bernt Lundgren has been responsible for the final editing of the book. They have, at the same time, respected our subjective interpretations of the story, for which we, as authors, are consequently exclusively responsible and accountable.

We have been able to utilise the expertise of learned academic colleagues, both in Sweden and abroad, in reading the manuscript, at numerous meetings and workshops and in individual conversations. Patrice Bourdelais, Anne Hardy and René Loewenson read the manuscript in its preliminary form and gave us invaluable help on all levels. Laurinda Abreu has provided us and other academics with rich opportunities to exchange experiences within the PHOENIX thematic network. Vladimir Shkolnikov, Mickey Chopra and David Sanders



encouraged us to compare the Swedish experiences with events at other times and places. Our colleagues at Tema Health and Society, representing a variety of academic fields, helped us to look at the development of health and society from interdisciplinary perspectives. Finally, in a polite and constructive way, Gary Watson and John Farrow have erased innumerable errors, identified ambiguities and brought the text to its present linguistic form. Thanks to all of you and others not mentioned!

We dedicate the book to our master students, arriving at Linköping University from all corners of the world in order to learn more about the interplay between health and society. As teachers we are greatly inspired by lively seminar discussions, informal talks and their admirable ambitions to grasp a complicated issue and to make a difference to people's welfare.

Linköping, December 2007

*Jan Sundin and Sam Willner*



**1992** The Swedish National Institute of Public Health (Folkhälsoinstitutet) is established. It changes its name to Statens folkhälsoinstitut on the 1 July 2001 and moves from Stockholm to Östersund on the 1 July 2007.

**1997** The National Committee for Public Health (Nationella folkhälso-kommittén) is established. It submits its final report to the Government in 2000

1990

2000

**1993** Swedish Institute for Infectious Disease Control (Smittskyddsinstitutet) is established

**1995** Sweden joins the European Union

**2003** The Swedish Parliament, the Riksdag, adopts a comprehensive Swedish public health policy





# 1. Introduction

# Introduction

**Page 16:** Pole walking for healthy ageing.

Photo: Per Plåtare/  
Pressens bild

**Page 17:** Countryside cottage, 19th century.

Photo: Nordiska museet

This book is a shorter version of a recently published anthology in Swedish, with certain amendments and additions to make the contents more accessible to an international audience [1]. It is a historical journey through 250 years of Swedish public health (epidemiological and demographic evidence, ideas, politics and practices) following the transition of Sweden from a traditional agricultural society to the “post-industrial” world. Although based on Swedish experiences, the book also puts the country’s history into a wider international perspective. Sweden was of course not isolated from the rest of Europe and public health ideas and policies were formulated and practised in a European context.

We expect our readers first and foremost to be students on an advanced academic level looking for comparative perspectives on their own geographical arena both in Europe and in economically less developed parts of the world, countries where some of the health problems that belong to our past remain unsolved. We also anticipate that more senior colleagues will find some valuable contributions to this field of knowledge. Each context is to a great extent unique and history cannot provide readymade solutions to contemporary problems. Nevertheless, there may also be some lessons and food for constructive thought to be found for policy makers, through the comparison of one historical period and geographical area with another.

## Outline

This first chapter gives a short overview and presents some major perspectives, concepts and points of departure, which are naturally just a selection of all angles from which this interdisciplinary subject can be analysed. The chapters then work through the different historical periods highlighting certain characteristic patterns regarding both the health situation and health policies. The story starts with the early modern period, and then moves through the eighteenth century Age of Enlightenment and the birth of organised public health policies and

interventions in the nineteenth century, to the creation of a modern welfare state during the last hundred years. The final chapter summarises and reflects upon the results.

Throughout the book, we will examine the characteristics of social determinants and health over time, looking at factors such as regional and urban-rural differences, social status, education, gender, primary groups and socio-cultural differences. Where evidence exists, we will try to identify the winners and losers, using available measures (mortality and life expectancy) as the dependent variable. Health policies and health outcomes will be related to scientific, ideological and political factors. Some of society's major efforts and interventions within the field of public health will of course also be part of the story. In the final chapter, we will summarise the results according to certain key observations and themes and, where appropriate, relate the results to the concepts and perspectives presented above.

Today, global history is in many respects geographically synchronised. At any one time, different societies find themselves at highly different stages of economic, demographic and epidemiological development, affecting the health and survival of their populations. In spite of all the obvious differences, the Swedish experience will also be discussed in relation to the situation in today's developing countries. We will ask if certain patterns have a tendency (without representing a cast-iron social axiom) to emerge in different times and places under certain conditions, for instance during rapid social change. All our readers may well not share our assumptions and conclusions but nevertheless our professional experience has led us to believe in the value of the exchange of ideas and facts and convinced us that such an approach can make history more than just a simple recording of unique events but rather a tool that can aid us in our understanding of contemporary developments.<sup>1</sup>

---

1. As one example, see the contributions in Chopra M, Sundin J, Willner S, eds. 2004 [2].

# 250 years of public health

The story starts with the Black Death, the pandemic which swept over the Old World in the mid-fourteenth century. As far as Sweden is concerned, the Black Death, as along with other recurrent epidemics of plague which often coincided with war and crop failures, left very few imprints in historical sources in terms of central public health preventive measures before the seventeenth century. A dominant opinion was that the epidemics were caused by the will of God. Although later than in southern parts of Europe, Sweden also tried to curb the spread of epidemics, by, among other things, introducing quarantines and establishing *cordons sanitaires* along its borders.

During the eighteenth century, under the influence of Mercantilism and the Enlightenment, the authorities visibly increased their ambitions concerning public health. One significant early step was the establishment of an organisation for the regular collection of vital statistics on a national level from 1749 onwards in order to obtain reliable data on mortality and causes of death, and facilitate appropriate steps to improve the health of the population. This provides us with a unique possibility to follow national levels of and changes in mortality, taking age and gender into account, over a considerable historical period, which is also the main reason why we have focused on the last 250 years. Other measures taken were the expansion of the system of provincial doctors and midwives, and the introduction of extensive information campaigns for breastfeeding and for improving infant care in general.

The early nineteenth century saw a secular decline in mortality, which was, according to contemporary observers, caused by “Peace, vaccine and potatoes”. “Peace” refers to the permanent peace period after the Napoleonic wars, “vaccine” to the introduction of comprehensive smallpox vaccination in the early nineteenth century and “potatoes” to the agricultural revolution, increasing farming productivity and production. These three factors encapsulate important conditions contributing to health improvements. Whilst children and women of most ages benefited from this improvement, mortality figures continued to be high among middle-aged men.

In contrast to some other Western European societies, the industrial revolution in Sweden during the late nineteenth century had no

significantly negative impact on mortality figures except for during short periods of turbulence in rapidly growing urban environments. One important factor contributing to increasing life expectancies during this period was the largely simultaneous sanitary reforms which took place during the development of urban areas, particularly the construction of effective sewerage systems and the supply of fresh drinking water. An improved standard of living for large numbers of the population also contributed as did, among other things, the emerging ideal of “orderliness” vigorously propagated by certain popular movements and restrictive alcohol legislation, introduced by central government to reduce health problems connected to excessive drinking.

In the interwar period, during the 1920s and 1930s, the first steps towards the welfare state were taken. The “People’s Home”, an ideal of a paternalistic society where nobody was left alone when in need, became an increasingly popular image. At the same time, less appealing examples of population policies were introduced in the guise of “scientific eugenics”.

In the post-war period, the “Scandinavian” type of a modern welfare state was fully realised by the introduction of various types of social benefits as well as, among other things, the expansion of general health care and day nursery services. Occupational health became a growing concern in laws and negotiations between employers and workers. Preventive and curative medicine also contributed to the improvement in the population’s health, with the introduction of antibiotics and vaccines, technical innovations in cardiology and oncology, etc. Preventive health policies were, at that time, increasingly concerned with attempts to influence and change individual lifestyle factors, rather than taking a structural approach typical of the “hygienism” of the nineteenth century.

## Health transition after 1750

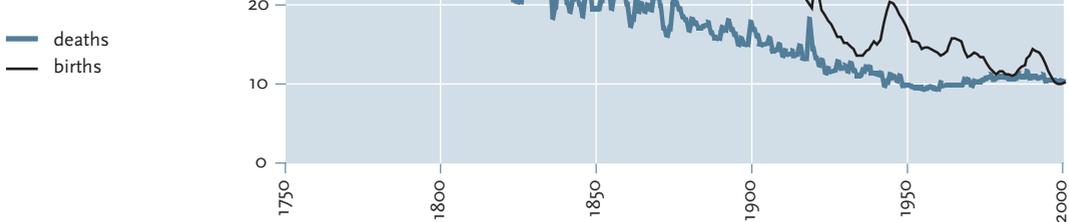
In 1749, the demographic status of the Swedish population became for the first time an institutionalised field of knowledge. In that year, *Tabellverket* (a predecessor of the present-day *Statistics Sweden*) was established and Sweden (including Finland which at the time was a

Swedish province) became the first country in the world to organise the regular collection of population data (size of population, death and birth rates) on a national level. This gives us a unique opportunity to follow trends in mortality rates with regard to gender and age over more than two and a half centuries. The background was the dominant political and economic doctrine of the eighteenth century, combined with the Age of Enlightenment’s optimistic view of being able to prevent disease and death aided by science. Parish priests were ordered to compile and report the number of deaths per year among their parishioners by age, sex and cause and to report the make-up of the population in terms of sex and age at certain intervals [3].

The demographic transition model describes the relation between birth and death rates and population development in a historical perspective. Thanks to Swedish population statistics, we can follow this interplay for more than 250 years. Initially, both birth and death rates were high (Figure 1.1). Since the number of births was normally somewhat higher than the number of deaths, the population naturally grew. On occasion, a sudden peak in the death rate exceeded the number of births (e.g. 1772–1773 and 1808–1809), resulting in a temporary fall in the population. The permanent decline in the death rate, which began in the early nineteenth century, at the same time as the birth rate

**Figure 1.1** The demographic transition. Sweden, 1750–2000.

Source: Historisk statistik för Sverige. Del 1, Befolkning (Historical statistics of Sweden. Part 1, Population statistics) 1720–1967. Befolkningsstatistik (Population statistics), [www.scb.se](http://www.scb.se)



continued to be high, led to substantial population growth. The industrial revolution of the 1870s brought with it a drop in fertility rates. This, combined with the mass exodus of Swedes to America during the same period, put somewhat of a damper on population growth. During the twentieth century, variations in fertility, declining mortality and immigration were the main factors governing population development. The dramatic drop in fertility rates resulted in warnings about “population crises” during the 1930s and considerable attention was devoted to population issues in public debate [3]. It is a well-established fact that there are clear differences in demographic transition in different countries even within western Europe. From the mid-eighteenth to the late twentieth century, there was a long-term trend towards lower mortality in Britain and France as well as in Sweden. This was, however, temporarily interrupted in the former two countries around the mid-nineteenth century, but not in the latter. Concerning fertility, the differences were more apparent. In France, fertility declined from the mid-eighteenth century and onwards, while in Sweden and Britain the rates remained relatively high until the onset of a declining trend in the late nineteenth century [4].

One effect of the demographic transition, with falling fertility and mortality rates, was a growing number of older people in the population. The proportion of over 65s in the population in 1750 was six percent, a figure that had risen to 17 percent at the turn of the millennium in the year 2000. It should be noted that the rising mortality curve (Figure 1.1) during the latter part of the twentieth century was primarily due to the growing proportion of older people in the population, and not the consequence of impaired health, even though there was a rise in the number of deaths among middle-aged men during the 1960s and 1970s.

From a public health perspective, the mortality rate is perhaps the most significant phenomenon, even if the birth rate is by no means uninteresting in this context. Firstly, high fertility in the past was linked to a greater risk of death in connection with pregnancy and childbirth. And secondly, high birth rates contributed to a rapid rise in the population, which, according to a Malthusian view (named after the British political economist and public debater, *Thomas Malthus*, (1766–1834), tended to force up the mortality rate, since food production could not increase fast enough to meet the demands of the bigger population. Later research has, however, brought the Malthusian conclusions and

generalisations into question. Among other things, it has been suggested that greater population pressure can lead to more intensive agricultural production, which is quite capable of meeting the growing demands for food supply [5]. Nevertheless, Malthus neglected or could not foresee the technological advances that contributed to a dramatic increase in agricultural productivity, thus allowing fewer farmers to feed ever larger numbers of people using less land [6].

According to the epidemiological transition model, the countries of the world have undergone different historical phases as regards cause-of-death patterns, which can be linked to changes in mortality during the demographic transition [7, 8]. The first phase (the age of pestilence and famine), which in Sweden we can follow from the mid-eighteenth century, was dominated by infectious diseases and characterised by a universally high level of mortality with dramatic annual fluctuations. Peaks in the mortality rate were caused by epidemics, which often coincided with crop failures and war. The second phase (the age of receding pandemics), which corresponds to conditions in Sweden from the early nineteenth to the early twentieth century, was characterised by a universally reduced mortality rate and a declining robustness and frequency of epidemic outbreaks. The dominance of infectious diseases began to subside. The third phase (the age of degenerative and man-made diseases), is still ongoing and is characterised by low levels of mortality in a historical perspective, dominated by such ailments as cardiovascular diseases and cancer (otherwise known as non-communicable diseases) and injuries, whilst infectious diseases play a relatively insignificant role as a cause of death.

A new step in the development of public health is the dramatic improvement in medical treatment of cardiovascular diseases combined with changes in individual behaviour, particularly diet and smoking habits, in the Western World, resulting in declining mortality since the 1970s [9]. As mortality levels in younger age groups have gradually fallen, more and more interest has been devoted to other health problems that do not necessarily lead to death, such as allergies, stress and mental ill-health. Developments in other parts of the world, and perhaps most strikingly what is happening with the HIV/AIDS pandemic in southern Africa, have shown that infectious diseases still constitute a real threat to public health. Another example is the dramatic decline in male life expectancy and the disturbing increase in tuberculosis in parts of the former Soviet Union.

The increasing average life expectancy illustrates one of the most dramatic achievements in European history. In the mid-eighteenth century, life expectancy at birth in Sweden was around 35 years. This had increased to about 55 years by the beginning of the twentieth century. One hundred years later in the year 2000, it stood at 77 years for men and 82 years for women (Table 1.1). Generally, women have usually lived longer than men. In the past, mortality was highest among young infants and the very old. The high mortality rate among infants and small children was a strong contributory factor in the low life expectancy figures. A young man or woman managing to survive until the age of 15 in the late-eighteenth century had a remaining average life expectancy of just over 40 years, i.e. a reasonable chance of reaching at least their 50th birthday. Nowadays, mortality is very low up until 50–60 years old, but it is during the first few years of life that the death rate has been dramatically reduced. We can, however, also ascertain that the health of older children, young people and adults has also improved considerably during the last century. For example, remaining average life expectancy at the age of 15 years has increased from about 50 years at the beginning of the twentieth century to 65 years at the turn of the millennium.

**Table 1.1** Remaining average life expectancy at different ages, 1751–2002.

	0		15		50		65	
	Men	Women	Men	Women	Men	Women	Men	Women
1751–1790	33.7	36.6	40.5	43.1	18.2	19.6	10.0	10.5
1851–1855	40.5	44.6	42.0	45.5	17.9	19.8	9.6	10.4
1901–1910	54.5	57.0	49.8	51.5	23.2	24.0	12.8	13.7
1951–1960	70.9	74.1	58.0	60.7	25.5	27.5	13.9	15.0
1998–2002	77.3	82.0	62.7	67.4	29.3	33.3	16.6	20.0

Source: Befolkningsstatistik, Del 4, Födda och döda, civilståndsförändringar m.m. (Population statistics. Part 4, Vital statistics) 2002, Statistics Sweden.

# Aims, concepts and perspectives

Certain facts, patterns and perspectives must be highlighted at the expense of others when writing a short, reasonably comprehensive story about a complex process. Some of these aims, concepts and perspectives will now be introduced and this will hopefully help the reader to understand why certain events, factors and patterns have been highlighted. First of all, a word on terminology. *Public health* is often used to mean both the health of a population and factors affecting its health, including collective actions taken in order to improve the health of a population. We have accepted this wide definition. The organisational and social history of *individual* healthcare in hospitals or elsewhere will, however, only be mentioned in brief, partly in line with Thomas McKeown's premise that purely medical "therapy" only recently made a most significant contribution to prolonged life expectancy in our part of the world [10]. In other words, we will argue that medical science and the medical professions played prominent roles as agents in our story.

## INTERDEPENDENCY BETWEEN WEALTH AND HEALTH

More wealth means better health for both individuals and populations. There is a positive correlation between the prosperity of nations or social groups and health. High income and good education reduces the risks of almost all types of disease. Income is, however, also positively correlated with health when all groups that are compared are provided with enough economic capital to acquire the basic material resources needed to protect their health. Based on studies of income inequalities in different countries and in different American states, *Richard Wilkinson* claims that large social differences in a particular society not only produce large inequalities in health, but may also have a negative impact on its overall health status, measured as average life expectancy, including those who are quite well off. In Wilkinson's opinion, inequalities create negative psychosocial effects, even among the wealthy classes. His results have been criticised for potential ecological fallacies and a relatively weak correlation. Using one single variable in order to find explanations is of course always dangerous. In Wilkinson's cases, the connection may be found in certain countries under certain conditions, for instance in the U.S., where life expectancy is lower than it should be

according to the average GDP. Other means of creating and distributing welfare may cause the income distribution to have less of an impact. Adding welfare systems and public health policies and institutions to the analysis may further clarify the issue [11–17].

Conversely, sick people are often less able than healthy ones to contribute to the production of goods and services. Economists in the late seventeenth and eighteenth century in Europe calculated the demographic rates, the age-composition of the population and the value for society of the work of children and adults compared with the costs of caring for children and the elderly [18]. However cynical and naïve these calculations might seem, they were based on the pertinent observation that the ratio between the productive and the dependent parts of a population affects the economy of a nation – or of a household for that matter. The higher this ratio is, the greater the possibility of a decent level of subsistence for everybody.

Economists and historians have shown that health is an important resource for the society as a whole. A healthy population, with low mortality among children and adults and a balanced age structure, is correlated with economic growth. Sweden, having had reliable population data since 1749, has been used as to illustrate this theory. When infant and child mortality declined during the first half of the nineteenth century, the population grew, but to begin with this growth only produced dependent children. As long as the mortality decline continued, this imbalance prevailed, meaning a growing proletariat, unemployment and pauperisation for a growing part of the population and a slow rate of economic growth in relation to the size of the population. Growth started to improve when the first large generations of those who had survived childhood could start producing instead of just consuming. An even more positive era began during the last part of the nineteenth century, when family planning reduced the number of children born, but still not to an extent that threatened the reproduction of the population. This positive trend in the producing/depending ratio continued and was followed by rapid economic growth until the last decades of the twentieth century, when the fertility decline (combined with an increasing percentage of older people who are no longer in the workforce) made the ratio fall, coincidentally at the same time as the economic growth rate started to slow down. The last few decades are, however, too short a period to constitute a trend that may help predict the future.

The highest correlation rates between the age structure of the population and economic growth has a tendency to appear when the proportional size of the middle-aged group is large, the best predictor of rapid growth. The assumption is that this group is not only more productive, because of its education and its experience, but it has also come to a stage in life when its economy is good, partly being used for savings and investments for future productivity. A comparison with other countries in the western world and in OECD countries gives similar results, except for the case of the U.S., where constant immigration has served as a vehicle for keeping the population pyramid in good shape for economic growth. Even if fertility and migration are also two important factors influencing the age distribution, health continues to be important for most countries.

Consequently, if children die before society can prosper from their skills and efforts as adults, if mortality is high in the working population and if health is bad in all groups, including older people who are forced to retire from work too early in life, the productivity versus dependency ratio will fall and the rates of investment and economic growth will tend to slow down [19–21].

#### “CULTURAL CAPITAL” AS A HUMAN RESOURCE

There are, however, non-material resources, which cannot be bought or exchanged for money, at least not easily. These also can have a significant impact on public health. Some scholars, who have dedicated research to this area, call these resources “*symbolic capital*”. One of the pioneers, the French sociologist and philosopher *Pierre Bourdieu* [22–24] describes what he calls “*cultural capital*”, which is “knowledge”, or what might be called “knowledge by doing” or “tacit knowledge” provided by upbringing and life experiences. It is knowledge of “how things are or work” in practice or in the dominant perceptions among the people around you or – if you belong to the self-appointed elite – among “the people that matter” in a specific context. It is also to know and have the necessary social skills in order to be accepted in a certain culture, a social group, or a local community. Hence, cultural capital can be anything from knowing how to solve a mathematical problem, to saying the right thing at a dinner table or wearing the right dress for the right occasion if that is what is important to become “one of them”.

Bourdieu was not specifically discussing the relation between health and cultural capital or the more obvious advantages of knowledge, for instance how to feed a child properly or, in general, to have access to the best available information on how to protect one's health. His major interest was how cultural capital – by upbringing (*embodied*) and by formal education (*institutionalised*) – opens the doors to the right circles, to the right work, to influence and prestige. However, cultural capital as values and behaviour also affects health indirectly. The perception of the ideal body, for instance, varies noticeably between different groups. Historically, the ideal of the body has changed back and forth. Consider, for instance, the history of European portrait painting. There is a striking contrast between the slender subjects of medieval paintings compared with well-fed individuals portrayed during the seventeenth and early eighteenth century baroque era, when a stout body was a sign of wealth. This is further underlined by the appearance of the less substantial statures of peasants and workers on folklore paintings from the same period. Today, overweight is seen as a major health problem caused by many factors, including cultural perceptions. At the same time, “obesity” and similar value-loaded terms tend to produce a stigma, labelling certain groups in society as ignorant or at least insufficiently educated.

Attitudes towards cigarette smoking in Europe and North America give us another example of this. Having been a habit of “sophisticated” modern upper and middle class men – and later also women – during the interwar period, it spread to other social groups who had previously mostly been pipe-smokers or snuff users, a process that was encouraged by media and commercial interests. Nowadays, mostly because of the medical dangers described in public health campaigns, smoking has become a relatively rare phenomenon among the “educated” and a stigma among the less educated often found in stressful, low-paid jobs, for instance women in minor positions in the healthcare sector. Defined in this way, cultural capital is an active agent affecting people's status, welfare and health.

### “SOCIAL CAPITAL” AS A HUMAN RESOURCE

Cultural capital is not shaped in a social vacuum. It is provided by formal institutions and family, but also by other informal groups or networks from the cradle to the grave of each individual: voluntary

associations, churches, trade unions, political parties, social clubs, neighbours, friends, colleagues at work, and other networks. Cultural capital opens doors to different networks and different networks cherish and foster different forms of cultural capital. *Social capital* is in brief a product of the individual's connections to the different networks to which she was born or entered later in life. Like cultural capital, social capital needs time, work – investment or “symbolic gifts”, for instance voluntary work, unpaid advice and help to members. Even material gifts may be exchanged, but their true value is not only – or primarily – measured in money but by a symbolic value. Social capital can provide a feeling of “belonging” (as opposed to isolation), identity, security and therefore also more self-confidence. Shared cultural capital, homogenous norms and beliefs tend to strengthen the network and contribute to mutual trust between its members, a valuable asset when needed. Therefore the network can sometimes help in times of trouble but also contribute positively to psycho-social conditions. Evidently, there is reason to believe that “good” social capital can be good for an individual's or a nation's health.

Economic capital can sometimes be more easily “cashed in”, but it will shrink at the same time and it can disappear because of a wrong investment. Although both cultural and social capitals need investment, they do not necessarily diminish when used. Social (and cultural) capital is therefore a “sustainable” asset for individuals and society. However, that does not mean that it cannot be damaged or indeed erode and disappear for an individual, for a social group or for a whole society, when the social fabric develops unfavourably.

## SOCIAL CAPITAL, COMMUNITY, STATE AND HEALTH

For Pierre Bourdieu, different forms of capital were first of all tools, helping individuals and groups to further their vital interests in life and reproducing influence, status and power from one generation to another. *Robert Putnam*, an American political scientist, turned his attention towards local communities, social networks and their impact on effective political life and economic progress [25]. He distinguished between two forms of social capital, the first being ‘*bonding social capital*’, characteristic of socially and culturally homogenous groups where the network's first objective was to strengthen the identities and interests of its members. The early modern artisans' guilds in Europe can be used

as a typical example of bonding capital, trying to defend their interests and excluding others from their privileges. Bourdieu's cultural and social capitals can mostly be seen as bonding capitals. There are, however, according to Putnam, other networks that create '*bridging social capital*'. These networks consist of less homogenous groups with limited objectives and less emphasis on specific values, for instance citizens in a local community taking care of their children's playground, a bridge club or a sports club. Their bridging nature consists of bringing people together, increasing the feelings of mutual belonging to the greater society and creating an atmosphere of open-mindedness to other groups, values and ways of living. These networks do not always have to be locally based, but can also be national associations. For Putnam, bridging social capital is essential for political participation, community trust, economic progress and even for health.

*Bo Rothstein*, a Swedish political scientist [26], argues that social capital can be enhanced by an active state, although its exact forms change over time. This standpoint has also been taken by other scholars, for instance *Michael Woolcock* and *Stephen Kunitz* [27–29]. The English historian *Simon Szreter* discusses the role of different types of social capital and its effects [30, 31]. He does not deny the value of the distinction between 'bonding' and 'bridging' social capital but gives more weight to the potential negative effects of bonding capital. There are several examples of organisations and networks whose goal may be the exclusion of others, even taking action against parts of the population they do not like. Their activities are hardly to the benefit of society. Besides, Bourdieu's uncovering of the reproduction of power through informal elite bonds must also be considered.

Szreter highlights the will and initiative by the state and other movements to create '*linking social capital*'. This third form exists within networks, associations and institutions sharing common ideologies of human solidarity. Bonding and bridging social capital work horizontally, while linking social capital is "vertical": The "haves" help the "have-nots". In Szreter's view, politics and public authorities at all levels can participate in linking social capital. It also means that in order to be truly beneficial for the whole society, informal networks and voluntary associations should not just represent their own limited self-interest, but must also act out of compassion for fellow citizens of different kinds. Szreter's historical evidence is mainly taken from his own country during the nineteenth century, where he observed a shift from *laissez-*

faire policies to public health and welfare reforms, which benefited the whole nation and not just the wealthy. He argues, however, that his observations are also relevant to other historical periods and societies. The lack of a state and institutions imbued with these values and intentions might produce less trust and safety and tempt its citizens to resort to more excluding forms of bonding social capital.

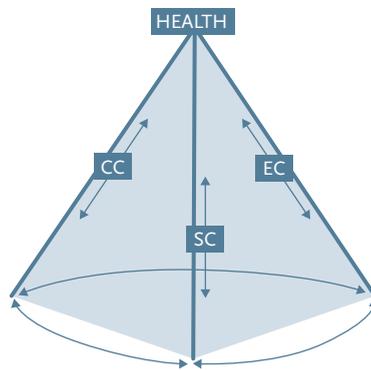
According to this view, politics and public and private institutions can play a role to create – or undermine – valuable social capital for those who need it, but ideology will be an important part of the process. To conclude, formal and informal institutions can influence

- The distribution of economic capital
- The forms, quantity and quality and distribution of cultural capital
- The forms, strength and distribution of social capital
- The strength and distribution of political capital
- The quantity, quality and distribution of healthcare and other health services

Given the need for qualitative assessment in each case, in this book we prefer to see “social capital” as an analytical concept, not as a key element in a general theory, which can be used to make predictions. In other words, its existence in all its various forms may cause a variety of positive or negative outcomes for the welfare and health of a specific individual or group. These implications depend on specific contexts and conditions in time and place.

**Figure 1.2** Health, economic capital (EC), cultural capital (CC) and social capital (SC).

Source: Jan Sundin



## HUMAN RESOURCES AND HEALTH – A SUMMARY

The social fabric affects the health of human beings through a process in which economic capital, cultural capital and social capital interact with psychosocial and biological mechanisms in a certain epidemiological context. Socioeconomic change intervenes in these processes and can either strengthen or weaken the health of individuals and populations. When putting the different human resources together in a simple model, we have to return to health as the first resource or capital. We concluded not only that health is an important – sometimes the most important – resource for the individual, but also that a healthy population is essential for the wealth of families, local communities and nations. Bad health means less productivity and increased expenditure in care and treatment regardless of who is paying the bill – the individual herself, the family, local community or the state. If health is preserved, work and money can be used for other urgent items, necessary for people's well being.

Economic, cultural and social capitals enhance health in many ways, but conversely, health is also a resource that helps a person to acquire these means. Figure 1.2 represents the analytical elements for a single individual, social group or nation. Strengthening either health or one of the three pillars can start a positive process in which other parts of the pyramid are also reinforced. Seriously weakening one of the four elements will have a negative effect on the other three, sometimes starting a vicious circle and eroding the whole pyramid. The basis of the pyramid is rooted in society and society surrounds it, influencing health as well. If social change (caused by economical or political factors) occurs, positive or negative processes can start from the outside with implications for society itself. This process is often driven by more or less anonymous forces on a macro scale, as it was, for instance, by agricultural change and population growth in early nineteenth-century Sweden. a case we will discuss later on in our story.

## SOCIAL CHANGE, GENDER AND HEALTH

Social class is correlated with health, but significant health differences are also present between men and women, a fact that justifies further discussion. In today's modern societies, both formally registered illness (documented, for instance, in sickness insurance data) and self-rated-health problems tend to be more common among adult women than among men of the same age. This tendency can even be seen in some

historical studies from the early twentieth century. Several explanations have been suggested, for instance that the panorama of illness is different between the two sexes due both to biological and environmental factors. Other explanations assume that women are more likely to express their illnesses; they visit the formal healthcare services more frequently, take out more sick leave and are more likely to respond to questionnaires. A satisfactory explanation based on unquestionable data has hardly been presented. Through history, male mortality has, on the other hand, usually been higher than female mortality, both among children (especially newly born infants) and adults. The opposite has often been seen as an indication that cultural and social systems discriminate against the female population, for instance through neglect of baby girls (even going as far as infanticide) or through establishing hard life conditions for women.

No scholars deny that biological factors may cause health differences between the two sexes. It has, for instance, been suggested that the fact that boys usually have somewhat higher mortality rates than girls during infancy can be explained by their less developed lung systems or that female babies are better protected against infections thanks to their double set of X-chromosomes [32]. Complications in childbirth resulting in maternal mortality was once an important cause of death among women between 15 and 45 years of age in Sweden and is still a problem in societies with poor hygiene and less developed healthcare systems. Adult female mortality is, however, with the exception of the intensive reproductive period, usually significantly lower than male mortality in the same age group.

Although biological factors explain some of the differences, a lot of evidence indicates that most of them are caused by unequal social and cultural roles for women and men. The male/female mortality ratio tends to vary in size for different age spans in different times and places. In many cultures, both the male and the female absolute mortality rates and the male/female ratio are lower among married persons than among the non-married. Even then, however, the differences vary depending on time and social milieu, often being more visible in urban areas. These variations give further support to the conclusion that social and cultural contexts affect the survival rates of men and women differently, even within the same socioeconomic group.

*Gender* – socially and culturally constructed roles, positions and resources of men and women – must therefore be taken into considera-

tion in order to understand different forms of individual resources (“capital”). *Sheila Ryan Johansson* uses ‘positive and negative rights’ as two concepts, which can help us to understand how these roles and resources have an impact on health [33]. Rights can be seen as privileges, economic, cultural and social capital invested in men or women through gender roles. Positive rights are resources enhancing health. Seen in the light of our definition of different forms of capital, it may for instance be the necessary means to buy clothes, decent housing and food, knowledge about healthy and unhealthy food and other substances (narcotics, alcohol and tobacco) and other habits that are a “gift” from one’s cultural and social milieu and upbringing. Negative rights can, on the other hand, consist of possibilities to consume too much food or to buy unhealthy drugs. In that sense, gender and health become a complex nexus of positive and negative rights related to a specific cultural and socioeconomic context. Some patterns seem to occur often, whilst other findings tend to be more specific.

Men usually control larger shares of economic capital than women, either directly as private property owners or indirectly through their dominance in business and in politics. In spite of that, male mortality has often been higher and caused by negative gender factors. Male roles and resources encourage them to become involved in many risks – wars, automobile accidents and rash lifestyles. Female subordination and images as the prime caretakers of children and families sometimes reduce their access to food and other material goods, but the same roles tend to foster a more careful lifestyle.

One explanation why single people, especially men, have a shorter life expectancy than those who are married can be the *selective factor*: simply suffering from bad health or being less attractive on the marriage market may be the reason why they may be unmarried, have never married or are divorced. This factor might be part of the truth, especially since healthy male lifestyles are intuitively positively correlated with the possibility of being married. Men with alcohol problems or other risky behaviours could be less successful in finding a willing partner or be left with potential partners who share their negligent attitudes towards health. The mortality disadvantage of unmarried people (especially males) tends to increase from the age of 20 to 45, which could be a sign that the least healthy individuals are “left over” on the marriage market. The high mortality of widows and widowers could of course also depend on some negative factor common to both themselves and their partners.

The increasing unmarried/married mortality ratio over age can, however, also depend on the delayed mortality effect of lifestyles that are an effect of being unmarried or emanate from psychosocial problems caused by traumatic experiences of becoming divorced or widows/widowers. *Émile Durkheim*, the father of modern sociology, claimed that marriage strengthens male *social control* and gives them a feeling of *responsibility* as breadwinners and protectors of their families [34]. The marriage ritual signifies a step into a more positive social role and a supportive network. In Durkheim's eyes, marriage also provides *meaning*, a positive goal in life beyond the individual self. Still, by tradition, many females are educated to become the responsible and caring partner even before they get married. They learn self-control and practical skills, valuable for the everyday survival, from an early age. Historical and contemporary studies have also shown that females often “administrate” the more intimate part of the family's social networks, while men are in charge of the “business side”. In times of crisis, women seem to be more capable of improvising and devising solutions, often in collaboration with other women.

The sociologist *Émile Durkheim* claimed that marriage strengthens social control and gives men a feeling of meaning and responsibility, which explains the positive correlation between marriage and life expectancy.

Photo: Photos.com



Both selection on the marriage market and the benefit of marriage are plausible explanations for the low mortality rates among married couples. The variations over time and space indicate that gender differences are affected by different socioeconomic and cultural conditions. In the short-term perspective at least, rapid changes often seem to have had more negative consequences for male life expectancy. In many societies, the successful man has to be economically well off, find a woman, have children and protect and support the family. Not living up to that role indicates a lack of social capital. That would explain why adult male mortality may increase during periods of social change, especially among the non-married with the weakest social networks. They run the risk of trying to compensate for their shortcomings by associating with subcultures where drug abuse, alcoholism and violence are common. It is therefore logical to expect that social and medical problems start to become visible at an age when men are trying to establish themselves on the labour market and become husbands. In urban areas, where social change often – but not always – occurs in the form of immigration, uprooted societies, anonymity, diversity of norms and a choice of more or less healthy lifestyles, some male groups tend to lose out.

## IN CONCLUSION

These analytical concepts and perspectives are mainly products of modern research and thinking. Still, we have reason to assume that they would, in principle and with due attention paid to conditions created by specific contexts, also help us to understand events and patterns in the past. We can expect that the material resources of a society will always be important determinants of its citizens' welfare and health. The continuous re-distribution of these resources produces winners and losers. But these changes do not occur in a social vacuum. Factors other than purely or primarily economic conditions are also important. Concepts like cultural and social capital uncover social relations and mechanisms, which can help people to support their welfare and survival. "Linking social capital" is a concept that helps us to understand the role played by ideologies, policies and institutions – local or central, public or private. The human arena can be depicted by "class" or "social group" but there are other social relations of equal importance when analysing the distribution of the health of individuals, i.e. gender.

Finally, we agree with Pierre Bourdieu that “*power*”, used by the individual or exercised against an individual or a group by other individuals, groups or “*society*”, may significantly affect who will have access to the benefits of society. Bourdieu’s analysis of cultural and social capital emanated from his curiosity about the fact that more sophisticated forms of power and influence could reproduce themselves from generation to generation within a relatively closed “*social field*” representing the French elite. In the end, he saw power and influence as the means to generate resources for those invested with the same power. Hence, power is not equally distributed between all individuals and groups and more resources tend to generate more power. Institutions can exercise power against individuals overtly or in subtle ways, enhancing or diminishing the possibility of themselves or others to live healthy and wealthy lives. Relative deficits of resources in the form of money, knowledge or social protection, also diminish the potentials for good health. When modern public health policies emphasise “*empowerment*” as a strategy to give people better tools to improve their living conditions and health, the existence of “*disempowered*” groups is simultaneously recognised.

With these perspectives in mind, the next chapter brings us back to the early modern times, when publicly organised attempts to fight death and disease were imported to Sweden from southern Europe.

## Reference list

1. Sundin J, Hogstedt C, Lindberg J, Moberg H, eds. Svenska folkets hälsa i historiskt perspektiv [The health of the Swedish people in a historical perspective]. Stockholm: Swedish National Institute of Public Health; 2005.
2. Chopra M, Sundin J, Willner S, eds. Health and Social Change. Past and Present Evidence. *Hygiea Internationalis* 2004;4(1). Published electronically at: <http://www.ep.liu.se/ej/hygiea/>.
3. Guteland G, Holmberg I, Hägerstrand T, Karlqvist A, Rundblad B. Ett folks biografi: befolkning och samhälle från historia till framtid [The biography of a people – past and future population changes]. Stockholm: Liber; 1983.
4. Bourdelais P. L’âge de la vieillesse: histoire du vieillissement de la population. Paris: Éditions Odile Jacob; 1997.

5. Boserup E. The conditions of agricultural growth: the economics of agrarian change under population pressure. London: Allen & Unwin; 1965.
6. Cypher J, Dietz J. The Process of Economic Development. London: Routledge; 1997.
7. Omran AR. The epidemiological transition theory revisited thirty years later. *World Health Statistics Quarterly* 1998;51:99-119.
8. Omran AR. The epidemiological transition: a theory of the epidemiology of population change. *The Milbank Memorial Fund Quarterly* 1971;49:509-538.
9. Vallin J, Meslé F. Convergences and divergences in mortality. A new approach to health transition. *Demographic Research, Special Collection* 2004;2:1-44.
10. McKeown T. The dream of medicine: dream, mirage or nemesis? Princeton: Princeton University Press; 1979.
11. Kawachi I, Kennedy BP, Glass R. Social capital and self-rated health: a contextual analysis. *American Journal of Public Health* 1999;89(8):1187-93.
12. Leon DA, Walt G, Gilson L. Recent advances: International perspectives on health inequalities and policy. *BMJ* 2001;322:591-4.
13. Marmot M, Wilkinson R, eds. Social determinants of health. Oxford: Oxford University Press; 1999.
14. Wilkinson RG. Unhealthy societies: the afflictions of inequality. London: Routledge; 1996.
15. Mackenbach JP. Income inequality and population health: evidence favouring a negative correlation between income inequality and life expectancy has disappeared. *BMJ* 2002;324:1-2.
16. Wilkinson RG. The impact of inequality: How to make sick societies healthier. New York: The New Press; 2005.
17. Marmot M, Siegrist J, eds. Social inequalities in health: new evidence and policy implications. Oxford: Oxford University Press; 2006.
18. Johannisson K. Det mätbara samhället: statistik och samhällsdröm i 1700-talets Europa [Society in numbers: statistics and utopias in 18th century Europe]. Stockholm: Norstedts; 1988.
19. Hertzman C, Siddiqi A. Health and rapid economic change in late twentieth century. *Social Science Medicine* 2000;51:809-19.
20. Lindh T, Malmberg B. Age structure effects and growth in the OECD, 1950-1990. *Journal of Population Economics* 1999;12:431-449.
21. Lindh T, Malmberg B. Population change and growth in the Western world, 1850-1990. Working paper for SSHA Conference 2000.
22. Bourdieu P. Le capital social: notes provisoires. *Actes de la Recherche en Sciences Sociales* 1980;31:2-3.
23. Bourdieu P. The forms of capital. In: Richardson J, ed. *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood; 1985.
24. Bourdieu P. *Raisons Pratiques. Sur la théorie de l'action*. Paris: Éditions du Seuil; 1994.
25. Putnam R. *Bowling alone: the collapse and revival of American community*. New York: Simon & Schuster; 2000.

26. Rothstein B. Social capital in Scandinavia. An introduction. *Scandinavian political studies* 2003;26(1):1-26.
27. Woolcock M. Managing risk, shocks, and opportunity in developing economies: the role of social capital. In: Ranis G, ed. *Dimensions of development*. New Haven Connecticut: Yale Center for Int. and Area Studies; 2000.
28. Woolcock M. Using social capital: getting the social relations right in the theory and practice of economic development. Princeton: Princeton University Press; 2002.
29. Kunitz S. Accounts of social capital: the mixed health effects of personal communities and voluntary groups. In: Leon D, Walt G, eds. *Poverty, inequality and health. An international perspective*. Oxford: Oxford University Press; 2001.
30. Szreter S. The state of social capital: bringing back in power, politics and history. *Theory and Society* 2002;31(5):573-621.
31. Szreter S. *Health and wealth: Studies in medical history*. Rochester, New York: University of Rochester Press; 2005.
32. Waldron I. Sex differences in human mortality: the role of genetic factors. *Social Science Medicine* 1983;17(6):321-33.
33. Johansson SR. Welfare, mortality and gender: continuity and change in explanations for male/female mortality over three centuries. *Continuity and change* 1991;6(2):135-77.
34. Durkheim É. *Le suicide*. Paris: Presses universitaires de France; 1991.





## 2. Pre-Enlightenment: Life and death in God's hand

# Introduction

**Page 42:** It was believed that God would send all kinds of punishments, including pestilence upon the Israelites if they forgot his commands.

Illustration: Gustave Doré/IBL bildbyrå

**Page 43:**

Photo: Photos.com

For a long period of history, Sweden was an agrarian society with a very small proportion of its inhabitants living in towns, the rest relying on agriculture and what nature had to offer them through hunting and fishing. In the fifteenth century, the capital of Stockholm was the only town with more than 5,000 inhabitants. This figure had reached approximately 9,000 at the beginning of the seventeenth century. After that, the expansion of the mercantile sector, international and national trade and its role as the capital of a growing Baltic empire increased Stockholm's population to 50,000 inhabitants by the middle of that century. Over the next 100 years, the city stagnated and the population only grew to about 60,000 by the mid-eighteenth century. At the end of the seventeenth century, Malmö (ca. 5,000 inhabitants by 1750) in the south and Gothenburg (ca. 10,000 inhabitants by 1750) in the south-west became the two most important provincial cities within the present Swedish borders. Other towns were little more than large country villages rather than cities, dominated by local crafts, trade, civic and ecclesiastical administration.

## State, church and people

A class of noblemen residing on larger estates emerged during the Middle Ages but it never constituted more than a mere one percent of the population. The nobility became one of four estates together with the clergy (even smaller in number), the burghers in towns (another 1–2 percent) and the great majority of peasants. Each estate had special economic privileges and gradually became recognised as one of the four “houses of parliament”. In this sparsely populated country with a population in 1750 of less than 1.8 million (within today's borders), the establishment of a strong central government was not an easy task. Throughout the Middle Ages, everyday life was regulated informally or by local institutions, i.e. the church, the *ting* (a countryside district court led by a local judge before all free farmers) or the *rådstuga* (its

counterpart in towns) with rare visits and interventions from the king. Disease was, if ever, treated within the framework of traditional medical beliefs or, when accessible, by the monasteries. “Public health” was still an unknown concept both in theory and in practice.

Gustav Vasa’s victory over the Danish king Christian II in 1520 ended the union with Denmark, but it took almost a century, two civil wars and several campaigns against external enemies to establish his dynasty firmly on the throne. Gustav died in 1560 and was succeeded by his son Eric XIV. In less than 10 years, Eric was violently overthrown, imprisoned and replaced by his younger brother Johan III. Johan was succeeded by his son Sigismund, who was also king of Poland. Sigismund was, however, a Catholic and religion became one of the grounds for another civil war. The Uppsala Synod in 1593 declared that Sweden should now, once and for all, become a Protestant country and Gustav’s third son Charles IX captured the throne. This was the beginning of a religiously orthodox era. Charles and later his son, Gustav II Adolf, managed to strengthen their claim to the crown, even if the Danish kings still looked upon themselves as the true heirs. While the Church of Sweden now needed the king as a defender of its hegemony, the king was equally in need of their ideological support. By the end of the seventeenth century, this relationship had tipped strongly in favour of the crown. Charles XI and Charles XII had managed to establish the doctrine that they were God’s undisputed and autocratic leaders of both the secular state and the church.

The relationship between state and church was then very evident on the parish level. Minutes of parish meetings and boards of elders, headed by the parish priests, show that these institutions handled both secular and religious matters and executed commands from both kings and bishops. Conflicts of interest did of course occur from time to time. Both words and deeds of force could be used if the state’s basic interests and needs were at stake. Shared interests, negotiations and compromises were, however, often a more efficient way to make the system work. A triangular relationship between state, church and the people became the established form of local government for more than two centuries.

Besides a strong army, Sweden’s ambitions to become and remain a great power in northern Europe required a growing civil bureaucracy. This began to emerge as early as during the reign of Gustavus I (1523–1560). His grandson, Gustav II Adolf (1594–1632), and the Chancellor, Axel Oxenstierna, continued to modernise and expand the

size and scope of the administration, which now rested with central boards and county authorities controlled by representatives of the King. More than 2,000 parishes and towns, with their priests, farmers and townsmen, dealt with day-to-day ecclesiastical and secular matters.

Practically all the state's economic resources had to be used for central bureaucracy and war expenditures in particular, and little was left for health and social welfare measures. Before the Reformation, the church had funded and administered the medieval institutions for the care of the sick and the very poor. With the King's "nationalisation" of church property and the closure of the convents, these institutions gradually disappeared during the sixteenth century without being replaced to the same extent by state solutions. During the next century, the central authorities did, however, use their administrative system to initiate quarantines and other preventive measures in times of plague. Although hygienic measures and other attempted courses of action often came too late, when the infection had already gained a foothold, the fight against the plague proceeded, and became one of the models for similar campaigns against epidemics that wreaked havoc in nineteenth century towns and cities. It became a symbol of an emerging new approach to the responsibility and capability of society to prevent death and disease.

One well-known effect of the growth of the central state is the importance of administrative professionalism, including the medical field. *Collegium Medicum* was founded in 1663. To begin with, it was a private professional association intended to uphold the good name of the medical profession and combat quackery, but as time progressed, it received an increasing number of government assignments. The organisation was expanded during the eighteenth century and its first constitution was established in 1744. As early as the seventeenth century, we can find a small number of provincial doctors who were at least partly paid by the state. In 1686, *Collegium Medicum* issued the first decree governing what were known as "traditional birth attendants" in Stockholm, followed by further regulations and training courses for midwives in the capital. The humble size of this organisation of local healthcare with a few district physicians responsible for vast geographical areas meant that only a few inhabitants could ever benefit from its services for a long time, but the foundations were laid for what would later become an important tool for public health knowledge and policies.

# War

Becoming a soldier in the field was a highly dangerous fate for a young man. Before the epidemiological revolution of the last 150 years, overcrowding and wretched hygienic conditions in military lodgings encouraged the spread of infection via air, water and food or via infected rats, fleas and lice. Consequently, epidemics of diseases such as typhus, relapsing fever, dysentery, typhoid and smallpox broke out. Even diseases such as malaria (ague) and leprosy occurred. As seen from the experiences of plague, long-distance trade was an efficient transmission route for infectious diseases. The other two most obvious reasons for the spread and lethality of the epidemics were war and crop failure. And, as a rule, it was not death on the battlefield that caused the dramatic peaks in mortality during war years but rather the primitive accommodation conditions of the soldiers in connection with mobilisation and offensives that provided an excellent breeding-ground for epidemics of food- and waterborne diseases such as dysentery and typhoid, or those that were spread via infected lice, such as typhus and relapsing fever.

There had been several devastating wars in medieval Sweden too, but the resources of the fighting powers were limited. With the birth of the centralised state during the sixteenth century, the King was, however, able to mobilise more conscripts, levy more taxes, build a larger fleet, hire more mercenary soldiers and engage in more prolonged campaigns. The growing size of the armies and the long periods spent in military camps created an even better breeding-ground for epidemic diseases with devastating results, for instance during the wars fought on Finnish soil between Sweden and Russia at the end of the sixteenth century. Nor did the situation improve during the seventeenth century, which was characterised by numerous wars; the most prolonged being the country's engagement in the Thirty Years War. An extreme example was Bygdeå, a parish in northern Sweden, where roughly 95 per cent of all conscripted soldiers from the parish sent to the continental wars during the 1620s and 1630s perished [1].

# The Black Death

In spite of being situated on the periphery of Europe, contacts did take place with the rest of the continent, particularly through international trade to and from the major ports. These contacts meant that Swedes did not escape the horrifying plague epidemics, including the Black Death. For many Swedes who grew up after the Second World War, the film director *Ingmar Bergman's* (1918–2007) film from 1957, “The Seventh Seal”, is probably the single most memorable image of the “dark” Middle Ages. The film starts when a knight, Antonius Block, has just returned from a crusade. Hoping to postpone his final, unavoidable destiny, he is playing chess with Death, a frightening creature dressed in black and carrying a scythe. Around him, the Black Death is taking its toll; monks and flagellants are walking around in processions while others are letting their agony out through violence and sexuality. The title of the film as well as its leading motive of course refers to the apocalypse in The Book of Revelations. God is punishing the people for their sins before, eventually, giving salvation through the opening of the Seventh Seal:

*And the kings of the earth, and the great men, and the rich men, and the chief captains, and the mighty men, and every bondman, and every free man, hid themselves in the dens and in the rocks of the mountains; And said to the mountains and rocks, Fall on us, and hide us from the face of him that sitteth on the throne, and from the wrath of the Lamb: For the great day of his wrath is come; and who shall be able to stand?*

[Revelation, Chapter 6, Verses 15–17]

There is evidence of various types of plague from the sixth century onwards. The most devastating epidemic, the Black Death<sup>1</sup> started in China in the early 1330s, travelled along the trading routes through Asia, came to the Mediterranean ports in 1347 and arrived in Norway in 1349. According to a medieval source, it came to the Hanseatic city of Bergen with a merchant ship, reaching Sweden within a year. The epidemic encountered little resistance in a virgin population and within

---

1. Later in Swedish history called Digerdöden (the Great Death).



The knight playing chess with Death. From Ingmar Bergman's film "The Seventh Seal".

Photo: Everett Collection/  
IBL bildbyrå

ten years, it had killed an estimated 30–40 per cent of the Swedish population, which was less than one million at the time. Besides the potential emergence of a new, more virulent form of the disease, the reason for its rapid spread and lethality has been explained by intensified long-distance trade with Eastern Asia, wars and low general resistance amongst a population suffering from an agrarian crisis and high taxation. The plague returned to Sweden in several waves with a still frightening but less severe lethality, until the last epidemic in 1710–13.

Prior to the Age of Enlightenment in the eighteenth century, the belief prevailed that a human being and her circumstances were controlled by God's will. Such a belief was efficiently demonstrated during the great epidemics. God and other supernatural beings could send disease as a punishment for individual sinners. Crop failures, famine and pestilence could also afflict whole nations, when their kings did not obey divine laws. We find an example of this in the Bible, where King David arranged a census to find out how big Israel had become. God was incensed by his arrogance and sent a plague that decimated the population. According to the Iliad, the Greeks met a similar fate outside Troy, when the arrows of an enraged Apollo spread plague and annihilation. Repentance and penance could possibly help or alleviate

the situation, a hope among the flagellants of the Middle Ages. Sinful acts were, under this belief system, detrimental to physical health.

Magic could also be used to protect or cure but the world was nevertheless unpredictable. Death and disease could strike anyone at any time. Humans had little power over their final destiny but the rules of life were crystal clear. As long as you followed the laws of God, you had done your best. Religious norms were not only intended to save souls but also to combat unnecessary suffering and death.

In addition, the teaching of *Hippocrates* (about 460–370 BC) and *Galenos* (129–199 AD) exerted considerable influence on medicine during the Middle Ages and even into the nineteenth century. Antique medical theories advocated the belief that by living a healthy life, a person could preserve his or her health. A long-standing assumption was that it was primarily up to the individual to protect her health. In conclusion, apart from ruling honestly and trying to protect the population from famine and other dangers, the tools for a public health policy, i.e. collective efforts to prevent disease and promote good health, were very limited in northern Europe up until about 250 years ago. It is interesting to note that one of the most popular works of medieval literature, Boccaccio's *Decamerone* (published in 1348–1353), takes place as a group of travellers flee the plague in Florence, the easiest way of saving oneself from epidemics for those who could.

For it was in the Italian medieval city-states that the plague and other epidemics prompted the first systematic interventions to protect the population against disease as early as the fourteenth century. Nothing was known of bacteria or viruses, but it was observed that infection could be transmitted from human to human. To fight epidemics, measures primarily aimed at shutting out infected people by not allowing them access to the cities and by setting up patrol lines to protect their areas were implemented. Town governments kept themselves informed as to when and where epidemics broke out and prevented ship crews from going ashore if they had come from an infected area. *Quarantine*, i.e. when a ship was made to anchor offshore and wait until it was deemed free of infection, comes from the French word for “forty days”. Other preventive measures included fumigating houses where the epidemic had taken hold and doctors dressing in special suits to protect themselves from infection.

In Sweden, publicly organised measures to prevent the spread of epidemics came much later than in southern Europe. One reason is, of

course, that most Swedish towns were extremely small (a few hundred inhabitants) with equally small resources. Before the seventeenth century, the King had little means at his disposal to take action and impose regulations in order to curb the spread of the infections, even if some preventive ideas arrived from the continent. The first medical publication in Swedish was printed in the plague-year 1572 by a Dutch court-physician [2]. It described “how each and every person – old or young – rich or poor – shall adhere to official advice and help” in order to fight the disease. A quotation from the Bible was appended to the title: “He who sins before God shall find himself in the hands of the doctors.” This publication and its successors at the end of the sixteenth century were aimed at the few literate members of society. For the majority, useful advice on how to protect oneself, other than to avoid God’s wrath and punishment, was, to say the least, hard to come by. Epidemics were often said to be heralded by heavenly spectacles or other omens. The advice often described cures; medicaments that could be taken before or after the disease had broken out. From a modern standpoint, such cures do not seem to have been very effective.

Otherwise, the recommendation was to keep one’s distance from those infected, and to be vigilant towards foreign visitors by sometimes appointing special guards. Good hygiene was occasionally mentioned as a suitable measure to avoid infection. One piece of advice, adopted as a decree by the authorities in the seventeenth century, prescribed that those who had died from the plague were to be buried at designated sites. Such plague cemeteries were to be a prototype for the cholera graveyards of the nineteenth century. However, the decree contravened popular religious beliefs regarding a proper burial. Burial in a public graveyard was a prerequisite for future resurrection. Therefore, disturbances sometimes occurred when relatives of the deceased refused to obey this order. Other measures that sometimes conflicted with the beliefs of the population included the fumigation of plague-infested housing and the barriers that were erected to stop people moving about. Examples of such public reactions against the regulations can be found during years of plague and other epidemics of the early eighteenth century in the southernmost province of Skåne [3].

By then, however, even in Sweden, the belief had become stronger that individuals could and should try to protect themselves and that authorities could and even should take action to alleviate the consequences of certain epidemics. Still, the best remedy when an epidemic

broke out was often to flee, although there were other alternatives. Following influences from abroad, isolation, quarantine, *cordons sanitaires* around infected areas and control of visitors from outside became increasingly common. European quarantine systems were expanded during the eighteenth century and the borders of the Turkish empire were especially stringently controlled, as they were often the gateway for infection from the East. Such apparently effective measures were taken in Sweden on the border with Russia. Like in other European countries at that time, it was proclaimed that those who tried to cross the border without permission should be shot down without warning. An oft-quoted explanation for the disappearance of plague in Europe during the eighteenth century is that the black rat, the primary carrier of plague fleas, was driven out by the brown rat. It is, however, also highly plausible that the above-mentioned isolation measures contributed to the exclusion of plague from Europe, for instance preventing it from entering Sweden via Russia after 1713.

## Summary: Public health before the Enlightenment

Proactive measures against plague had been taken in Italy during the Middle Ages and on a larger scale in for instance Spain during the sixteenth century. Isolation of the infected, quarantines and *cordons sanitaires* were attempts to prevent the arrival of plague epidemics. The reasons for state intervention were of course easy to find, since every new epidemic threatened the wealth and social stability of the country. One example of a successful intervention against the spread of the epidemic is recorded in Marseille and Provence 1720–1722.

Sweden was not protected from the great plague epidemics during medieval and early modern times and public attempts to fight or limit the effects of such epidemics only date back to the seventeenth century. There are several reasons for this delayed response. The country is geographically in the periphery, vast but with few inhabitants per square kilometre. Once the central state had become reasonably well established

during the sixteenth century, most of its resources were spent on the needs of the court and on wars within and outside its borders. Its expansion into a regional empire in the Baltic area during the seventeenth century still meant that most of the resources were earmarked for military purposes but there was also a need for a civil bureaucracy with a greater impact on local affairs. A more concerted public response to plague attacks came comparatively late and was not very efficiently imposed before the second half of the seventeenth century. Thereafter, as in other parts of Europe, fighting plague became a model for later public health interventions against epidemics.

Generally, before the era of the Enlightenment, it was thought that health was God's gift and disease and death was His punishment for the sins of an individual, the congregation, the whole nation or its rulers. Hence, to live a decent life in accordance with His will and repenting one's sins were considered the most effective preventive measures against illnesses. New "secular" ideas had emerged and established themselves on the continent as early as the sixteenth century. In Sweden a few voices were raised, saying that God may have wanted mankind to take precautions against plague and other epidemics, but this idea did not gain a foothold in Sweden before the eighteenth century. It would be for these new generations to actively investigate the nature of epidemics, draw conclusions from that knowledge and optimistically set about using this knowledge for their benefit.

## Reference list

1. Lindegren J. Utskrivning och utsugning; produktion och reproduktion i Bygdeå 1620–1640 [Conscription and exploitation: production and reproduction in the parish of Bygdeå 1620–1640]. Diss. Uppsala: Uppsala University; 1980.
2. Ottosson PG. Pestskrifter i Sverige 1572–1711 [Plague booklets in Sweden 1521–1711]. Linköping: Linköping University; 1986.
3. Persson B. Pestens gåta: farsoter i det tidiga 1700-talets Skåne [The mystery of plague: epidemics in early 18th century Scania]. Diss. Lund: Lund University; 2001.



FIG. I.

FIG. II.

FIG. III.

157



### 3. Mercantilism, the Enlightenment and the birth of epidemiology

# Introduction

**Page 54:** In early modern medicine, anatomy studies became a popular tool when exploring the functions of the human body.

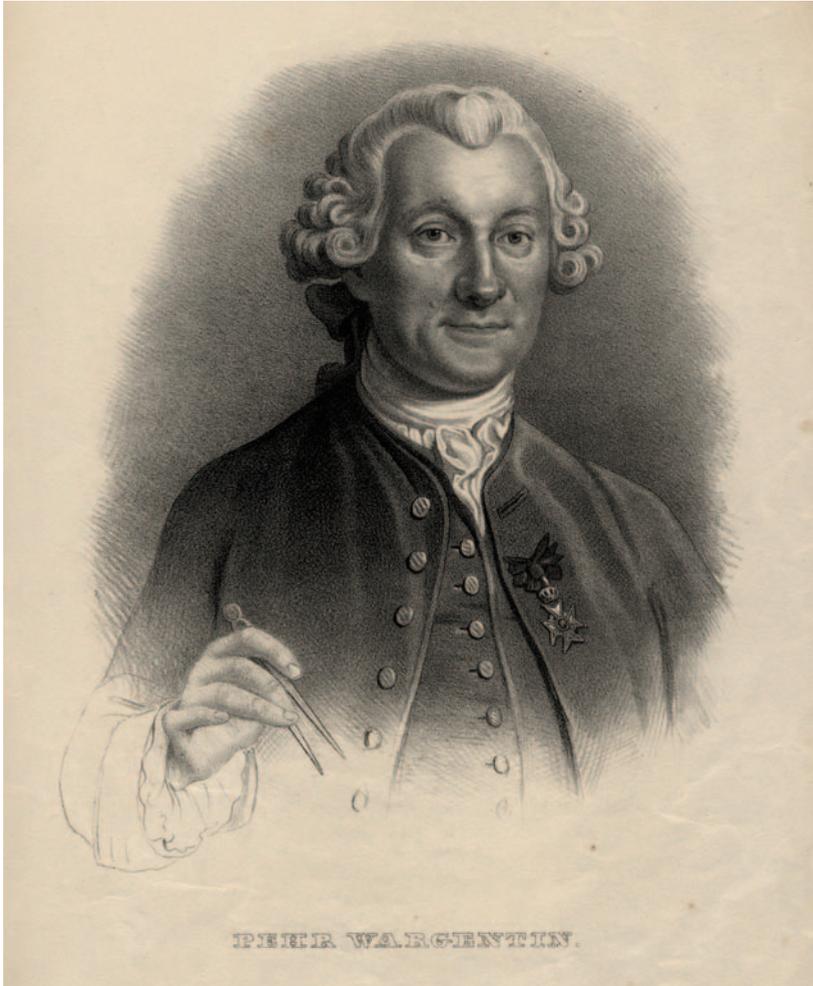
Photo: Photos.com

**Page 55:** Nils Rosén von Rosenstein (1706–1773), writer, professor at Uppsala University, often referred to as father of modern paediatrics.

Photo: IBL bildbyrå

After the death of Charles XII in 1718 and the end of Sweden's era as a major power in northern Europe, the autocratic kingdom "by God's mercy" came to an end. It was replaced by what is referred to as the "Age of Freedom": political power rested with the parliament's four estates and more secular ideas in support of the supremacy of the state gained ground. Sweden was to remain predominantly agrarian for a long time with a slowly growing manufacturing sector (mostly iron works and to some extent textiles). In economic terms, *mercantilism* set the agenda for state growth in terms of power and prosperity. The land and the people who cultivated it or who manufactured machines, equipment and – not least – weapons became the most important resources for the state. A large, healthy population was a necessary asset. This human capital could work, produce, pay tax and be utilised in times of war. Keeping a record of the population and changes within it was part of the mercantile fiscal approach. It resulted in a growing interest in statistics and estimations, although Sweden was by no means the first country in Europe to make these calculations, named by *Sir William Petty* (1623–87) as "political arithmetic". This had already been tried for instance in France and Italy during the sixteenth and seventeenth centuries. In England, John Graunt published a study in 1662 entitled "*Natural and Political Observations upon the Bills of Mortality*". In Sweden, *Anders Berch* (1711–1774) became the most prominent representative of this approach. As an example of such efforts, an average value was calculated for the contribution to the economy made by a farmhand, compared to the investment he required before he was old enough to work. Doctors estimated how many human lives and what production output they could save if they had more resources at their disposal. Disease was seen as an economic loss and good health as necessary economic capital for society, not just as a humanitarian value [1-3].

For such purposes, and thanks to the detailed population registers in each parish, *Tabellverket*, the forerunner of the modern-day Statistics Sweden, was founded in 1749, the first example of a continuous, nationwide system with populations at risk as its denominators. It collected annual statistics on population change (mortality tables) and composition (population tables) from all Swedish parishes. The agency's



Pehr Wargentin (1717–1783), first head of *Tabellverket*, the first statistical institution to start collecting and analysing demographic data from every Swedish town and parish in 1749.

Photo: IBL bildbyrå

first leading figure and architect was *Pehr Wargentin* (1717–1783), who was also secretary of the Academy of Sciences. He was of course also influenced by international trends, for instance the population statistics published by the German *Johann Peter Süßmilch* (1707–1767) and the works of other prominent figures in this field. *Tabellverket* and its successors provided Sweden with a unique opportunity to study demographic and epidemiological development over several hundred years, starting nearly one hundred years before the same information began to be collected in other countries (apart from Finland, which

belonged to Sweden at that time) [3]. The formulae varied somewhat from one period to the next until its final year, 1859, but it was always possible to see how many babies had been born each month (boys and girls, in and out of wedlock), the number of stillbirths, consecrated marriages and deaths by age and sex. Up until 1830, priests had to fill in a comprehensive cause of death table, each row of which corresponded (in accordance with the terminology of the day) to a specific cause of death and the columns broke down the deaths by age and sex. In order to calculate death risks, one could use special tables (compiled initially every year, then every third year and post-1775 every fifth year) presenting the composition of the population with respect to sex, age and status or trade.

Enlightenment and “reason” had now become guiding principles, indicating that people could and should learn how to create well-being and better health by observing nature. Natural scientists and the medical profession claimed to be, and started to be looked upon, as valuable contributors to the needs of the state. That is why the extensive yearly table on causes of death was included in the parish statistics organised in accordance with contemporary ideas and knowledge. The chairman of the Academy of Sciences, *Abraham Bäck* (1713–1795), undertook to create a nomenclature that was deemed workable when the first tables were to be delivered in 1749. Certain diseases, such as typhus, dysentery, whooping cough, smallpox and measles, could often be identified, which is why they were given their own categories. Other cases were more ambiguous and it was often a question of symptoms, such as chest-ache or stroke, rather than specific diseases. “Stroke” denoted sudden death among infants, if we are to believe contemporary accounts. The priests were naturally not always capable of deciding where on the table they should enter the deaths. Many dead infants could from the beginning be found under “unknown child disease”. Nevertheless, the tables demonstrated the major contemporary threats to life and fed the debate as to what should be done about the state of things.<sup>1</sup>

---

1. Later on, cause of death reporting in the form of such tables was unfortunately limited to just certain epidemics, which means we lack detailed statistics from the period 1830–1911. In the towns and cities, death book statistics were, however, based on the diagnoses of urban doctors; in rural areas, priests continued to be the main source until 1911. Local studies can therefore compensate for the shortage of statistics to a certain extent.



tions. Most children were at risk of smallpox infection, and the case-fatality was often over 20 per cent. About 300,000 people, mostly children, died from smallpox during the second half of the century [4]. Those surviving risked complications such as scarring, blindness, arthritis and encephalitis.

Surviving the first four years meant a reasonable chance of reaching one's 50th birthday, although in greater risk than today. Infection-related causes of death, such as consumption in the lungs, fever fits and chest disease, were also common among adults. We don't know exactly what lies behind these diagnoses and must therefore be cautious in our interpretation, but contemporary descriptions of symptoms indicate that they chiefly referred to diseases such as pulmonary tuberculosis, typhoid fever and infectious diseases of the respiratory organs [5]. The dominant causes of death nowadays, malignant tumours and cardiovascular diseases, are more difficult to identify, but no doubt occurred as well. The ever-present TB infections probably claimed just as many lives as the more acute epidemic diseases. The combination of recurrent infection attacks and poor nutrition among large groups no doubt contributed to a widespread lack of resistance and increased risk of death.

Wars continued to take their toll even during the eighteenth and early nineteenth century. Several European countries were hit by years of famine and rising death rates during the early 1740s [6]. Swedish church registers bear witness to peaks in mortality in many parishes at the beginning of the 1740s, an age characterised by simultaneous crop failures and war. Mortality was for example high among the soldiers serving in the Baltic Navy in connection with the war against Russia in 1741–1743. There were also noticeable peaks in mortality in 1789 and 1808–1809 in connection with war and mobilisations. The last of these peaks, which can also be said to be the terminal point of the first phase of the epidemiological transition, and which was followed by a period of constantly falling death rates, exhibited higher levels for certain age groups than even the crisis years of the 1770s. Men of conscription age were particularly badly affected (see Appendix). But the civilian population was also affected as can be seen by the increasing death rates.

# Famines

As early as the 1860s, the Swedish statistician Johan Hellstenius published an article showing the correlation between years of harvest failure and high mortality figures in pre-industrial Sweden. The period 1772–1773, when the population was hit by extreme crop failure, saw the highest total death rate ever recorded since the establishment of Tabellverket. The number of deaths rose by just over 70,000 compared to the years immediately before. This seems to be the only year when the number of people who starved to death reached three figures, according to cause-of-death reports [7]. Hence, the statistical evidence indicates that deaths directly caused by starvation constituted only a fraction of the total mortality during the entire famine-related crisis period. The majority died from infectious diseases (probably dysentery and other gastrointestinal infections, including possibly typhus). The increased mortality from epidemics in connection with the famine crises was probably to some extent due to reduced resistance caused by malnutrition, but, as in many other countries during that time, was mostly due to the increased spread of infection caused by labour mobility and vagrancy during the famine years [8].

Regarding the nutritional status of the population in general, people did not starve but the diet appears to have been quite unbalanced, largely dominated by cereals (bread and porridge), and during the nineteenth century also by potatoes, while the intake of fresh vegetables and meat was relatively low.

## Men and women

Among new-born babies, boys ran a higher risk of dying than girls during the first twelve months of life. This pattern still holds true today and is probably rooted in biological factors that are detrimental to the survival rate of baby boys. A certain bias towards male mortality was also the dominant pattern among older children and adolescents. A strong contributory factor to this bias in all age groups, in addition to

early infancy, was the high accident mortality rate among men. Drowning was by far the most common cause of accidental deaths. This indicates early-established gender differences in behaviour, implying that the way boys were brought up led to a greater tendency for them to expose themselves to physical risks than girls. Among adolescents and adults, the various risks associated with the different types of working tasks performed by men and women were obviously a factor.

In the past, people obviously had difficulties explaining why the sickly and ‘weak’ female sex appeared to be more robust than men even in early infancy, when explanations such as men being exposed to greater risks in working life or in their spare time could not account for the difference. The superior ability of girls to survive could even be explained by the fact that baby boys have a stronger constitution:

*The reason [for higher mortality among boys] must therefore lie deeper and should preferably be sought in a baby-boy’s entire inner structure, which is generally stronger, less yielding and flexible than a girl’s, and hence is much more vehemently attacked by disease and reacts more violently against it [9].*

Pregnant women and new mothers also constituted a vulnerable group that ran a substantial risk of dying from tuberculosis and other diseases, in addition to the risks of contracting puerperal (childbed) fever and complications associated with pregnancy and childbirth. In the mid-eighteenth century, almost 1 out of 100 childbirths resulted in the death of the mother. When aggregated for the whole fertile period, 3–4 women out of 100 risked dying in childbirth by the end of the same century [10]. Mortality was still as a rule higher among men than among women of reproductive age but the difference was less among those of higher ages. On isolated occasions, there was excessive female mortality in the most fertile child-bearing age group.

Mortality was higher among adult men for most causes of death. This was true for accidents as well as infection-related diagnoses, e.g. consumption, and other (often difficult to interpret) diagnoses (Table 3.1).

**Table 3.1** Causes of death among men and women 20-44 years old. Sweden, 1779–1782. Age-standardised deaths per 100,000.

Causes of death	Men	Women
Consumption in the lungs	169	127
Other infections	498	409
Accidents	85	21
Maternal mortality	–	149
Others	305	280
Total	1,057	986

Source: Widén L. Mortality and Causes of Death in Sweden during the 18th Century. *Statistisk Tidskrift (Journal of Statistics)*, 1975; 13: 93–104.

Comment: "Other infections" were dominated by chest disease, fever fits, ague, dysentery, putrid and typhus fever including other pulmonary inflammations and respiratory organ infections as well as typhoid and malaria.

## Town and country

Despite the small size of pre-industrial towns in Sweden, it was still much more dangerous to live there than in the surrounding rural areas. An important factor, to which contemporary observers also testify, was the poor sanitary conditions that allowed contagion to spread through infected water. The greater population mass compared to rural areas also meant there was a greater risk of infections spreading.

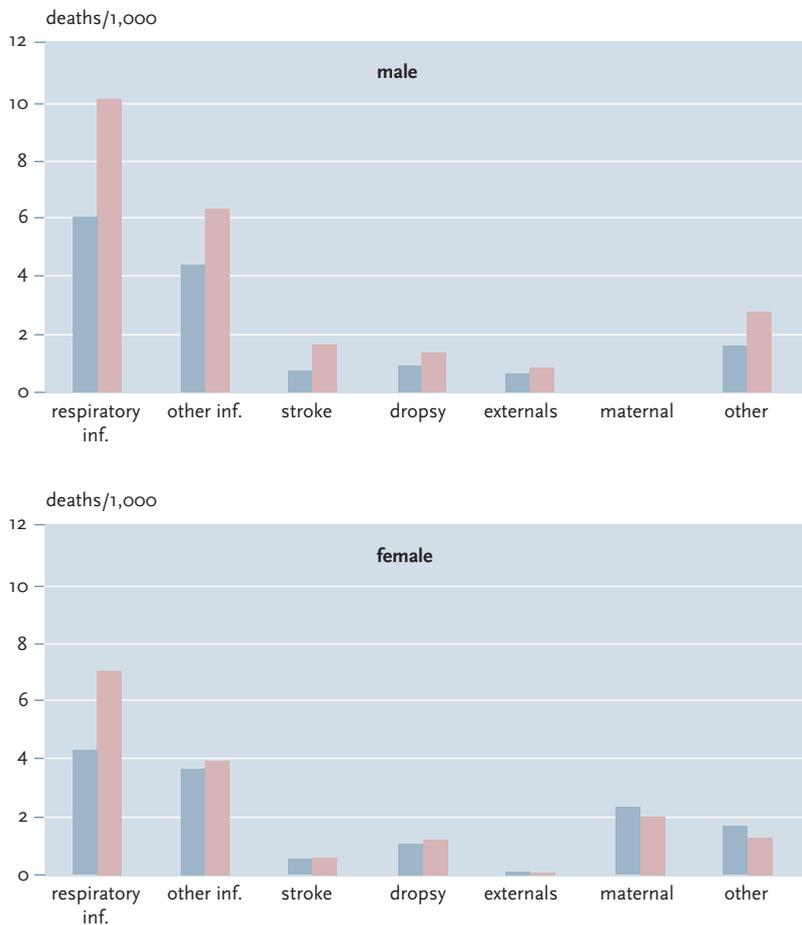
This is certainly the case for infant and child mortality in general, although the picture is sometimes modified by the impact of cultural habits, for instance breast-feeding patterns. As an example, in the small town of Linköping, the infant mortality rate (IMR) (before a child's first birthday) was normally between 30 and 35 deaths per 100 births during the second half of the eighteenth century, sometimes even higher. In the surrounding rural area, the rate was considerably lower at around 20–25 per 100. The figure was only about 15 in the less densely and more isolated parishes in forest areas. For children who had reached their first birthday, the relative difference was the same between

town and countryside. Population density per se and its impact on exposure to infections was obviously the strongest factor explaining these differences. Often, however, IMR was higher in the more sparsely populated agrarian hinterland than at the proto-industrial iron foundries, where propaganda for breast-feeding and hygienic child-care was introduced at an earlier stage in history. There were also some areas in the Swedish countryside where IMR was as high as in the cities, again due to inadequate breast-feeding, while the mortality of older children was almost always considerably lower than in urban areas.

**Figure 3.1** Sex-specific mortality in the 25–49 age group for major causes of death in the town of Linköping and surrounding countryside parishes, 1750–1814.

Source: Linköping historical database/Umeå demographic database (death registers). Unpublished population statistics tables, Tabellverket, 1750–1814.

■ countryside  
■ town



As can be seen from Figure 3.1, infection-related causes of death were also much higher among adults in urban areas, even in small towns such as eighteenth century Linköping, compared to the surrounding countryside. The relatively smaller differences in death rates among women indicate the importance of gender-related lifestyle factors for men, as men and women to a large extent shared the same environmental risks connected to sanitary conditions in different places. The exception can be seen for respiratory infections: women had lower rates than men but there was also a clear disadvantage for urban women, obviously caused by high exposure.

## Science, learned societies and enlightened priests

The Age of Enlightenment was characterised on the one hand by certain common ideas and tendencies, but on the other there were always variations and different theories circulating in the scientific community. The most prominent figure among natural scientists as far as Sweden is concerned was the botanist, physician, zoologist and father of modern taxonomy, *Carl von Linné* (1707–1778), generally known as *Linnaeus* outside Sweden. Like many of his academic contemporaries and as the son of a priest, Linnaeus was an offspring of the socially ascending classes. The catechetical tests gave talented farm children a chance to be identified and be given a helping hand in their careers by influential patrons. Linnaeus was the most internationally influential Swedish scientist and botanist of the era and held a professorship in medicine and “natural history” in Uppsala. He defended his doctoral thesis in the Netherlands and spent three years there 1735–38. Among his more famous international colleagues and correspondents were *Albrecht von Haller* (1708–77) in Göttingen, *Hermann Boerhave* (1668–1738) in Leiden and *Antoine Laurent de Jussieu* (1748–1836) in Paris. In a spirit that was typical of the day, he searched for knowledge in recognised medical journals, in his own observations and in the popular medicine being administered around him. It was often a question of tonics and curative medicines, but he also had comments to make on more public health-related conditions.

Carolus Linnaeus (1707–1778) was Sweden's most famous scientist in his own time and has continued to be so ever since. He attracted students from many countries and sent out pupils to all parts of the globe to collect plants and document the world's flora.

Photo: Photos.com



On a journey through Lapland, he noticed for example that mothers did not breastfeed their children in parts of the extreme north of the country.

During Linnaeus's time and throughout the eighteenth century, many new national and international learned societies emerged, whose task was to promote scientific dialogue and compile and discuss reports on new research concerning, for example, measures to improve public health. One of these was the Uppsala Science Society, which selected and published many of the reports it had compiled. 1739 saw the establishment of the Royal Swedish Academy of Sciences, which had a similar purpose. Abraham Bäck, who was chairman of Collegium Medicum from 1752 until his death, played a prominent role in these learned societies. Bäck studied in Uppsala under *Nils Rosén von Rosenstein* (1706–1773), who had bartered with Linnaeus for the professorship of medicine there. Bäck became *hovmedicus* (chief medical advisor to the royal court) in Stockholm, professor of anatomy and founded what was later to become the Karolinska Institutet. Linnaeus and most of his academic contemporaries had travelled in Europe during their studies and got to know the scientific authorities of the day. They then kept in contact with their colleagues around the world by letter and through periodicals. A good postal service and a closer and faster communications system meant that news and ideas spread more abundantly and more rapidly than previously. Many domestic ideas, recommendations and practical measures to promote public health were based on international examples and influences.

To help improve the health service in rural areas, Linnaeus, together with others, organised a course in basic medical skills for students in theology, popularly known as “priest medicine”, which they could then employ in their future parishes. The priests often kept handbooks in lay medicine in their libraries and were also expected to run a small parish pharmacy stocking the most common medicines thought to be necessary. Interest and zeal in health issues naturally differed from person to person, but some priests maintained their contact with the learned society by corresponding with Linnaeus or other well-known doctors. Their reports on health conditions in the parishes were sometimes published in the documents of the Academy of Science. When they filled in their causes of death table during the year, it was not always easy to find the best diagnostic category, but the judgements of “enlightened priests” need not have differed all that much from what professional doctors would have said.

# Popular advice from Sweden's first paediatrician

One of the most important subjects of the scientists' curiosity, experiments and constant proposals for improvements was public health, not least to help increase the population for the good of society. This related in particular to the care of children, among whom mortality was high according to *Tabellverket*. Advice was directed towards the educated and reasonably affluent section of the general public, but could in principle and often even in practice reach the common people, thanks to the Swedish home education system (see below), which led to the majority of Swedish adults being able to read. Linnaeus's contemporary colleague in Uppsala, Nils Rosén von Rosenstein, has been called Sweden's first paediatrician. Similar advice was popularised in other parts of Europe during this period [11]. Rosén was, like Linnaeus, the son of a priest and in 1764 he published "The Diseases of Children and their Remedies", advice and instructions to the general public, which was translated into English as early as 1776 [12]. The translation had been done by Anders Sparrman, one of Linnaeus's disciples and a crew-member on Captain Cook's circumnavigations of the world. It was later translated into several other languages. Rosén's advice could also be read as articles in annual Swedish almanacs between 1753 and 1771. Apart from the Bible, the hymn-book and the catechism, these almanacs were the most distributed printed matter, with an annual circulation estimated to be more than 150,000 copies.

Apart from medicinal prescriptions, which we today treat with some scepticism, Rosén's writings included a long article on wet nurses and breastfeeding. By way of introduction, he says that mother's milk provides an infant's best nourishment. Furthermore, lying-in will be easier for the mother and the child will inherit her disposition and aptitude. "We have seen how lion-cubs, breastfed by a cow or goat, have become tame; whilst dogs, breastfed by a she-wolf, have become predators", the author ascertains. If you are forced to hire a wet nurse, he issues a number of instructions: The wet nurse shall be of pious and chaste mind, be in good health and have no symptoms of impure disease, ring-worm and the like. The quality of the milk must be assessed carefully.

The wet nurse may not drink wine, spirit or coffee. She may drink small quantities of tea with a dash of milk. She must drink from a clean cup, not indulge in lovemaking or get worried or upset, since this can affect the milk. The child's stomach must not be overloaded and it should only be breastfed when hungry. The wet nurse should not breastfeed during menstruation. If the child receives artificial food, one must ensure that it is not contaminated with insects or other potential hazards. The baby should not be swaddled too tightly and dirty clothes should be changed immediately. It should have clean clothes, be in a clean room that is not draughty and lie with its head in an elevated position so as not to become apoplectic. Anxious children can be comforted by toys – girls with dolls and boys with horses, for example.

The rest of Rosén's book is devoted to different types of children's diseases, how they arise and can be cured or alleviated. Abdominal pain and cramp is often said to have afflicted the children of common people, especially during the summer "when mothers eat a lot of sour milk". This pain then causes "heart palpitations or convulsion, and then apoplexy". This indicates to modern historians that many of these causes of death seem to have been associated with diarrhoea and other gastrointestinal diseases. Thrush, which in itself is a non-fatal fungus disease of the mouth and throat, is said to have occurred in children "whose mouths are not kept clean; having suckled old thick milk or milk with some kind of sharp taste [soured milk?]". It also occurred when children had a lot of diarrhoea. The best cure is to keep the child's mouth clean. Convulsions and heart palpitations in the form of cramp are said to have occurred as the result of constipation and abdominal pain, if a wet nurse had become upset, when the child was teething, had scabies, the pox, measles, scarlet fever or worms. Concerning worms, infants that "had only been breastfed could not contract these forms of disorders". "Until they begin to eat solids, I never notice any sign of worms," says Rosén. Diarrhoea was said to only occur in infants if they were neglected or "had unfit or bad milk". Children who had other diseases often contracted diarrhoea. One piece of advice was to let the child drink small amounts at a time but more often.

A long passage in the book is devoted to "*koppor*", i.e. smallpox – that regularly reoccurring epidemic that claimed thousands of lives every year in eighteenth century Sweden. It is firstly supposed by the author that the pox is infectious and "the pox poison does not come from the air nor does it breed in the air, and a town could be protected

from the pox if similar measures as those taken against the plague were implemented”. But the pox is not infectious until the day before they [the pustules] turn yellow, “since it is only then that the poison leaks from them”. One should bury the sick person’s clothes to avoid the infection spreading. Inoculation is prescribed and Rosén describes different methods of how the infection can be transmitted from a poxed to a healthy person. The educated classes were encouraged to inoculate their children, since they “understand what damage a decimated population can do to the country and should therefore set a good example”. The author denies the suggestion that attempting to prevent diseases by inoculation conflicted with God’s will. This is a medicine “which God has let us discover” and hence it is a sin not to use it. Regarding measles and whooping cough, it is ascertained that the infections seem to be similar to smallpox and Rosén hopes that a similar medicine could be found to combat them. Inoculation was used far too sparingly in Sweden to have been of crucial significance, but was relatively widespread in Österbotten (north-eastern Sweden) thanks to the well-known priest, Anders Chydenius.

Helminthic (worm) diseases cause relatively few problems in the wealthy part of the world today. In eighteenth century Sweden, however, different types of worm were endemic, especially among children. They entered the body via food and drink, especially in dirty containers, during the summer and among the poor, Rosén explains. Good advice is to cook the food well. A lack of cleanliness and poverty are said to be the main causes of rashes, scabies and pests (insects):

*Affluent or rich people seldom have scabies. It is a common affliction among the less well-off and poor, however. The former have servants. Children’s rooms are kept clean. The wet nurse gets clothes so that she can change often and look nice. She can also keep the child clean and change nappies and swaddling clothes regularly.*

Rosén was the greatest authority on children’s diseases of his era. His almanac articles and book would be read by generations of Swedish and foreign doctors, midwives and parents. The effect of some of the cures he prescribed seem rather dubious when seen in a modern-day light, but during his age, he was to draw public attention to the positive impact of breastfeeding and good hygiene on children’s health and survival.

# The enemies according to an enlightened provincial doctor

It was, however, at the local level that medical doctors obtained practical knowledge about the living conditions of the population. We can see that this was of interest to many of Sweden's eighteenth century provincial doctors from their reports to higher authorities. One of these doctors, *Johan Otto Hagström* (1716–1792), was of a poor family, studied in Uppsala under Linnaeus and Rosén von Rosenstein and worked in the city of Linköping and its surroundings during the second half of the eighteenth century. He was a typical “grass root” product of the Age of Enlightenment, who wanted to keep abreast of scientific research, referring to public welfare as an argument for measures to promote population health. Promoting vegetable farming was beneficial both for health and for the economy. He naturally prescribed inoculation as a way of combating the pox, but did not seem to have made any substantial efforts in practice to promote this himself.

Living in a small, but from a hygienic standpoint very unhealthy, city, Hagström was very aware of its dangers:

*Health can be seriously damaged by swine carrying human excrement through the streets here in Linköping, in the autumn and spring, making the already unhealthy air at these times of the year even worse. Such unclean air is swallowed with saliva and reaches the stomach, and is breathed into the lungs, leading inevitably to disease.*

*Letter dated 24 January 1755 [13].*

The above quotation probably paints an accurate picture of the sanitary conditions in many Swedish pre-industrial towns, as well as reflecting the way people at the time thought diseases spread. A common perception, rooted in classical medicine, was that unhealthy odours and stench from swamps or rotting organic material, known as *miasma*, could cause disease – a perception that prevailed far into the next century as well, and which formed part of the reasoning behind the sanitary reforms in British, and even Swedish, industrial towns, prior to the definitive breakthrough of bacteriology towards the end of the nineteenth century [14, 15]. It is hence an example of how people per-

formed the right measures to improve public health, but for theoretically dubious reasons. In parallel with this view of how disease originated, there were also perceptions about how it spread through direct contact with infected persons (*contagion*), which formed the basis of regulations governing the quarantining and isolation of sick individuals during the early plague epidemics.

The fact that poverty was a source of ill-health and premature death was not unknown to contemporary observers. In a speech to the Royal Swedish Academy of Sciences in the summer of 1764, Hagström's distinguished friend and promoter Abraham Bäck talked about the prevalence of and reasons for social differences in mortality:

*As far as plague epidemics are concerned, no better evidence of this can be presented than the fact that they affect ordinary people much more than the more affluent; and the fact that plague epidemics lay waste to commoner communities whilst the better-off seldom fall ill .... When I consider the reasons for disease and such widespread death among ordinary people, and town commoners, Poverty, Misery, Shortage of food, Anxiety and Despair are the first things that come to mind.*

In Bäck's opinion, both material adversity and psychosocial factors contributed to the social differences in mortality. In light of the substantial mortality in connection with crop failures and the fact that many people lived very close to the edge, Bäck's conclusion seems highly reasonable, even if the present state of our knowledge of social inequity in health in eighteenth century Sweden is extremely limited. The inadequate sanitary conditions, especially in urban areas, and the lack of knowledge about how infections spread meant, however, that materially affluent groups also ran the risk of contracting various infectious diseases. Even well-to-do courtiers in Stockholm, with good access to nutritious food, could, for instance, not always avoid contracting tuberculosis in the eighteenth century. But the risk was even higher among the capital's poor [16].

Abraham Bäck's colleagues around the country also refer to the prevalence of social differences in health in their reports to Collegium Medicum. Johan Otto Hagström reported in a letter dated 7 January 1757 that "The ague was rife here at the end of March and beginning of April, especially among the poor: and few emerged unscathed from the disease" [13]. Poverty as a cause of disease and death is a recurrent theme in Hag-

ström's letters to Collegium Medicum, especially during the crisis years of the eighteenth century. On 16 December 1771 he wrote that:

*Beggars flock like sheep from many parishes scrounging bread to ease their hunger. Hunger generally leads to disease among ordinary people. God have mercy on this national scourge! [13].*

In Hagström's view, this meant that:

*... the destitute masses languish in their work, grow tired, grow sick with despair, and finally see death as a welcome separation from all their tiresome troubles, sweat and hunger.*

Another reason is, according to Hagström:

*... the constant imbibing of aquavit, for which there is plenty of opportunity; at markets, festivals, weddings, funerals and especially during the summer haymaking season. It is against my sworn oath to name the many sick people here who have fallen victim to gout, falling sickness, dropsy, consumption, lack of appetite, fits of rage, weak-headedness, weak and feeble seed, miscarriage, and after much suffering, death itself.*

He had personal experience of syphilis, contracted during his youth, which certainly helped him to describe the exposure and stigmatisation of venereal disease sufferers. He refers to his patients, who say that "no-one would tolerate me in church, at social gatherings, at work, while fishing or doing similar leisure activities", after which they "weep bitterly, go away and I never see them again".

His criticism is often directed towards a higher authority, which he feels is far too passive when it comes to improving people's conditions, alleviating the effect of high living costs and restricting access to aquavit. Cereal traders, county governors and the priesthood all come in for their fair share of criticism. Hagström was venturing into politically dangerous territory here, so he carefully disguised his criticism in his official reports to Collegium Medicum. When he could speak more freely, as in a letter to Abraham Bäck, he was more explicit:

*When I ask for a few shillings to help a wretch, then they say it's a waste of money, but when they want thousands of guineas to erect a victory arch, then there is money made available immediately.*

## Local administration, literacy and church discipline

As seen in the previous chapter, the parish had a key role in the Swedish civil and clerical administration, a role that became more and more important as the ambitions of the civil state and the orthodox Protestant church grew. We have, for instance, seen that the population statistics from 1749 and onwards were made possible by the existence of the parish registers, which did not just record ministerial acts (births and baptisms, marriages and deaths and funerals) but also all residents day by day and year by year.

These registers were originally a product of Martin Luther's declaration that everyone should be able to read the Bible. First of all, that did of course mean that the Holy Scripture had to be translated into vernacular Swedish, which took place already during the sixteenth century. The second condition was that all adults should be able to read the texts. To that end, a literacy campaign was initiated in some Swedish dioceses during the first half of the seventeenth century, which soon spread to the whole country. The first generation of adults was taught by the priests, the parish clerks or some other literate person, and then it was up to each generation to pass on the knowledge to their children in the home. Yearly catechetical tests were organised in order to monitor the results of the campaign, which were recorded on "catechetical lists", which successively became more and more detailed full-scale examination registers. Finally, during the last decades of the eighteenth century, every person was registered within his or her official domicile and household with data on when and from where she had moved into the domicile and, if she left, where she moved to.

Besides encouraging the church's ambitions and getting its support in return, the state quickly found practical reasons for keeping these records: Every autumn, taxation poll registers could be updated with the help of the church registers and whenever a new conscription of soldiers took place in the parish, the catechetical lists helped the acting officer to identify those who were of age to join the army. When religious and civil authorities were backing the campaigns, the result became a unique success in the history of literacy. It has been estimated



Martin Luther (1483–1546) was a German monk, theologian, and the ideological father of Protestantism.

Photo: Photos.com

that by the middle of the eighteenth century, a large majority of Swedes were able to “read in Book” and reasonably understand what was said in religious texts and in royal proclamations posted on church doors or at other public places. Hence, what Nils Rosén von Rosenstein wrote in the almanacs in rather plain and understandable language was widely spread and widely read. As is repeatedly demonstrated, the literacy of mothers remains a key factor in the survival of young children. The church registers also show that women were more capable readers than men, probably because they were usually in charge of the education of the next generation and therefore got the necessary practice to uphold their skill.

This does not, of course, mean that the doctor’s advice was always or even usually listened to and obeyed. Local customs, traditional wisdom and beliefs were strong and not always in line with contemporary medical knowledge. Neither were all priests “enlightened” and even if they were, they were not always able to convince their parishioners. In fact, it was not until the nineteenth century before campaigns for more consistent breast-feeding and better hygiene were to have a visible effect on children’s survival rates.

Still, the tools for communication existed and in the meantime local church representatives were engaged in other activities, more directly motivated by religious arguments but with potential indirect positive effects on the people’s health. “Church discipline”, widely defined, had become one of the major fields of protestant preoccupation. Sobriety was, for instance, one of the virtues of a Christian congregation. When examining the minutes of parish meetings and boards of elders, we therefore find that heavy drinking was seen as a sin that had to be corrected by intervention of the priest or the whole parish. Unrest within the family was also an unwanted threat to God’s will and conflicts between husbands and wives were frequently brought to the attention of the parish authorities. In individual cases, these interventions served to prevent alcoholism and domestic violence, usually perpetrated by men, within marriage. But probably more important is the fact that the parishioners were used to the notion that certain things could and should be handled collectively by informal or formal social control mechanisms. This “collectivism” and the authority of the priests are basic conditions for the later relatively successful engagement of local institutions in vaccination campaigns, hiring trained midwives and other efforts directly motivated by public health arguments.

# Summary:

## The public health legacy of the Age of Enlightenment

The Age of Enlightenment signified a breakthrough for the idea that one could – with God’s help – reduce mortality. Much reasoning and advice was presented, which even when placed in a modern-day context seems sensible. Empirical observation became an important instrument for substantiating or formulating new theories. This coincided with “mercantilism”, i.e. a growing interest by the expanding central state in keeping its population large and physically fit. In other words, the state recognised that health was an economic asset for individuals and nations. As a result, the number of publicly employed physicians slowly grew in Swedish cities and provinces and formally trained midwives gradually replaced traditional forerunners. From 1749 onwards, population statistics on the numbers and causes of death were collected and analysed, which drew attention to the high mortality and some of its potential causes.

A striking pattern among Swedish representatives of enlightenment and science is that they were often recruited from among children belonging to the middle-class. This made it easy for them not to always accept old traditions as eternal truths. It also meant that they had hands-on experience of the living conditions and health of the common people. This is reflected in many remnants of writings. The tenderness which they often express towards those least fortunate can be seen as an expression of the emotionally charged genre of writing of their epoch. It may also be seen as genuine empathy, based on personal observations, experiences and a social and cultural proximity to those they are describing.

Contemporary medical theories on causes of disease and death did not correspond to modern scientific knowledge but many practical conclusions and recommendations were reasonable by modern standard. It was generally understood by Linnaeus and his colleagues that nutrition was important for good health. Tobacco and alcohol were seen by several observers as substances that could cause ill-health, at least when used in excess. Some medical doctors thought that physical exercise would

make younger generations stronger and fitter. Poverty was discussed as a major contribution to unnecessary illness and premature death.

Linnaeus had also noticed that people did not breastfeed their children in parts of northern Sweden and – as we have seen – breastfeeding was strongly promoted by Rosén von Rosenstein in the 1750s. Although his advice was widely spread to a literate population, to begin with it impacted on some middle-class families but did not have any immediate effect on the population in the most disadvantaged areas of the country. The urban areas of the eighteenth century were still extremely dirty; people fetched their water from contaminated wells, both in towns and in undivided villages, where swine, cattle and horses continued to soil the streets. As a result, typhus, dysentery and various children's diseases continued to rage and the mortality rate remained basically unchanged until the 1810s, when it began to fall among children and women. Not until the nineteenth century can we find evidence to suggest that the new ideas were starting to have an unequivocal impact in the form of increased life expectancy. Smallpox inoculation certainly saved individual lives, but it was not before *Edward Jenner's* (1749–1823) discovery of the immunising effects of cowpox was utilised on a universal scale that this dreaded epidemic could be effectively controlled.

In conclusion, the old epidemiologic regime with high mortality from infectious diseases and short life expectancy still prevailed at the end of the eighteenth century. The next chapter will focus on the first half of the new century – not only on poverty among a growing proletariat and the problems of urbanisation but also on the declining mortality among children and women and the emergence of practical “hygienism” and its positive effect on life expectancy.

## Reference list

1. Johannisson K. *Det mätbara samhället: statistik och samhällsdröm i 1700-talets Europa* [Society in numbers: statistics and utopias in 18th century Europe]. Stockholm: Norstedts; 1988.
2. Bourdelais P. *L'âge de la vieillesse: histoire du vieillissement de la population*. Paris: Éditions Odile Jacob; 1997.

3. Sköld P. Kunskap och kontroll: den svenska befolkningsstatistikens historia [Knowledge and control: the history of Swedish population statistics]. Umeå: Umeå University; 2001.
4. Sköld P. Kampen mot kopporna: preventivmedicinens genombrott [The struggle against smallpox: the breakthrough of prevention medicine]. In: Sundin J, Hogstedt C, Lindberg J, Moberg H, eds. Svenska folkets hälsa i historiskt perspektiv [The health of the Swedish people – a historical perspective]. Stockholm: Swedish National Institute of Public Health; 2005.
5. Willner S. Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige [The weaker sex? Gender and adult mortality in 19th century Sweden]. Diss. Linköping: Linköping University; 1999.
6. Post J D. Food shortage, climatic variability, and epidemic disease in pre-industrial Europe: the mortality peak in the early 1740s. Ithaca: Cornell University Press; 1985.
7. Odén KG. Statistisk undersökning rörande våldsamma dödsfall i Sverige [Statistical survey of violent deaths in Sweden]. Stockholm: Beckmans; 1875.
8. Livi-Bacci M. Population and nutrition: an essay on European demographic history. Cambridge: Cambridge University Press; 1990.
9. Collin CG. Anmärkningar om dödligheten hos barn i Sverige åren 1831 till och med 1845 [Observations on child mortality in Sweden between 1831 and 1845]. Kungliga svenska vetenskapsakademiens handlingar [Royal Swedish Academy of Sciences document]; 1845.
10. Högberg U. Maternal mortality in Sweden. Diss. Umeå: Umeå University; 1985.
11. Gelis, J. History of childbirth: fertility, pregnancy and birth in early modern Europe. Cambridge: Polity Press; 1991.
12. Jägervall I, ed. Nils Rosén von Rosenstein och hans lärobok i pediatrik [Nils Rosén von Rosenstein and his textbook in pediatrics]. Lund: Studentlitteratur; 1990.
13. Hagström JO. Johan Otto Hagström's brev till Collegium medicum 1755-1785 [Johan Otto Hagström's letter to Collegium medicum 1755-1785]. Linköping: Östergötlands medicinhistoriska sällskap [Östergötlands medical history society]; 1993
14. Edvinsson S. Den osunda staden: sociala skillnader i dödlighet i 1800-talets Sundsvall [The unhealthy town: social inequality regarding mortality in 19th century Sundsvall]. Diss. Umeå: Umeå University; 1992.
15. Nelson M, Rogers J. Cleaning up the cities: the first comprehensive public health law in Sweden. *Scandinavian Journal of History* 1994;19(1):17-39.
16. Puranen B I. Tuberkulos: en sjukdoms förekomst och dess orsaker. Sverige 1750-1980 [Tuberculosis: the occurrence and causes in Sweden 1750-1980]. Diss. Umeå: Umeå University; 1984.





4. Society in transition:  
Population growth,  
proletarianisation and  
increased life expectancy  
(c. 1800–1870)

# A society in transition

**Page 80:** Peasant boys looking out from the window of a log cabin.

Photo: Popperfoto/  
IBL bildbyrå

**Page 81:** A potato field.

Photo: Photos.com

At the beginning of the nineteenth century, Sweden (within its present borders, since Finland had become Russian territory in 1809) had a population of just over two million, a figure that was to rise to over four million 70 years later. Nine out of ten people lived in rural areas, and most of the rest inhabited small towns that more resembled overgrown peasant villages than anything else. The element of domestic production in the agricultural economy was considerable although market relations intensified during early nineteenth century. Contemporary upper-class visitors from the European continent described Sweden as a poor and backward country on the periphery of Europe, sparsely populated and characterised by small and insignificant towns and villages [1].

The dramatic increase in the population during the period was accompanied by radical change in the social structure. Whilst peasant households made up the vast majority of the agricultural population in 1750, one century later this proportion had been reduced to just 50 per cent. Instead, rural groups without land of their own or other property of significance, such as crofters, cottars and lodgers, more than quadrupled in size during the period, whilst the number of farmers only increased by about ten per cent. This rapid increase in the population coupled with greater commercial pressure in the agricultural sector led to an increasing number of people joining the ranks of the fast-growing rural proletariat. Many of these were the sons and daughters of landholders, a downward social mobility, which fundamentally changed the perspective for the future lives of the new generations growing up after 1800 [2].

This development was linked to an increase in agricultural production and productivity (particularly regarding cereals, including potatoes), sometimes called the “agrarian revolution”, that transformed Sweden from being a country importing large quantities of cereals to exporting substantial quantities of oats to Britain after 1830. This transformation created conditions for further division of labour and social differentiation as well as increased market production. Some (partly interrelated) major driving forces of agricultural growth were land reclamation, enclosure reforms, new cultivation methods, such as crop rotation, intensified cultivation, the spread of the iron plough, the introduction

of potatoes as the most important staple food, etc. The land reforms, such as the 1827 Laga Skifte Ordinance, contributed to more efficient production by converting several small lots of cultivated areas into larger unified fields and also strengthened property rights. In some parts of the country, it also led to the dissolution of villages and eroded the foundations of the old village communities [3].

## Epidemiological trends

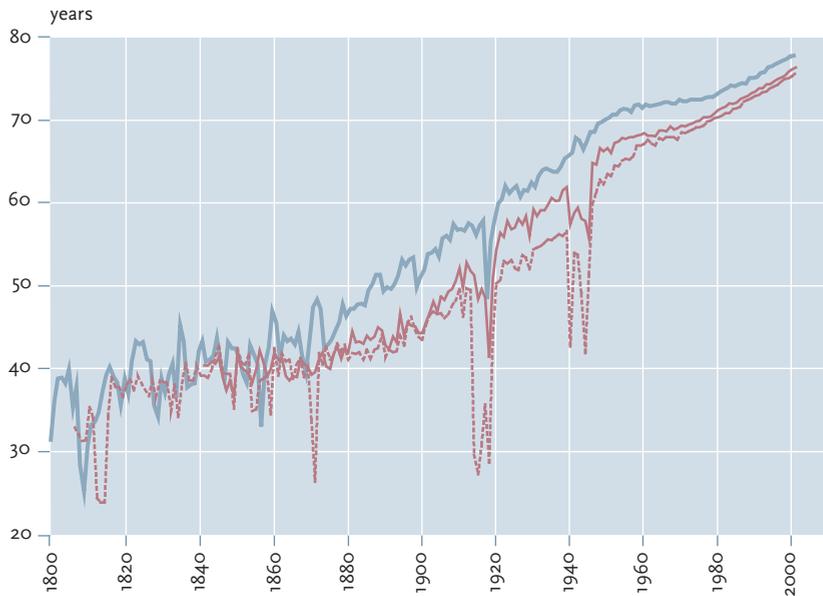
Real wages for day-labourers in agriculture declined or stagnated in the 1820s, 1830s and 1840s. Despite the growth of the landless proletariat, a period of constantly falling mortality began around 1810 and although outbreaks of various serious infectious disease epidemics occurred, mortality never again reached the extreme levels it had in the past. As a result, a new phase of the epidemiological transition had begun, the age of receding pandemics, despite the arrival of a new dreaded pestilence hitting Sweden and Europe during the 1830s, namely cholera. After the first epidemic in Sweden in 1834, when over 12,000 people were reported to have died, the disease did not come back on a large scale until the 1850s and 1866 saw the last widespread epidemic [4]. Even though cholera could have a devastating effect, especially in urban areas, its impact was never as violent as the mortality crises of the previous century. The cholera epidemic did, however, play an important role in bringing about urban sanitary reform, not least concerning the construction of efficient water and sewerage systems in the last decades of the nineteenth century.

Generally, the trend in Swedish mortality shared certain common characteristics with the rest of Western Europe. During the eighteenth and early nineteenth century, there was a transition from the old epidemiological regime, characterised by a high level of mortality and recurrent epidemic outbreaks with dramatic peaks, to a calmer phase with weaker and less frequent fluctuations in mortality. In contrast with other European countries, such as England and Wales and France (Figure 4.1), where mortality trends stagnated and stabilised in the mid-nineteenth century and then began to fall again towards the end of

**Figure 4.1** Life expectancy for males. Sweden, France and England & Wales, 1800–2001.

Sources: France: Bourdelais 2004 (from Meslé and Vallin) [5]. Sweden and England & Wales: Human Mortality Database (University of California, Berkeley; Max Planck Institute for Demographic Research, Rostock) <http://www.mortality.org>

— Sweden  
— England & Wales  
- - - France



the century, Sweden (and Norway) underwent a more continuous reduction over the period as a whole [6, 7]. The temporarily interrupted health transition in England must be seen in the light of an early, dramatic process of industrialisation and urbanisation, the negative health effects of which could only gradually be remedied by means of political reforms regarding work environment legislation and urban sanitation reforms during the second half of the century [7]. The industrial revolution and subsequent urbanisation reached Sweden later. The dramatic drops in the French curve are of course connected to the effects of war.

## Children and adults

After 1810, the dramatic fluctuations in death rates, connected to crop failures and wars, disappeared and the general level of mortality declined in most age groups. Infectious diseases, such as tuberculosis, diarrhoea, smallpox, measles and whooping cough, were responsible for a major share of the child mortality. Adolescents and younger adults died from

ailments such as tuberculosis, pneumonia, typhoid, typhus and dysentery, as well as in childbirth (women) and from external causes (mostly men). Among the elderly population, the diagnosis “old age” was very common, but causes of death such as tuberculosis, tumours and cardiovascular diseases probably also played an important role.

The general trend towards lower mortality did not, however, immediately affect the oldest part of the population. In older age groups, the decline in mortality was insignificant before the middle of the nineteenth century and the male/female ratio was never particularly high. As a matter of fact, mortality was higher during the first decades of the nineteenth century than before, especially among men. One reason for this pattern can no doubt be attributed to a cohort effect; it took some time before the improved health of young generations had a positive effect on their survival later on in life. Another, quite plausible, explanation is that the means of subsistence in the growing proletariat was small or virtually non-existent when people were no longer able to earn their living by paid work. The old system, whereby self-owning farmers and craftsmen handed over their resources to the next generation on condition that they themselves would be taken care of and fed, did not work when many sons and daughters lived in small apartments with little more than what was needed to feed themselves and their children. Local, collective solutions for poor relief and care of elderly were at the same time scarce, a fact often mentioned in the contemporary debate about “the social issue”.

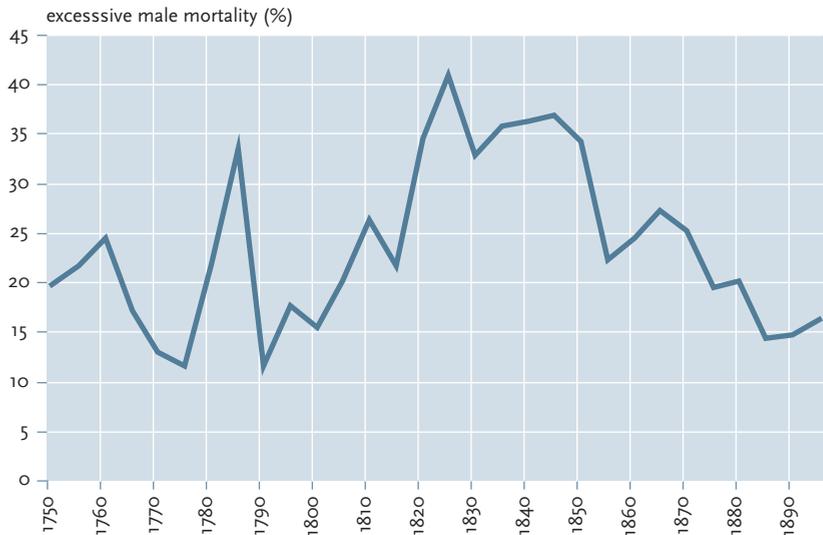
## Men and women

During the latter half of the eighteenth century, mortality in the 25–49 age group was about 15–20 per cent higher among men than among women, except for the war-related mortality peak in 1789, which mostly affected men of conscription age.

Despite the general decline in mortality, the death rate among adult men in the early nineteenth century remained on the same level as during the previous half-century, even if the fluctuations were not as extreme as before. Since mortality among young and middle-aged

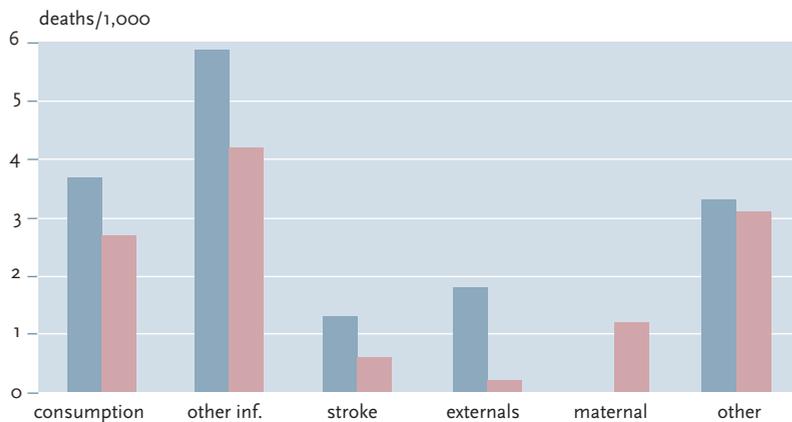
**Figure 4.2** Excessive male mortality in the 25–49 age group (%). Sweden, 1751–1900. Five-year periods.

Source: Sundbärg G. *Bevölkerungsstatistik Schwedens 1750–1900*, Stockholm; 1970 [8].



women fell during the same period, the gender difference in mortality in these age groups, and the excessive male mortality, became even more accentuated. As a result, the difference increased markedly to a level of about 35 per cent between 1820 and 1850 (Figure 4.2).

The causes of death that made the biggest contribution to the excessive male mortality were lung consumption (pulmonary tuberculosis), external causes (accidents and suicide), and stroke and sudden violent death (*slag och bråd död*), a diagnosis that is difficult to interpret (Figure 4.3). In all likelihood, it includes various types of sudden death such as cerebral and cardiac infarction, cerebral haemorrhage and perhaps even alcohol poisoning. Contemporary descriptions of “slag” make one think of the modern concept of “stroke”. There is considerable evidence pointing to alcohol consumption being a strong contributory cause of the increased male mortality from these diagnoses. Less maternal mortality (death as a consequence of pregnancy or childbirth) among women of reproductive age also contributed to their favourable health development. The excessive adult male mortality was particularly apparent in urban environments. During the 1820s for example, the death rate among men aged 25–49 years was double that of women in urban areas, but just under 20 per cent higher in rural parts of the country. Higher alcohol consumption in urban areas seems to have contributed to this difference between town and countryside [9]. If we



**Figure 4.3** Sex-specific mortality in the 25–49 age group for major causes of death. Sweden, 1826–1830.

Sources: Calculated from unpublished mortality- and population tables, 1826–1830 (Tabellverket).

■ male  
■ female

compare with a number of western European countries (England and Wales, Norway, the Netherlands, Belgium, France and Denmark), we see that mortality among middle-aged and older men in Sweden was high in the mid-nineteenth century, whilst the death rate among younger age groups of both sexes and middle-aged women was lower than in most of the other countries [10]. Norwegian women are the exception, however, with lower mortality than their Swedish counterparts. It seems, therefore, that the first half of the nineteenth century was particularly distressing for Swedish men, not just in comparison with Swedish women but also with men of the same age in other parts of Europe.

There is considerable evidence pointing to the dramatic social changes in traditional agricultural society during the early nineteenth century being an important factor behind the sharp increase in excessive male mortality [11]. The structural transformation of society, greater social tension, uncertain food supply and an unsure future for the growing number of propertyless people probably contributed to greater social stress with negative consequences for both physical and mental health, whilst the positive health effects of smallpox vaccinations, the absence of war and perhaps even more efficient food production were still the overriding factors influencing the general mortality trend. Why then was this not the case among adult men? We have no reason to assume that men were worse off in general when it came to access to the basic necessities of life. On the contrary, registered daily wages among men were double those of women, and the labour market for most women was limited to low-paid jobs. An important explanation

is instead that certain characteristics of the traditionally male lifestyle were strengthened in connection with the growth of the proletariat, and that old social networks were dissolving, resulting in weaker social control. One consequence of this was the dramatic increase in alcohol consumption. This had negative health effects especially among men, since cultural acceptance of alcohol use clearly differed between men and women. Women were not supposed to get drunk and therefore did so to a much lesser degree than men.

## Regional and social differences

A Swedish population statistician, Gustav Sundbärg, divided Sweden into three main demographic regions around the turn of the century in 1900. The main criterion for this division was the fact that not only differences in marital fertility but also differences in mortality were distinguishable. According to the underlying statistics, published in what was known as the “Emigration Report”, northern Sweden was characterised by low mortality during the first half of the nineteenth century, whilst Mälardalen (the area around Lake Mälaren in central Sweden, including Stockholm), the counties of Göteborg and Bohuslän on the west coast and Blekinge in southern Sweden had high death rates [12].

In contrast to contemporary conditions, this does not indicate that the economically more affluent parts of the country were any better off health-wise than the poorer areas. On the contrary, low mortality counties, such as some of the northern counties, were among the poorest in the country (measured in terms of the number of people in the population who were exempt from tax), whilst areas with a high death rate, such as Stockholm and its adjoining counties, showed low poverty levels [13]. We can, instead, see a clear pattern of high mortality in the most densely built-up and urbanised areas and relatively low levels in sparsely populated and more peripheral parts of the country. A reasonable conclusion is that the spread of infection, related to poor sanitary conditions, overcrowding and high mobility among the population, was more significant for the regional differences than the poverty levels of pre-industrial society.

In the city of Linköping, situated south west of Stockholm, age-specific mortality was, for instance, much higher than in the surrounding agrarian hinterland in every age group - among adults and particularly among men. This urban-rural gap decreased for infants and children in Linköping after 1820, probably because of improvements in the hygienic conditions mentioned above, but remained particularly high for middle-aged men during the rest of the pre-industrial period. In the latter case, the number of temptations in the form of numerous drinking establishments was an obvious threat to men's health.

This does not mean that socioeconomic differences did not play a role in mortality figures on a more general level. A small number of studies of local environments in the early nineteenth century have shown that, in a given environment, lower social groups often exhibited poorer health than more affluent groups [10, 14]. In other words, it was generally speaking more unhealthy to live in towns and other densely populated environments, where the risk of contracting various infectious diseases was considerably higher than in economically more peripheral and sparsely populated areas, even though the material living standard was generally higher in the former. On the other hand, ill-health was probably more widespread among the poor echelons of the population within each separate environment. Local studies have, however, for certain periods and regions, shown a higher infant mortality among more affluent groups than among the poor [15]. This was probably due to social differences in breastfeeding habits. The poor often had no alternative to breastfeeding their infants, whilst even freehold farmers could give their children cow's milk, which involved a greater risk to child health compared to being fed on mother's milk alone.

We might also add that the poorest counties seem to have been more vulnerable during the crisis years in connection with crop failures, for example in the late 1860s. However, the effects were much smaller than during the previous century. One important contributory factor was probably the fact that Sweden in the 1860s had a developed system of emergency relief. There was aid both from private and official sources. The relief from the state consisted of emergency relief funds in the form of loans and grants and public work projects, such as the digging of drainage ditches and road construction. There was also a system of granaries on the district and local levels, lending grain or flour to the members of the communities [16].

# Material deprivation and mortality

When the Swedish author and bishop *Esaías Tegnér* (1782–1846) spoke of the potatoes contributing to a healthier population, he was referring to the growing production of food in proportion to the size of the population. The typical diet was based on cereals and potatoes. The content of animal foodstuffs was low, except for salted fish and sour milk. Potato farming provided for the poor during crop failures and times when living costs were high. Not a single year of famine during the first half of the nineteenth century was as devastating as for example the early 1770s. There was nevertheless a clear connection between harvests, food prices and general mortality up until the 1860s and difficult years still occurred sporadically. The five-year reports of county governors give accounts of years in the 1830s and 1840s when multitudes of poor beggars roamed the streets, driven out of places where crop failures had caused the most problems. Even if access to food per inhabitant was greater than in the eighteenth century, its distribution between the affluent and the poor was still uneven. At the same time as prices went up, the number of jobs fell as did people's wages. The growing number of people relying on temporary work was particularly vulnerable and they often fell foul of the authorities for vagrancy and destitute crime in the form of stealing and shoplifting, especially when the economy was in recession. The society still had no particularly effective means by which to solve this problem.

In the early nineteenth century, the costs of looking after the poor were rising and in some parishes and towns, the authorities did everything they could to rid themselves of these “resource-draining” inhabitants by sending them on to the next town or village. An unemployed person who lacked resources to provide for himself was “defenceless” and was placed in the guardianship of the authorities. Some were sent to the county governor, who could sentence them to forced labour at special establishments, but the number of unemployed people was several times more than these institutions could handle. A whole succession of regulations and laws governing defencelessness and vagrancy failed to solve the problem. Talk was of “the social issue” and attempts were made to distinguish between those who were poor and deserved help from those who did not merit it, similar to the talk in Great Britain of



Potatoes made an important contribution to the nutritional status of the Swedish population, especially the poorer segments, during the nineteenth century and onwards.

Photo: SVT Bild

the “deserving and undeserving poor”. Some saw the problem as a structural issue requiring social intervention; others felt it was a question of morals: the depravity and idleness of the new *classe dangereuse*, as it was called in France at that time. Class differences in mortality continued, especially among the children of single mothers, even if overall mortality began to fall among children and women from the 1810s onwards. At the same time, as we have already seen, mortality stood still or even rose among middle-aged men of certain ages.

Although crop failures and high costs of living affected the poorest sections of the population the most, the death rate during the large-scale epidemics of the eighteenth century was relatively democratic. The rich and poor lived in close proximity to each other in urban areas and the hygienic conditions outdoors were the same for everyone. Tabellverket did not register deaths by social category, but local spot surveys indicate that both child and adult mortality were high in all social strata. This seems to have partly changed during the first half of

the nineteenth century. Segregation in urban areas increased as a result of the rapid growth in the number of poor people. The advice and instructions proclaimed by doctors were first read and adopted, it seems, by those of equal social standing, i.e. the upper and middle classes. This is true, for example, of infant mortality and breastfeeding. In Linköping, mortality decreased first among the middle class and then somewhat later among the poor and among tradition-bound craftsmen. Not a single middle-class child contracted small pox in the city of Linköping during the early nineteenth century after the advent of vaccinations, whilst there were still sporadic cases among the less affluent.

## Health administration, provincial doctors and midwives

Within medicine and healthcare, the nineteenth century brought with it major institutional and organisational changes synchronous with international tendencies. Collegium Medicum, which gradually developed from a professional association into an authority, was replaced by the National Board of Health (*Sundhetskollegium*). At the same time, the Surgical Society (*Chirurgiska Societeten*) was dissolved and amalgamated with the new authority, a sign of the growing professional and scientific significance of surgery. This also meant that it became easier to handle previous disputes about skills between doctors and surgeons. Hospitals continued to be subordinate to the semi-private Order of the Seraphim until 1859, when Sundhetskollegium took over this task. The local government reform of 1862 saw the establishment of the *Landsting* (county councils, who took over the responsibility for hospitals). In urban areas, the municipality became subsequently responsible for the municipal medical officer system, midwives, isolation hospitals and the healthcare committees. The provincial doctors continued to be subordinate to the Sundhetskollegium, which was also to issue decrees and supervise the entire system.

A period of study at another European university had been seen as part of the education of the academic elite since as early as the seven-

teenth century. This perquisite was primarily enjoyed by students from the nobility and their private tutors. In the eighteenth century, we have seen that Linnaeus and others, with the help of patrons and scholarships, could also study under the most prestigious professors of the day, as well as establish contacts which later resulted in lively correspondence and the exchange of new research ideas. Nineteenth-century Swedish medicine did not possess as many high-profile scientists, but the internationalisation of science and medicine continued as the result of foreign sojourns, correspondence and the lively reporting and reading of a growing variety of increasingly specialised journals. The speed with which an innovation could be accepted is illustrated by the rapid introduction of smallpox vaccinations in Sweden after Edward Jenner had publicised his methods.

The tasks of provincial doctors had been laid down in a number of decrees during the eighteenth century and in 1822 it was decided that they should also devote themselves to healthcare and fighting epidemic diseases, supervise smallpox vaccinations, the midwives and pharmacies and submit annual reports to Sundhetskollegium. At the beginning of the nineteenth century, however, the populous county of Östergötland in southern Sweden was, for instance, still only served by two provincial doctors and in the north, the districts were so large that the doctor hardly managed to visit all the parishes whilst on duty. There were about 280 doctors in Sweden in 1805, a figure that had risen to 463 by 1850. In both these years, the doctor-inhabitant ratio was much lower in Sweden than in many other European countries. Few were able to earn a living solely from private practice as a result of the weak market. Consequently, most of them, and indeed all the provincial doctors, were publicly employed by the state or by metropolitan administrations. Similar to religion prior to the advent of free churches, the Swedish health service was basically publicly financed and controlled. Its payrolled doctors, midwives and nurses saw themselves more as civil servants with a mission in life and less as private entrepreneurs, contrary for instance to the medical market in Great Britain where privately practising doctors were in the majority. This naturally facilitated the necessary cooperation between state and the medical profession in Sweden, since doctors did not have a reason to safeguard their interests as market entrepreneurs, a potential for greater consensus and better coordination between the views of the medical profession, political decisions and implementation.

Qualified midwives, brought up to know the importance of breast-feeding and good hygiene, were seldom to be found in rural areas at the beginning of the nineteenth century and enlightened priests who propagated new ideas had to struggle against traditional beliefs and customs. Gradually, however, the continued expansion of the provincial medical system, an increasing doctor-inhabitant ratio and more midwives working in rural areas increased the potential for these new ideas to gain the acceptance of the common people.

Textbooks and educational publications for experts and laymen were now being spread in an even steadier stream than in the eighteenth century and at the end of the nineteenth century they became a genre with many authors and buyers. As we have already established, literacy in Sweden was widespread as early as the eighteenth century and the consumption of secular literature increased, not least among the middle classes. The introduction of compulsory school in 1842 became the main instrument for knowledge dissemination among the common people. It took several decades, however, before the school reform was put into effect in all the country's parishes and it took even longer before hygiene was afforded space on the school timetable. The concept at that time also included conduct, spiritual upbringing and salubrity. In the long term, however, and not least because of its strict control of children's personal hygiene, compulsory school took on a very important role as "medical educator". The practical advice given at school on how to avoid disease became more important for people's survival than the recommended curative remedies. Medical knowledge and practice of the time were of little or no significance when it came to curing more serious diseases. [17].

## Public health and local administration

The reasons are not immediately obvious for the intriguing mortality decline among children and most age groups of adult women after 1820 in a poor country undergoing rapid and profound socioeconomic

transitions. The following pages will discuss some of the factors that contributed to this positive development, starting with the importance of the local administrative system as regards receiving and putting into practice the new public health messages. From 1810 onwards, the country to all intents and purposes lived in peace and this laid the foundations of a stable civil society, where local institutions and authorities were given better resources to meet administrative requirements. And it was at the local level, in rural parish meetings and church councils, as well as in urban council meetings and borough administrations, that things slowly began to happen which would eventually constitute what was later referred to as the “century of hygienism”.

As we have pointed out, in a large, yet sparsely populated country with poor communications, it was difficult for the state to govern without intermediaries. Royal decrees were read out in church and discussed in parish meetings. The task of the priest, as individual spiritual adviser or at catechetical meetings in the villages, was to preserve order in the parish and be a key mediator between the state and the local society. His responsibilities included not only religious issues, but also matters regarding family unity and harmony, drunkenness and other areas covered by church discipline. To assist him, he had the church council, a collection of the elders, village wardens and other parochial functionaries. He was also the supervisor of the unique home education system. More densely populated countries chose to establish permanent schools, the majority of which, for obvious reasons, were to be found in urban areas. There were a few publicly sponsored primary schools in Sweden too, but for economic and geographical reasons, they could only serve a small minority of children. A compulsory school system for all was not introduced by law until the middle of the nineteenth century.

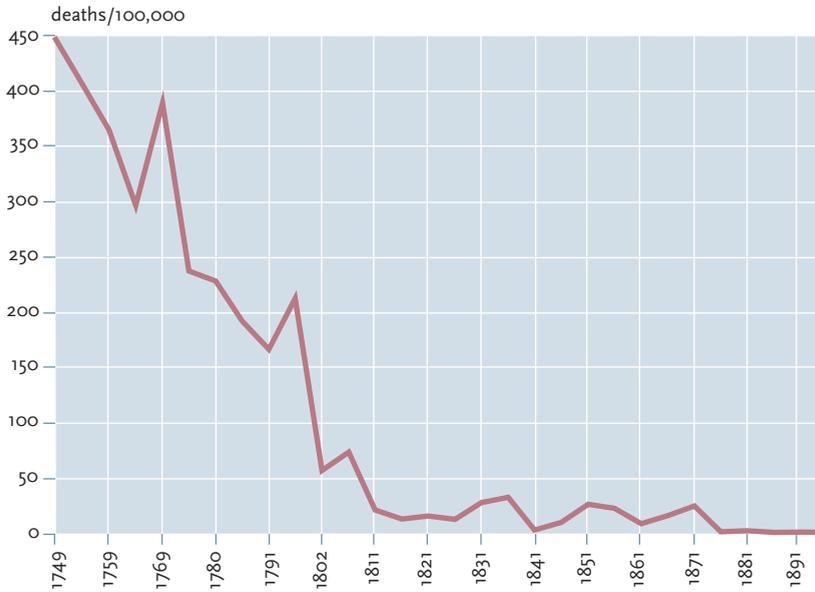
Are then the catechetical meetings and the disciplinary activities of the church a manifestation of the notion that Swedes have traditionally been an obedient, easy-to-discipline people, who, without reflection or protest, have put up with being under the command of the powers-that-be? The state naturally had disciplinary means at its disposal that could be used when it was deemed necessary, but the unrestrained use of force could in the long run be counterproductive to the state's intentions. Nor did the local church discipline always clash with what farmers and citizens wanted. It was desirable to uphold peace and orderliness and prevent anxiety and conflicts. It was then a question of social discipline and control, though not necessarily in opposition to

the will of the local elite and majority. Neither was being able to read a meaningless skill from the common people's point of view. It was useful in everyday life, in contacts with authorities on all levels and to formulate one's own opinion on what God commanded in the Bible. Although not the intention of the authorities, literacy therefore became a weapon of political democracy and was instrumental in the revolt of the new "free churches" towards the end of the nineteenth century.

The efficiency of the local system depended very much on the priest's enthusiasm and abilities to gain the trust of the parishioners, for example regarding the use of church funds to finance a parish pharmacy or to employ a qualified midwife. There is fair consensus among historians that this Swedish model of power-sharing, communication and negotiation was often comparatively successful, even from the state's standpoint. The spirit of reformist compromise of the nineteenth century rested on a long tradition of pragmatism resulting neither in a constant idyll nor in an absolute system of repression. Regarding health issues, this pragmatism had provided a useful channel of communication between the provincial doctors, the priesthood and the common people since the eighteenth century. The doctor in urban areas could strive in the same way to gain the confidence of the governing powers, especially regarding measures that would inconvenience or cost tax-payers.

## Smallpox vaccination

Smallpox vaccination was successfully introduced in 1802. According to Peter Sköld [18], who has published an extensive study of its history in Sweden, this was the single most important factor for the accelerated decrease and final eradication of smallpox as an endemic disease starting in early 19th century. Inoculation, using active matter from an infected person to immunise others, was common knowledge among eighteenth century doctors in Sweden and elsewhere. Figure 4.4 indicates that this use, which was propagated by Nils Rosén von Rosenstein and his contemporary colleagues in the medical profession, actually had a significant effect on the declining number of deaths even before 1800. All available evidence does, however, indicate that the attitudes



**Figure 4.4** Smallpox mortality per 100,000. Sweden, 1749–1900.

Source: P. Sköld, *The two faces of smallpox*, 1996, appendix 1–4 [18].

towards its use were ambiguous, since it could actually result in a full-scale infection and kill the inoculated person. On a mass scale, it needed the active participation of the few medical doctors available at that time. Their reports tell us that the inoculation campaigns were sporadic, usually on a small scale. Peter Sköld gives an example of one of the more ambitious interventions: between 1766 and 1780 an inoculation house in Stockholm managed to inoculate less than one per cent of the children born in the city during the same period. Consequently, this factor cannot explain the major part of the decline of smallpox mortality during the second half of the eighteenth century. It has been suggested by Gunnar Fridlitzius that immunisation processes or change in virulence might have been the major factor for the clear decline in mortality during the latter part of the 18th century [19].

Fridlitzius finds it plausible that there had been a shift in exposure between different forms of smallpox, giving more scope for the not-so-lethal form of smallpox viruses. Logically, this theory can very well be true, its only weakness being that we do not of course have any conclusive evidence confirming it. We must also consider that during this period, other airborne and food- and waterborne infectious diseases took the lives of many children, thereby competing with smallpox (which only visited the local populations every 4–5 years) as a cause of death.

The local vaccinator at work in a peasant village. Mass vaccination against smallpox started in Sweden during the first decade of the nineteenth century. The church played a key role for the success of Swedish public health campaigns, including smallpox vaccination.

Lithography: Bengt Nordenberg, 1862/  
IBL bildbyrå



Whatever the reason for the early phase of decline, it is beyond any doubt that “vaccination”, the method described and popularised by Edward Jenner at the very end of the eighteenth century, put a conclusive end to the previous high peaks of deaths caused by smallpox epidemics in Sweden. Right at the start of the nineteenth century, Jenner’s method was tested by Swedish doctors with very encouraging results. The news spread with incredible speed and within a decade, mass vaccination campaigns had started all over the country. Usually, the first campaigns took place in the cities and somewhat later in the countryside, where vaccination matter was initially difficult to access.

Although the technique was relatively simple, someone had to be taught and then do the job. The Swedish solution was to give the responsibility to the parish administration and to appoint a local official, sometimes the vicar but more often a person of lower status such as the bell ringer, as vaccinator. The key to success was the priest’s ability to introduce the campaigns without creating suspicion and opposition among the parishioners. Since the church registers had for a long time been used for secular state purposes as well (as a basis for taxation, conscription of soldiers and demographic surveillance), the sudden addition to the new pre-printed examination records of a special column, where it should be stated whether each individual had acquired immunity after being naturally infected or through vaccination, caused little surprise. Soon, the authorities could therefore request reports about the success of the campaigns. The resulting statistics show that the vaccination rates were indeed high in most places.

After a few years debate and a parliamentary decision, a compulsory vaccination law was promulgated in 1816. One argument for the law was put forward by a prominent physician, *David Schultz von Schultzenheim*, who declared that the state sometimes had to be a guardian of child health and protect against the foolishness of parents. A fine was set as a punishment for parents who did not vaccinate their child before its second birthday. In addition, regulations were proclaimed regarding actions to be taken by authorities and individuals in the event of an epidemic breaking out. The result can be seen in Figure 4.4. No major epidemic occurred during the next two decades. The infection was of course not completely eradicated and it re-entered the country through international contacts. In the largest cities with high migration rates, vaccination of all children was hard to control and uphold. After some time, it also became evident that complete immunity only lasted for a

certain number of years after vaccination. Re-vaccination, recommended since 1839, was therefore necessary for complete protection but did not occur to a sufficient extent. Consequently, from the 1830s to the 1870s, major cities faced peaks of smallpox mortality in certain years. None of these peaks were, however, close to the magnitude of the epidemics that occurred in the previous century.

In a comparative perspective, smallpox vaccination turned out to be a success story in the history of public health in Sweden. The law in 1816 making it compulsory for parents to vaccinate their children helped to uphold the system. However, as we have seen, vaccination programs had been introduced all over the country with striking success even before the law was promulgated. The work of dedicated and influential believers and practitioners among the medical profession was a necessary condition during the introductory phase. Their job would, on the other hand, have been very difficult had there been strong popular resistance to the campaigns. Obviously, another necessary key condition was that their message could be communicated to and accepted by each and every local community. As the chairman of the parish meetings, the priest usually had the authority and trust of his congregation and was able to mobilise support for mass vaccinations. The specific Scandinavian mechanism of communication between central and local levels was successful in this case. The prestige of the medical doctors and willingness to listen to their advice did of course grow considerably, once the positive effects of the campaign had been demonstrated. To some extent, the same mechanisms were important for the success of the intensified propaganda for breastfeeding and better child-care.

## Breastfeeding, infant care and cleanliness

In Nils Rosén von Rosenstein's handbook on child-care, we have seen how people as early as the eighteenth century were able to implement good advice for the benefit of health. Apart from articles in almanacs, someone trusted by the common people was needed to propagate this

advice in order for it to be implemented. It was, however, not always easy to convince reluctant farmers of the value of paying wages to a qualified midwife, who, with the financial support of the parish, could serve the poor free of charge. This was important for the provincial doctor in Haparanda in the extreme north of Sweden, *Carl Josua Wretholm* (c 1800–1870), who arrived there in the 1830s. He was searching for an assistant who could convince the Finnish-speaking population of the benefits of breastfeeding their children. Wretholm's efforts in this regard were eventually successful, a fact he proudly communicated to Sundhetskollegium. The story is retold in Anders Brändström's thesis entitled "*De kärlekslösa mödrarna*" ("*The loveless mothers*") [15]. In his last official report in 1866 and after infant mortality had fallen dramatically, the provincial doctor exclaims: "The times have now changed and so have the farmers."

Campaigns in support of breastfeeding also took place in other parts of Sweden, at different times and to varying effect. As the contemporary observer, *Johan Hellstenius* (1834–1888), relates, there were still people in the 1860s in some coastal regions of northern Sweden raising their infants on masticated food, pancakes and other unhealthy foodstuffs instead of breastfeeding them. He also illustrated, with the help of figures, how infant mortality in all parts of Sweden was lower near ironworks than in the surrounding rural areas. There were often trained midwives and even doctors at the ironworks, who tried every means of persuasion, patriarchal and otherwise, to convince mothers of the benefits of breast-feeding and good hygiene. The substantial, long-standing geographical variations in infant mortality in Swedish rural areas during the nine-teenth century were partly due to population density, which influenced the degree of exposure to infection, but also to cultural trends in infant care. In this respect, midwives were very instrumental in spreading knowledge. In some places and thanks mainly to antiseptic innovations, they also seem to have had a hand in the decline of maternal mortality during childbirth and as a result of other infections, often caused by poor hygienic conditions when babies were being delivered.

Judging by the death figures from local surveys, the middle class were first to benefit from these improvements in the cities, followed later by other groups. In the countryside, on the other hand, relatively well-to-do farmers were slow to accept the doctors' advice compared with less wealthy families. Easy access to artificial food and the need for mothers to work in the fields, leaving their babies to be fed and

attended by other female members of the household, have been mentioned as reasons for the farmers' reluctance. A documented cultural conservatism also contributed to their initially negative attitudes. One group of children was, however, lagging behind. Infant mortality remained very high throughout most of the nineteenth century among children of single mothers. These mothers lacked the support of their next kin. Working hard for their living, they were often unable to find enough time to breastfeed their newborn babies.

## Pre-industrial urban areas and hygiene

Mortality among all ages and for both sexes, and particularly among middle-aged men, was highest in urban areas. The primary reason was naturally greater exposure to infection depending on the density of the population, but we must also consider the generally poor hygienic conditions that prevailed both in and outside homes. Tentative efforts to improve the situation can also be seen in this area. There is evidence in the penal registers for Linköping City of the authorities starting to punish citizens for breaking certain hygienic by-laws around 1800. Some had neglected to keep the gutters open and free from dirt, others had washed their clothes in the river Stångån, from where the city fetched the drinking water it did not obtain from locally dug wells. The interest in keeping city streets and squares clean increased compared to previously. Since there were some open drains in the squares, such simple measures could play a significant role in preventing the drinking water from becoming contaminated, especially in the more or less open wells found at certain places in the city. The decision in 1817 to utilise a water supply further upriver had a more obvious impact, however. This meant that the polluted stormwater that constantly flowed into the river in the middle of the city was no longer reused. It is of course difficult to determine just how much these measures helped to improve the health and survival rate of the inhabitants. The campaigns that were registered in the penal registers don't seem to have been all that

regular, but the fact remains that infant mortality fell dramatically in Linköping until the mid-nineteenth century, resulting in the difference in mortality rates between the city and the countryside narrowing significantly.

## Cholera – the last large-scale epidemic

Cholera hit Europe for the first time in the 1830s. Similar to the plague, it came from the east, at a time when epidemics of typhus, dysentery and smallpox were starting to subside. It spread from country to country and from town to town with devastating consequences, not just for infants and weak older people, but also for strong, well-nourished adults. A total of nine epidemics hit Sweden between 1834 and 1873. Since it was mainly transmitted via water and poor hygiene, its consequences were naturally most pronounced in the poor quarters of the towns and cities. Many believed that it was caused by evaporation from the ground and malodorous air (miasma). It was also clear, however, that it could be spread from place to place. These two theories could lead to different policies when trying to prevent the epidemic from spreading and entering new areas. The miasma theory was attractive to trade interests, since it could be used in order to oppose measures aimed at blocking the free movement of people and goods. It could also be used to support arguments for improvements of urban hygiene. For strict adherents of the contagion theory, however, preventing the epidemic from entering a new place would seem to be the best solution (although not so easy to implement).

In practice, a mix of remedies was tried. The interest in health issues and hygiene naturally grew when larger-scale epidemics raged. This could already be seen around 1809-1812, when Sweden's involvement in war increased the exposure to different epidemics, and even more so with the advent of cholera. If the plague had been the model disease for public health interventions of the seventeenth century, cholera was to play the same role during the nineteenth century. Educational essays

were penned and disseminated, decrees were issued, people tried to prevent foreigners who were suspected of carrying the disease from coming into the towns and cities, the clothes of infected individuals were burned and their homes fumigated. The penal registers in Linköping show that hygienic regulations began to be enforced increasingly stringently. During the first epidemic in the 1830s, towns and cities were given the task of establishing special bodies that were to spring into action as soon as new dangers arose. It would be another twenty years or so, however, before those responsible for health inspections were afforded a more permanent and efficient organisation. The financial means for improvements would come from the affluent community in the area and the will to take on greater burdens was still limited. The efforts of doctors and a minority of progressive citizens were often in vain when it came to trying to implementing economic measures that left their mark on people's tax forms.

## Strong liquor – a point of order and a health risk

Strong liquor was in all likelihood a major contributory factor in the high mortality rate among middle-aged men during the first half of the nineteenth century, mostly in urban areas where there was an abundant supply of cheap spirit and a diversity of legal and illegal taverns. Stimulated by proposals from high quarters and based on the desire of the elite for good orderliness on the streets and squares, a campaign was initiated to combat drunkenness in urban public places and outside churches. The penal registers of the courts began to fill up with such cases. The problem proved to be widespread, but there was no evidence to suggest it had been less so beforehand. The authorities seemed still to consider drunkenness to be firstly a point of order and secondly a threat to poor relief and almost as an afterthought as a minor health problem. Restrictions and taxes on the distilling and sale of strong liquor were mainly used to generate income for the state, not primarily to reduce consumption.



"A Monday off work". In Scenes from Swedish everyday life in the 1850s. Taking a Monday off for drinking was seen as a traditional privilege by artisans.

Drawing: C.A. Dahlström/  
IBL bildbyrå

Even before the advent of modern popular movements, a number of priests began propagating moderate alcohol consumption among their parishioners. They used the term "temperance society" to convey the idea of unity, of entering into an agreement not to drink alcohol. One example comes from Harmånger in the northern province of Hälsingland, where the priest during the 1830s gradually began to exert influence on the farmers at parish meetings. His first request was for them to stop bringing strong liquor with them to church on Sundays.

People often drank profusely prior to going to church, with the result that some fell asleep and others behaved boisterously. The priest wanted to ban such misbehaviour, but received little response from the meeting participants. The parishioners argued that they had to have something to warm them up since it was so cold in the church during the winter. The priest's suggestion to light a fire outside instead so that people could warm themselves and drink hot milk was rejected.

With great stubbornness, the priest made the suggestion in meeting after meeting and within ten years, he had managed to bring about a minor revolution. Finally, all those present apart from two farmers agreed to join a temperance society, pledging not to make, sell or drink strong spirit. Furthermore, all taverns would have to remain closed before and during mass. The two farmers who refused to join were named in the meeting protocol with a pious hope that God would have mercy upon them. There is no record of to what extent and how long this temperance society managed to fulfil its purpose, but it certainly didn't last forever. The initiative from above succeeded mostly because of the clergyman's energy rather than any real conviction on the part of the common people. As many other phenomena of the eighteenth and early nineteenth century, it bore the seeds of aspiration and was to prove more successful later on.

## Social control and stigmatisation: Supervision of prostitutes

A charge was introduced in 1815, a kind of voluntary tax, that was to finance the care of poor venereal disease (VD) sufferers. This VD clinic charge later became compulsory and was levied until the beginning of the twentieth century. The poor were hence to be supervised and – under a law enacted in 1817 – were obliged to turn up at clinics for treatment. There was little sympathy for the sufferers or concern over stigmatisation shown in the new laws. Control and public healthcare would apply to the lower social echelons, a fact confirmed in a study of Härnösand's VD clinic between 1814 and 1844. Out of 500 male

patients, only four per cent were low-ranked white-collar workers, 12 per cent were farmers or fishermen and the rest were crofters, soldiers, craftsmen and not least servants and people with no occupational title. Among women patients, two per cent were commoners, whilst most were maid-servants or had no title. Compared to a control group, mortality among these patients who had been treated at the clinics was higher during the first five years after being discharged and few got married [20]. The landed gentry could take care of their disease privately and discreetly.

We find a depressing example of how the authorities handled health problems with the aid of medical representatives in the control prostitutes were subjected to during the nineteenth century. Venereal diseases remained a cause for concern throughout the nineteenth century. Anna Lundberg has described how the medical image of venereal diseases developed during the nineteenth century, the social measures (regulations) that were implemented by the authorities and the stigma that always affected the infected [21]. Control was tightened in new legislation brought in as early as 1812. As had happened in the eighteenth century, certain social groups were earmarked for control measures, for example, wet nurses, horse-traders, journeymen, servants, gypsies, glassblowers and seasonal workers at fisheries on the West Coast. Coffee shops, inns and taverns, as well as spas, harbours and military barracks were to be inspected thoroughly, to ensure the personnel were not infected. The county governors were responsible for ensuring the inspections were carried out. The law was adopted after a certain amount of resistance from common people, whilst the other classes, whose members hardly felt threatened by the measures, were positive. Priests and doctors were also to take part in the inspections.

# Summary: The first phase of the epidemiological revolution – synergetic causes

The general fall in mortality in early nineteenth century Sweden was obviously a significant cause of the population growth. The bishop, poet and commentator on social affairs. Esaias Tegnér, explained this development in terms of “peace, vaccine and potatoes”. “Peace” referred to the permanent peace period that began in 1814 and heralded the disappearance of war-related mortality. “Vaccine” referred to the smallpox vaccinations that were made compulsory in 1816. “Potatoes” not only referred to the introduction of the potato as a staple food among large population groups, but can also be interpreted as generally improved agricultural production as a result of new cultivations, replacement crops and crop rotation reforms, that helped to safeguard food supply for the rapidly growing population. Agricultural production increased even faster than the population and created a food surplus, which meant that Sweden went from importing to exporting cereals (primarily wheat) from the 1830s onwards. The last major crop failure, which affected the country in the late 1860s, had a relatively limited, and mostly local, impact on mortality levels [16]. The conditions during the eighteenth century seem to have been more “Malthusian” insofar as there was a closer connection between the harvest fluctuations, reflected by variations in farmers’ earnings, and mortality levels than was the case during the following century [22].

One factor often highlighted as having a positive effect on health development in Sweden is the generally high level of literacy, well before the introduction of compulsory elementary school in 1842, which enabled the population to assimilate health information, for example via popular almanacs containing articles on the importance of breast-feeding and general advice on infant care, etc.[23]. Another factor is the fact that the Lutheran church could act as the long arm of the state at the parish level, for example regarding the implementation of preventive healthcare measures, such as compulsory smallpox vaccinations, which were often administered by the parish clerk. The parish

organisation was furthermore the basis for population statistics, which provided valuable data on public health.

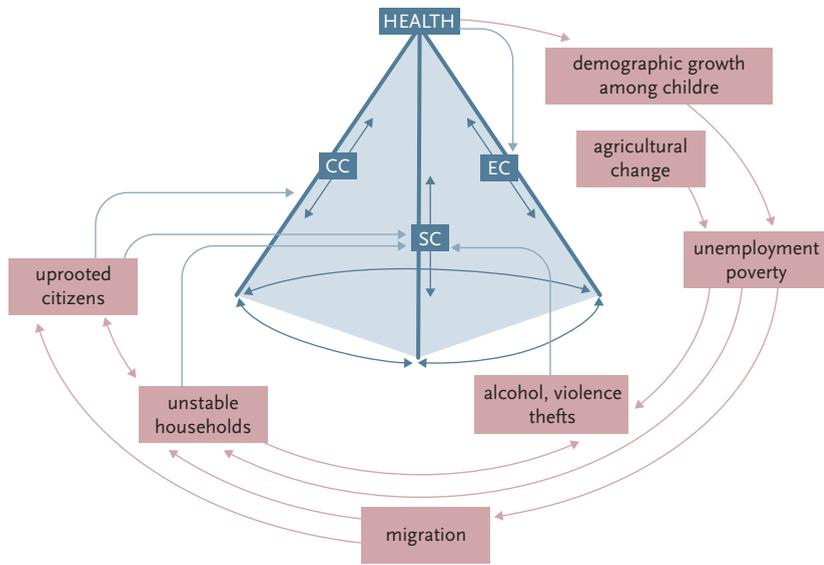
Modern research has however questioned the significance of traditional explanations for the decline in mortality during the early nineteenth century. This is primarily a question of whether the improved nutritional conditions really were such a crucial factor, in Sweden as well as in other parts of Europe [24, 25]. The point has also been made that smallpox mortality, which accounted for a substantial proportion of infant deaths, was already in dramatic decline during the late eighteenth century, i.e. before Edward Jenner's vaccine had been introduced. Even if the significance of "peace, vaccine and potatoes" may earlier have been exaggerated and the fact that these factors can hardly have played a decisive role in the reduction in smallpox mortality during the latter part of the eighteenth century, they still undoubtedly had a positive effect on public health and contributed to a more even development of the mortality curve during the first half of the nineteenth century.

The major decline in mortality among children and women coincided with the emergence of the urban proletariat and social problems in the 1810s. Among the causes of this decline among children, we have indicated smallpox vaccination, successful – at least in some places – propaganda in support of breastfeeding and more hygienic infant care and – at least in some urban areas – better hygienic conditions than previously. The decline was most noticeable in areas with the highest infant mortality rate, whilst the changes were minor in regions in which good breastfeeding habits had already been adopted, where there was low exposure to infection and relatively low mortality. Furthermore, bigger potato harvests and greater food production overall contributed to improving people's resistance to infectious diseases. These positive factors supported each other and there is strong evidence of synergy effects. Fewer infections and less diarrhoea among children also increased their resistance to airborne infections and later created an increasingly resistant adult population. It is therefore impossible to attribute an exact share of the explanation to one specific factor. The process was underway and continued unrelentingly during the second half of the century.

The efficiency of the local administrations to implement new methods and campaigns for the protection of people's health has been emphasised as a key factor explaining the rapid decline in mortality, especially among infants and children. It shows that, as long as the political

**Figure 4.5** Health and social change – Sweden, c. 1800–1850.

Source: Jan Sundin



Human resources: EC = economic capital; CC = cultural capital; SC = social capital

system is prepared to act, significant achievements can be made for the health of a population even during periods of major economic and social transition. Simultaneously, however, socially vulnerable groups did not share these benefits, in this case notably illegitimate children and some pauperised middle-aged men. For one of the most marginalised groups, the prostitutes, increasingly zealous public health regulation became an impetus for stigmatisation.

Figure 4.5 summarises the relationship between health and social transition during the early nineteenth century. For a growing part of the population, socioeconomic changes caused unemployment, poverty, unstable households, uprooted citizens and an increase of the consumption of alcohol, violence and theft. This, in turn, weakened the economic, cultural and social resources of the same proletariat, which turned out to be problematic and had a clear impact on the health and welfare of many middle-aged men in urban areas. In other words, bonding capital, supporting groups of farmers or craftsmen in the traditional agrarian society, had partly eroded, especially in urban settings. An old type of minimal “linking social capital” in the communities was under pressure from the growing needs of the poor.

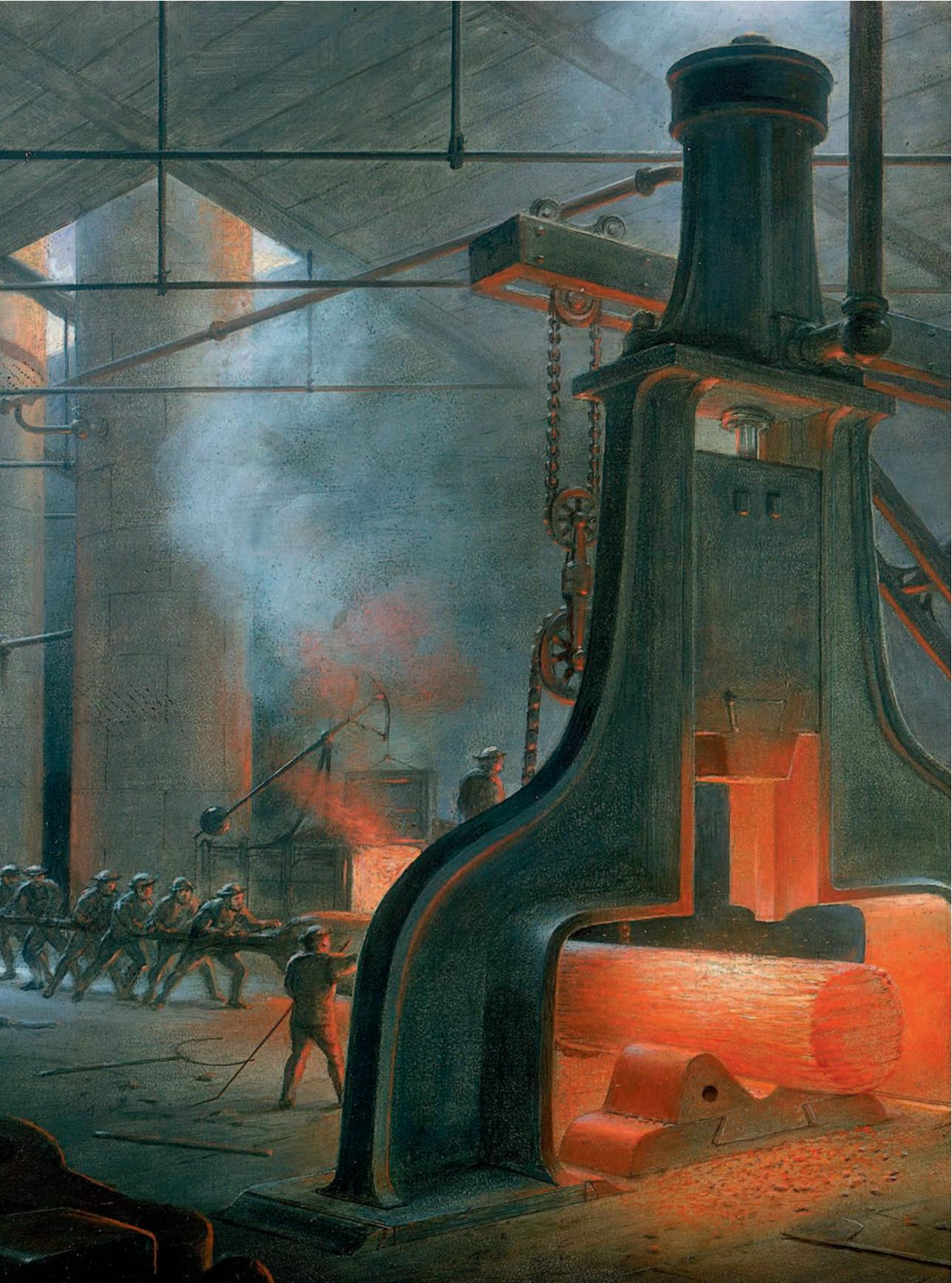
This is the time when Robert Malthus's pessimistic views about the impacts of population growth seemed true. In Sweden, a more positive solution came during the second half of the nineteenth century. Emigration, industrialisation and the capacity of agriculture to feed more with less labour gave more and not less resources to individuals, local communities and the state to provide for welfare and health. This will be presented in the following chapter.

## Reference list

1. Utterström G. Jordbrukets arbetare: levnadsvillkor och arbetsliv på landsbygden från frihetstiden till mitten av 1800-talet. Del 1 [Rural workers in Sweden from the period of liberty to the mid-19th century. Part 1]. Stockholm: Tiden; 1957.
2. Winberg C. Folkökning och proletarisering: kring den sociala struktur-omvandlingen på Sveriges landsbygd under den agrara revolutionen [Population growth and proletarianisation: the transformation of social structures in rural Sweden during the agrarian revolution]. Diss. Göteborg: Göteborg University; 1975.
3. Magnusson L. An economic history of Sweden. London: New York: Routledge; 2000.
4. Arvidsson SO. De svenska koleraepidemierna: en epidemiografisk studie [The Swedish cholera epidemics: an epidemiographical study]. Diss. Stockholm: Karolinska Institutet; 1972.
5. Bourdelais P. Improving public health in France: the local political mobilization in the nineteenth century. *Hygiea Internationalis* 2004;4(1):229-53.
6. Vallin J. Mortality in Europe from 1720 to 1914: long-term trends and changes in patterns by age and sex. In: Schofield R, Reher D, Bideau A, eds. The decline of mortality in Europe. Oxford: Clarendon Press; 1991.
7. Caselli G. Health transition and cause-specific mortality. In: Schofield R, Reher D, Bideau A, eds. The decline of mortality in Europe. Oxford: Clarendon Press; 1991.
8. Sundbärg G. *Bevölkerungsstatistik Schwedens 1750-1900: with preface and vocabulary in English.* [Swedish population statistics] Stockholm: Statistics Sweden; 1970.
9. Fridlitzius G. Sex-differential mortality and socio economic change: Sweden 1750-1910. In: Brändström A, Tedebrand LG, eds. Society, health and population during the demographic transition. Stockholm: Almqvist & Wiksell International; 1988.

10. Willner S. Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige [The weaker sex? Gender and adult mortality in 19th century Sweden]. Diss. Linköping: Linköping University; 1999.
11. Sundin J, Willner S. Social stress, socialt kapital och hälsa: välfärd och samhällsförändring i historia och nutid [Social stress, social capital and health: welfare and social change in past and present]. In: Sundin J, Willner S, eds. Samhällsförändring och hälsa: olika forskarperspektiv [Social change and health: different research perspectives]. Stockholm: Institute for Futures Studies; 2003.
12. Emigrationsutredningen. Bilaga V. Ekonomisk-statistisk beskrifning öfver Sveriges olika landsdelar/ af Gustav Sundbärg [The emigration report. Part V. Economic-statistical description of different parts of Sweden/ by Gustav Sundbärg]. Stockholm: Nordiska bokhandeln; 1910.
13. Söderberg J. Causes of poverty in Sweden in the nineteenth century. *Journal of European Economic History* 1982;11:369-402.
14. Bengtsson M. Det hotade barnet: tre generationers spädbarns- och barnadödlighet i 1800-talets Linköping [The child at risk: infant and child mortality in three generations in 19th century Linköping]. Diss. Linköping: Linköping University; 1996.
15. Brändström A. "De kärlekslösa mödrarna": spädbarnsdödligheten i Sverige under 1800-talet med särskild hänsyn till Nedertorneå ["The loveless mothers": infant mortality in Sweden during the 19th century with special attention to the parish of Nedertorneå]. Diss. Umeå: Umeå University; 1984.
16. Nelson M. Bitter bread: the famine in Norrbotten 1867–1868. Diss. Uppsala: Uppsala University; 1988.
17. Wootton D. Bad medicine: doctors doing harm since Hippocrates. Oxford: Oxford University Press; 2006.
18. Sköld P. The two faces of smallpox: a disease and its prevention in eighteenth- and nineteenth-century Sweden. Diss. Umeå: Umeå University; 1996.
19. Fridlitzius G. The mortality decline in the first phase of the demographic transition: Swedish experiences. In: Bengtsson T, Fridlitzius G, Ohlsson R, eds. Pre-industrial change. Stockholm: Almqvist & Wiksell International; 1984.
20. Brändström A. A life after dismissal? Patient's life histories at a Swedish county hospital, 1845–1890. In: Woodward J, Jutte R, eds. Coping with sickness. Sheffield: European Association for the History of Medicine and Health Publications; 1995.
21. Lundberg A. Care and coercion: medical knowledge, social policy and patients with venereal disease in Sweden 1785-1903. Diss. Umeå: Umeå University; 1999.
22. Bengtsson T, Ohlsson R. Levnadsstandard och mortalitet i Sverige 1750–1860 [Standard of living and mortality in Sweden 1750–1860]. Lund: Lund University; 1984.

23. Högberg U. Svagårens barn: ur folkhälsans historia [Children of starvation years: from the history of public health]. Stockholm: Liber; 1983.
24. Bengtsson T, Fridlitzius G, Ohlsson R, eds. Pre-industrial change. Stockholm: Almqvist & Wiksell International; 1984.
25. Schofield R, Reher D, Bideau A, eds. The decline of mortality in Europe. Oxford: Clarendon Press; 1991.





## 5. Industrialisation and hygienism (c. 1870–1920)

# Introduction

**Page 114:** Iron production and forestry were the major components during the early phase of industrialisation in Sweden. 19th century painting.

Photo: Photos.com

**Page 115:** Washing clothes in open air. Year unknown.

Photo: Nordiska museet

There are several sound arguments why we should draw a dividing line within the domains of public health between the early and late nineteenth century. Apart from the food crisis in 1917 during the First World War and the ravages of the Spanish Flu the year after, the Swedish population never again experienced anything that remotely resembled the major famine years of the late 1860s.

Compared to, for instance Great Britain, industrialisation came late in Sweden, but once it started in the latter stages of the nineteenth century, industry experienced an unprecedented boom and the country's resources grew steadily. Jobs were created, people migrated to towns and industrial urban areas and the collective society acquired greater resources on the national and local level. A growing export of cereals, timber, iron and steel to the more industrialised countries of Europe as well as an expanding domestic market and extensive railroad construction projects stimulated industrial growth. It has also been suggested that the rapid industrial growth in late nineteenth century Sweden to some extent was related to a well-developed stock of human and institutional capital in spite of the relative poverty of the country around the mid-century. Among other factors characterising Sweden as "the impoverished Sophisticate" were: a high literacy level, a large numbers of students attending schools and universities, and an efficient financial system [1]. Around 1900, Sweden achieved a leading position in industrial growth among the industrialised nations of the world [2]. This was largely a result of the successes of the manufacturing industry, often based on Swedish inventions and enterprises such as AB Gas-accumulator (AGA), Allmänna Svenska Elektriska Aktiebolaget (ASEA), LM Ericson, Separator and AB Svenska Kullagerfabriken (SKF).

Real wages for industrial and agricultural workers more than doubled between 1865 and 1910. In addition to a general improvement in the standard of living and reduced dependence on harvest outcomes, more and more railways were built, making it possible to get help to areas affected by food shortages much more quickly. In the northern half of the country, which was worst-hit in the 1860s, forestry and mining provided both direct and indirect employment opportunities. The region became a relief area for the proletariat from more southern

parts of the country. Many others, who chose not to move to the north, emigrated across the Atlantic.

Between 1840 and 1930, more than a million Swedes immigrated to North America. Emigration became extensive in the late 1860s following crop failures. At this time, a majority of the emigrants were small-holder families. During the late nineteenth century, a large proportion consisted of single men and women in the 15-30 age group. Emigration was particularly extensive from areas hit by economic recession or with weakly developed trade and industry. It is likely that the large scale emigration contributed to the rapid rise of real wages in the industrial sector and in agriculture in the late nineteenth century. It has been argued, assuming that Sweden was overpopulated, that emigration saved the country from widespread poverty and starvation. On the other hand, it is also possible that fewer people emigrating would have led to an even more expanded domestic market, and thus further stimulated industrial growth and welfare [3].

But the first phase of industrialisation also had a darker side; long working days (twelve hours was the norm until the eight-hour day was introduced in 1919), hazardous machines and in many cases dark and unhealthy work environments. Housing conditions in some industrial settlements were characterised by extreme overcrowding and poor sanitary conditions. This was not least true of what became known as the “Swedish Klondike”; the area of northern Sweden with an abundance of sawmills and ore-fields.

Primitive shanty towns grew up; the Loussavaara mine in Kiruna being an example. Similarly, new population centres sprang up along the newly laid railways, often with poor housing conditions. Stockholm was already renowned for its poor sanitary conditions and high mortality from infectious diseases, even in a European perspective. The working-class districts were characterised by open, stinking drainage ditches, poor public cleansing and water supply and severe overcrowding. Many temporary and seasonal workers lived outdoors or in primitive and overcrowded doss houses, which seem to have been the perfect breeding-ground for various infectious diseases. Working-men’s hostels and night shelters in Stockholm were critically described as “some of the capital’s worst plague spots” in a report published in *Social Tidskrift* (a periodical of the day) in 1913. The most common type of apartment among working-class families of the age comprised one room and a kitchen or kitchenette and often housed one or more

lodgers, in addition to family members, to boost income. But the hygienic conditions were probably just as bad, and in many cases worse, in pre-industrial towns and cities.

Regarding the social and economic consequences of industrialisation, two main standpoints have emerged in the international debate. The “pessimistic” view claims that the effects were mainly negative. The standard of living was falling and people were uprooted from their traditional rural milieus and forced to live in overcrowded and socially deprived industrial towns. The “optimistic” view claims that the advantages were greater than the disadvantages. The standard of living and living conditions in general improved, at least in the long run. In the Swedish case, the optimistic view appears to be the most appropriate. Rapid industrialisation in the late nineteenth century was accompanied by considerable improvements in living standards (real wages) and health (life expectancy) [4].

## Epidemiological trends

In connection with the industrial revolution, sanitary conditions did start to improve, as a result, for example, of better water and sewerage systems and improved waste management [5]. The positive results were seen quickly. Mortality from waterborne (and other) infectious diseases fell drastically in urban areas during the latter part of the nineteenth century. It is plausible that the sanitary reforms not only affected mortality from waterborne diseases but also airborne infections. Reducing morbidity in the former probably led to improved resistance to, and lower mortality from, airborne diseases.

The differences in mortality between town and country decreased palpably, despite increased migration to urban areas. To some extent, this can be attributed to an “urbanisation” of rural Sweden as a result of the emergence of suburban areas outside the administrative borders of towns and the establishment of new industrial centres. These areas were defined as rural in the official population statistics. Finally, by the 1920s, the earlier excessive urban mortality among younger age groups had shifted to a higher death rate in the countryside than in the towns. For women, this was true across the entire reproductive age span, and the differences bet-

ween town and country were also negligible in older age groups. There was still striking excessive urban mortality among adult men, however, even if it had decreased slightly. All in all, the industrial revolution led to a sharp decline in mortality and the disappearance of the dramatic peaks in the death rate, with the exception of the influenza epidemic of 1918–1919.

**Table 5.1** Mortality from certain infectious diseases (and infection-related diagnoses) in Swedish towns, 1875–1879 and 1921–1930. Deaths per 100,000. Standardised for sex and age after 1875–1879.

	1875–1879	1921–1930
Gastroenteritis*	253	19
Acute pneumonia	255	46
Consumption	332	115
Other tuberculosis**	–	30
<i>Other infections</i>		
Scarlet fever	107	2
Diphtheria, croup	92	5
Typhoid	53	2
Measles	24	4
Whooping cough	24	7
Influenza	–	16
Smallpox	15	< 1
Typhus	13	< 1
Dysentery	2	1
Infantile paralysis	–	1
<b>Total "infections"</b>	<b>1,192</b>	<b>274</b>
All causes of death	2,250	926

\* Includes diseases of changeable aetiology, but infection-related conditions dominate. Terminology: Intestinal catarrh, diarrhoea, enteritis (1875–1879), acute gastroenteritis (1921–1930).

\*\* Types of tuberculosis other than pulmonary tuberculosis are not presented separately in the statistics for 1875–1879.

Source: Bidrag till Sveriges Officiella Statistik K, Hälsö- och sjukvården. 1 (Contribution to Sweden's Official Statistics K, Health and medical services) 1875–1879. Sveriges Officiella Statistik. Befolkningsrörelsen. Översikt för åren 1921–1930 (Statistics Sweden. Vital statistics. Summary for 1921–1930).

Victims of the Spanish flu in a Swedish military hospital in 1918.

Photo: SVT Bild



According to official statistics, the decades around the turn of the century saw a marked reduction in ‘pestilence mortality’, i.e. death from contagious diseases such as typhoid, smallpox, cholera, scarlet fever, diphtheria and measles [6]. During the latter half of the 1870s, an estimated 30 per 1,000 inhabitants in urban areas (statistics for rural areas are incomplete) died each year from the dominant contagious diseases, the equivalent of 15 per cent of all deaths (Table 5.1). Mortality then continuously decreased (with the exception of the influenza epidemic in 1918–1919) and during the 1920s the equivalent figure was 4 per 1,000 per year or 4 per cent of all deaths.

The decrease was probably even more dramatic than figures indicate, since the cause of death statistics had become more complete over time. Some diagnoses, such as smallpox, ague, dysentery and cholera, had essentially disappeared in 1900, whilst diphtheria, whooping cough and measles continued to be a real, albeit drastically reduced, threat during childhood. It seems that medical therapy in the form of antitoxin only played a significant role in the decline of diphtheria. Including TB (consumption) and respiratory infections (pneumonia) and diseases of the digestive system (certain types of gastroenteritis), infection-related

diseases accounted for more than half of total urban mortality during the earlier period and about a third during the 1920s.

Pulmonary tuberculosis accounted for about 15 per cent of total urban mortality in 1875–1879 and twelve per cent in 1921–1930. Other forms of TB dominated in younger age groups and accounted for about four per cent of total mortality during the 1920s. Sanatoriums and TB clinics were expanded during the early twentieth century, which helped to isolate the sources of infection more effectively and increased awareness of how infections spread. BCG vaccination was introduced in the late 1920s and X-ray examinations to detect cases of tuberculosis were introduced over the following ten years. Effective drugs against tuberculosis only became available during the 1940s [7]. Hence, this decline in TB deaths had obviously begun before effective medicines were discovered. Social and economic improvements seem to have been an important factor, including better food and housing conditions.

In 1918–1919, Europe was hit by a serious influenza epidemic, the Spanish Flu, which killed about 35,000 people in Sweden alone [8], making it the most devastating epidemic to hit Sweden for over 50 years and causing (until the present day) the last sharp peak in the mortality curve. Young adults (20–40 years) were particularly badly affected, as illustrated in the diagram showing sex- and age-specific mortality (see Appendix). The northern forest counties were more severely hit by the influenza epidemic than the rest of the country, even when differences in age composition are considered. The spread of infection was linked to the ongoing world war. It is felt that American soldiers in particular transmitted the infection to France, from where it spread further [8].

Infantile paralysis or polio was a ‘new’ disease that hit Sweden and western Europe as large-scale epidemics during the first sixty years of the twentieth century. The effect on total mortality was indeed limited, but thousands were left permanently paralysed. Paradoxically, the epidemics of the twentieth century are thought to be the product of improved public hygiene, even if this opinion does not go unchallenged [9]. In the past and under worse hygienic conditions, many children may have been infected during early infancy, when the risk of serious complications is slight, which is why the disease went unnoticed. With better hygiene, people are less likely to come into contact with the polio virus until later on in life, when the risks of complications, such as paralysis, are much greater than during early childhood.

During the latter part of the nineteenth century, home deliveries assisted by professional midwives became the standard, which also contributed to significantly reduced perinatal mortality [10].

A poorer nutritional standard due to food shortages and high living costs was felt to have contributed to the drastic increase in tuberculosis mortality during the First World War in Sweden as well as in several other countries [7]. This is in contrast with the positive health development during the Second World War, manifested in falling mortality from, for example, cardiovascular disease and diabetes [11]. The differences between the wars were probably due not only to changes in the general disease pattern, with a marked decline in tuberculosis morbidity and the increased significance of heart disease, but also to more efficient food supply during the Second World War. In addition, due to food rationing during the second war, diet was probably for the most part healthier with less sugar and fat content.

The role of nutrition in the more general decline in mortality has been keenly discussed ever since. *Thomas McKeown* presented his theories in the 1970s on the reason for the great mortality decline. He claimed that the role played by medicine in the secular decline in mortality during the nineteenth century was extremely limited, and that the main reason was improved nutrition [12]. Even if contemporary research shares the view that the curative significance of medicine was extremely limited until the introduction of sulpha drugs and penicillin in the 1930s and 1940s, the crucial role of nutrition has nevertheless been called into question. Instead, the significance of the sanitary reforms in urban areas during the nineteenth century has been highlighted [13]. Still, even if McKeown underestimated the role of hygienism, there is no doubt that the rapidly rising standard of living was positive for the health of the general population.

## Men and women

Maternal mortality constituted about ten per cent of all deaths among women in the 15-49 age group up until the latter stages of the nineteenth century. This proportion fell to about five per cent at the turn of

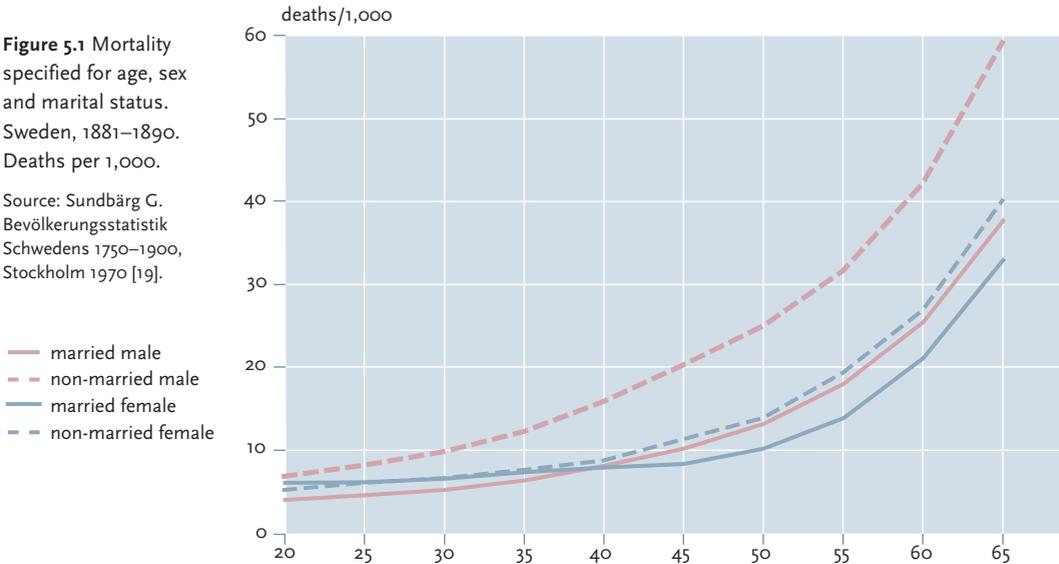
the century in 1900. Declining fertility helped to reduce the risk of death in childbirth, but the dramatic fall in maternal mortality has been mainly attributed to the expansion of Swedish midwifery services and the introduction of antiseptic techniques during childbirth. In 1881, instructions were issued on how midwives should disinfect their hands and instruments with carbolic acid, resulting in a drastic reduction in childbirth mortality. Attempted abortion became more common at the end of the nineteenth century and many women died whilst trying to terminate their pregnancy. "Phosphorus poisoning" was the registered cause of death.

Among younger and middle-aged adults, mortality decreased more among males than among females (see Appendix). One factor, according to data presented in official statistics, was the dramatic decline in alcohol-related deaths. In 1870–79, the statistics reported about 64 deaths from chronic alcoholism per 100,000 males in people over 20 years of age in Swedish cities. In the 1920s, the corresponding figure was less than two. Although changes in diagnostic practice may have affected these figures, the drop clearly indicates a substantial fall in alcohol-related deaths. There were often more deaths from tuberculosis among women in younger age groups. This was certainly nothing new when it came to girls and young women (5–19 years old), who already seem to have been more adversely affected during the early nineteenth century than their male counterparts. As tuberculosis became an increasingly dominant cause of death among younger age groups towards the latter stages of the century (as a consequence of the dramatic decline in several contagious diseases), the gender differences in total child mortality basically disappeared. Excessive mortality among boys from accidents was balanced against the higher number of deaths from tuberculosis among girls.

On the other hand, it was not until around 1900 that the national statistics also reflected excessive female mortality among those of reproductive age. Higher mortality from consumption among married women than among single women was reported in Stockholm towards the end of the nineteenth century. This was in line with the perception that pregnant women constituted a risk group for TB because of their impaired immune systems. In a study of Swedish parishes in the nine-teenth century, Ulf Högberg has shown that pulmonary tuberculosis was a strong contributory cause of indirect maternal mortality [14]. However, this cannot explain why girls contracted tuberculosis more often than boys.

**Figure 5.1** Mortality specified for age, sex and marital status. Sweden, 1881–1890. Deaths per 1,000.

Source: Sundbärg G. *Bevölkerungsstatistik Schwedens 1750–1900*, Stockholm 1970 [19].



Certain studies have claimed that this was due to male family members (and breadwinners) being better fed at the expense of female members of the household [15–17]. A social hygiene survey from northern Sweden in the 1930s claimed that “the limited food available is firstly served to the man and the children and the wife has to make do with what is left over, which is why they are often so thin....” [18]. Therefore, a certain amount of evidence suggests that house-wives, at their own expense, put the rest of the family first when it came to serving food. This, in combination with hard work and frequent pregnancies, could lead to a low nutritional status and reduced resistance to TB. There is, on the other hand, little evidence that children were also subjected to such gender discrimination at the dinner table, which could have contributed to the higher mortality rate among girls.

As in earlier periods, the urban lifestyle did not benefit the health of adult men, whilst there were fewer deaths among women of reproductive age in the towns than in the countryside. This difference between the sexes may in part have been due to more widespread alcohol abuse among urban men. Regarding the higher mortality among rural women, a relatively high fertility rate and poorer maternity care might be contributory causes. Neither is it possible to exclude the effect of selection mecha-

nisms, i.e. women who moved into the towns to obtain work enjoyed better health on average than those who stayed in the countryside.

National statistics on mortality by marital status have been compiled since the 1870s. There were significantly more deaths among single men (unmarried or widowers), than among other groups. This was particularly true in urban areas. The major significance of being married or not was evident from the fact that mortality among married men differed only slightly from their female counterparts. Among people of reproductive age, for example, mortality among married men was lower than for both married (up until the interwar period) and single women (up until the present day). Marital status played a less significant role among women of reproductive age, where the differences between married and single women were relatively small. The death rate among women, who were beyond reproductive age, and no longer vulnerable to the risks associated with pregnancy and childbirth, was on the other hand clearly less favourable for single women.

The lower level of mortality among married people of either sex (with the exception of women of child-bearing age) can be seen both as a product of selection effects and of the protective effects of marriage. In the first case, this was due to individuals with poor health or lifestyles that constituted a threat to health, such as a chronic disease or alcohol abuse, having more difficulty finding a life partner. Marriage can also have served as a health-promoting institution; firstly because it offers social support and creates a feeling of meaning and coherence, and secondly because it creates an awareness of duty to the other members of the family which in those days prevented certain types of unhealthy behaviour, such as excessive alcohol consumption [20].

## Regional and social differences in mortality

Our knowledge of the social differences in mortality during the industrial revolution is limited to a few studies of local environments. In a study of child mortality in late nineteenth century Stockholm, it was

found that low social class was associated with an increased risk of death from measles [21] Sören Edvinsson has shown that there were clear social differences in mortality among children, but not among adults, in Sundsvall in the late nineteenth century, with higher rates among the working class than among more affluent groups [22]. Nor do these social differences seem to have been great among the adults of contemporary Linköping [23]. The social gradient seems to have been more strongly correlated with adult mortality (more so for men) during the pre-industrial era than during the latter part of the nineteenth century when the standard of living had risen for the less wealthy parts of the population.

In connection with the industrial revolution, a new regional mortality trend began to emerge. It manifested itself clearly during the interwar period and beyond, and is evidently related to socioeconomic conditions, in contrast to the situation prior to the industrial revolution.

The highest age-standardised mortality rate and comparatively low average life expectancy were to be found in counties in central and northern Sweden, where there are vast expanses of forest (a part of the country, which had enjoyed relatively favourable health conditions in the pre-industrial period) and in the metropolitan regions [24, 25]. Differences in tuberculosis mortality were clearly the dominant cause of this new regional mortality trend.

## The growth of medical knowledge and medical institutions

In 1877, Sundhetskollegium was replaced by *Medicinalstyrelsen* (National Medical Board), which adopted overall authority over the medical profession and institutions, including responsibility for the hospitals. To assist the Board, Chief Provincial Medical Officers were appointed in every county to carry out inspections. Previously small hospitals and mental institutions grew dramatically during this century. According to their rules, they were only supposed to admit patients who could be cured. To begin with, this occurred as a result of the

institutionalisation of venereal disease sufferers but later the hospitals started to take care of the needs of the poor. As healthcare became more professional and trusted, more affluent people also began to sign in as patients towards the end of the nineteenth century.

The era of international scientific conferences began during the latter part of the nineteenth century, which further accelerated the dissemination of new research. The first hygiene conference took place in Brussels in 1876 and was followed at regular intervals by new meetings, at which the vanguard of research and science was established and spread to more and more countries. Medical science acquired more and more understanding of the workings of the human body, in parallel with increasing specialisation, creating medical subdivisions such as pathology, physiology, etc.

Preventive medicine was given its own discipline, hygienism, with the German *Max von Petterkofer* (1818–1901) as its most prominent figure. Sweden acquired its first professorship in hygienism in 1876. But it was the breakthrough of bacteriology in the 1870s, symbolised by *Louis Pasteur* (1822–1895) and *Robert Koch* (1843–1910), which was the most dramatic development. The Swedish Medical Association founded the journal *Hygiea* as early as in 1839. This journal and the *Eira* publication (first published in 1877) became important fora for debate and the dissemination of international and Swedish research findings. A doctor and member of parliament, *Curt Wallis* (1845–1922), studied under Robert Koch in 1882 and belonged to the new generation of medical doctors who disseminated and popularised bacteriological theories in Sweden. New generations of medical researchers and doctors were needed, however, before these theories could be fully accepted. An example of this is the *Statsmedicinska anstalten* (National Institute of Medicine), the first national institute of bacteriology in Sweden, which was only established in 1907 and the National Bacteriological Laboratory, which did not come into existence until 1917 [26].

# A national statistics agency, Statistics Sweden

Information as to the country's health status was naturally an important source of inspiration for reform. This was originally compiled, as we have seen, from the annual parish reports collected by Tabellverket. This venerable institution was replaced in 1860 by a national statistics agency, Statistics Sweden, providing the country with a national organisation for the collection and processing of statistical data, not just on demographic conditions, but also on the business sector and trade, the justice system and other areas of activity that were of importance to the state. The data was published in different series in *Bidrag till Sveriges officiella statistik* (Contributions to Sweden's official statistics) and many findings were published in *Statistisk tidskrift* (Swedish Journal of Statistics). The demographic data was now based on brief extracts about each individual from the clerical registers, which were sent in and processed centrally.<sup>1</sup>

The interest in statistics, born during previous centuries, did not die out in the nineteenth century. On the contrary, several countries started to follow the Swedish example and collect data on the entire population. This began in Great Britain in the 1830s and in France in the 1840s. Other countries soon followed suit. Demography and epidemiology became internationalised, albeit using statistical methods that were much less sophisticated than they are today. It was nevertheless possible to compare the differences between countries and draw one's own conclusions.

---

1. We can only obtain reliable cause of death data for urban areas up until 1911, when medical death certificates were deemed reasonably comprehensive throughout the country. Risk populations were calculated with the help of extracts from the catechetical registers for one individual at a time (which became known as parish books after 1895). On the one hand, this reform led to the data being handled and presented more professionally, but on the other, it became subsequently more difficult and complex for researchers to practically study changes on a low geographical level via the Statistics Sweden archives. Individual data was added up on 'checklists' which, from one year to the next, covered different geographical units consisting of several parishes. Neither was any attempt made to present the differences in mortality between different social groups. Starting in 1870 and onwards, however, tables were produced showing the striking differences in mortality between married and single people, broken down by sex and age.

The central figure in the establishment of Statistics Sweden was the paediatrician *Fredrik Theodor Berg* (1806–1887). He acquired international experience and knowledge on a European tour in 1839–1840. He was appointed Professor of Paediatrics at the Stockholm Children’s Hospital in 1845, became chairman of the Swedish Medical Society and wrote a book, among other things, about thrush, a common fungal infection among children. He was quickly given the task of preparing the reorganisation of Swedish statistics, after having visited a number of other European statistical institutions. Not unexpectedly, he was appointed the first Director-General of Statistics Sweden, a post he occupied until 1877. In addition to Berg himself, others were to research the country’s health situation, using Statistics Sweden tables as an aid. Attention was drawn to, among other things, the continuing alarmingly high death rate from tuberculosis in Stockholm and other towns and cities, whilst the good news was that infant and child mortality, which at the beginning of the nineteenth century had been high in European terms, was now at a comparatively favourable level.

## Industrialisation, ideologies and the welfare state

As with later generations, people in the nineteenth century felt they were living in an era of dramatic change. This gave rise to new theories and ideas about how society was organised and how it developed, which would have considerable influence over the next one hundred years. Pure economic and social Manchester liberalism of the early nineteenth century espoused a state that should only protect its citizens from foreign and domestic threats, keep its hands off the market and refrain from intervening in social issues. However, these extreme ideas never really made any major and radical impression on Swedish politics and social conservatism and social liberalism entered the arena during the latter stages of the nineteenth century. More recently, historians have pointed out that the nineteenth century Swedish bureaucratic state, represented in the first chamber of parliament, was not in prin-

principle against public sector activities. The governing powers searched instead for a pragmatic and ideal model, in which entrepreneurship, technical development and the right of ownership were reconciled with collective efforts to promote, from their point of view, positive economic and social development.

An example of this was the question of the construction and ownership of the railways, where the state-owned solution was to dominate. Society was technicalised and professionalised, sector-by-sector, based on meritocratic<sup>2</sup> principles. This was also true of hygienism and other areas of importance to public health. The ‘social engineer’ has in recent debates been used as a negatively charged concept, referring to the meddlesome manipulation of people’s lives by official professions. Originally, however, the term was used about engineers who took part in the clean-up of nineteenth century towns and cities.

Liberalism became the creed of economic progress and the representative of individual freedom and rights, whilst conservatism in different guises attempted to put the brakes on some of the political and social upheavals. Both these ideologies had advocates, who were positive to social reforms within the framework of their fundamental values. Bismarck’s reforms in the spirit of social conservatism in late-nineteenth century Germany represented a patriarchal model, which not least was intended to combat the new socialist tendencies among the working classes. There were also conservative representatives in Sweden whose task was to combat the new-age of social intervention based in the patriarchal model. Some philanthropic associations were clearly influenced by such thoughts. Many liberals were, for their part, more inclined to look to cooperate with the workers’ own political organisations in a common fight for democratic reforms. In the end, several activities that had begun as philanthropic initiatives were, with the initiators’ consent, transformed to, or used as, models for state or municipal bodies, for instance nineteenth-century organised care and help for the disabled. The growing socialist workers’ movement also became an ever-more powerful actor on the political stage.

---

1. Meritocracy = social system stressing the importance of formal education and talent rather than wealth or social position.

# Occupational health

In the 1850s, the first statutes prohibiting child night work in industry were introduced. These restrictions were, however, often contravened. Health-related and social problems connected to urbanisation and the growth of the factory system made the need for regulation of the industrial environments obvious. According to the estimations in the late 1880s by *Arbetsförsäkringskommittén* (Committee for Occupational Insurance), industrial work was generally more dangerous than agricultural work. High rates of occupational accidents were reported particularly for miners, railway workers and workers in ironworks and engineering plants.

Differences in mortality appeared partly to be more related to the location of the workplace than to occupational risks. Workers employed in urban occupations usually experienced higher death rates than rural workers. But there are also findings indicating that occupational hazards per se affected the mortality levels. Investigations regarding late nineteenth-century Sweden, Denmark and Britain showed high mortality for shipyard workers, miners and printers, workers in glassworks and in the metal and tobacco industries [27–29]. These occupations were exposed to toxic chemicals and accidental risks. Contemporary medical expertise pointed out the hazards of exposure to dust and chemicals [30], but the legislation was more concerned with the regulation of safety devices for machines and other equipment in industrial plants than with the regulation of toxic substances. Stonecutters and workers at glassworks and ironworks were for example exposed to hazardous dust that could cause silicosis and other forms of pneumoconiosis. Workers in the match industry were exposed to phosphorus causing phosphorous necrosis and liver damage. At china factories and printing offices, the employed faced the risk of lead poisoning, negatively affecting the central nervous system. Gilders and silver-platers working with mercury risked damage to their lungs and the central nervous system. Founders exposed to zinc and dyers and glassworkers exposed to arsenic had an increased risk of contracting cancer, cardiovascular disease or liver damage, etc. The work of the committee resulted in *Yrkesfarelagen* (The Occupational Hazard Act) in 1889. It regulated safety devices for machines and other equipment and a state Labour

Apprentice chimney sweep.

Photo: Atelier Gustav  
Dahlström, c. 1890–1900/  
Nordiska museet



Inspectorate was founded for its supervision. Occupational injury insurance was eventually introduced in 1901 [31]. Sweden was, of course, often influenced by the development in earlier industrialised countries, such as Britain and Germany.

## Healthcare administration as a local issue

Attempts to activate local bodies more effectively in the fight against infectious diseases and epidemics had met with limited success during the first half of the nineteenth century. As we have seen, however, cholera helped increase understanding of the problem in general and a new epidemic regulation was issued in 1857. A year later, Sundhetskollegium proposed more ambitious healthcare legislation, but this was eventually rejected partly because it would be far too radical an infringement on personal liberties. A new committee was appointed and the new legislation could finally be adopted in 1874. It prescribed how to organise healthcare and how to combat epidemics. The legislation is primarily remembered because it included an ordinance instructing every city or town to establish a healthcare committee. Among other things, morbidity and mortality from cholera, smallpox (of which there was an epidemic the year before), typhus, typhoid, scarlet fever, diphtheria and dysentery were to be reported to Sundhetskollegium.

The healthcare committees were to include the city doctor and representatives from the local police, the borough administration, and members appointed by the city council. Each committee was responsible for the state of health in the city and appointing inspectors to carry out regular inspections. To ensure it actually fulfilled its task, monthly meetings were instituted. Particular attention was to be devoted to water supply, water quality and stormwater drainage. The committee was also to ensure that the food sold was of good quality and check that rented housing and public premises (including factories) met hygiene and health requirements. Latrine, waste and animal husbandry control within the city's domains were among the committee's most important

activities. In Linköping, for example, hundreds of inspections were carried out every year, which could lead to improvement demands backed up by the threat of fines.

Sundhetskollegium had its own inspectors who routinely or when necessary performed inspections around the country, a task that was taken over by a chief provincial doctor appointed in every county in 1890. Records were kept of these inspections and they contain many exhortations to city fathers to take the criticism and improvement proposals seriously.

## Urban hygienism

How then did this new health service function on the local level during the latter stages of the nineteenth century? Firstly, we can ascertain that its greatest impact was in urban areas, traditionally the most dangerous environment from a health point of view. We know what happened in a few individual cities thanks to several local case studies [5, 22, 32].

Under the 1874 legislation, the chief city medical officer was an ex-officio member of the healthcare committee. Linköping is a typical example. At that time, the health administrative body also included a deputy medical officer, a hospital doctor, regimental medical officer and provincial doctor along with about ten midwives. An isolation hospital was opened in the 1850s to accommodate those who had contracted infectious diseases. During the smallpox epidemics of 1863 and of 1874–75, the hospital, which had room for 30 patients, fulfilled an important function, even if it could not accommodate all those who had fallen ill. It seems the hospital still had an effect, albeit a somewhat limited one, on the spread of these and other epidemics. Naturally, Linköping was not the only place affected by these epidemics, which occurred partly because those who had been vaccinated did not have life-long protection unless the procedure was repeated. Another reason for their occurrence was the difficulty in maintaining control over the vaccination of the country's floating population, who were constantly moving in, out and around the towns and cities. Fear of the disease had also subsided since people were no longer constantly reminded of its

presence. According to Linköping's chief medical officer, all those who died in 1874–75 were young and had not been vaccinated. Most of them also came from poor families. The desire to vaccinate one's children dramatically increased again as a consequence of the epidemic, which meant that it became the last of its kind to hit Linköping and the country as a whole. This epidemic swept all over Europe and resulted in a general increase in vaccination figures.

The Linköping healthcare committee comprised seven members. The mayor, who was also the chief of police, chairman of the planning committee and other important bodies, chaired the committee. Other members in the 1870s included the city medical officer, a pharmacist and tradesmen and manufacturer representatives, a leading group of the city's elite. It was especially important that bourgeois laymen participated; since they represented those who would be most inconvenienced by public duties and face the biggest tax bill, in accordance with the legislation and local by-laws. In certain cases, concerning animal husbandry and latrine management for example, not all townspeople and property owners were that keen on the regulations. How exactly they were to be applied could be the subject of considerable debate in the committee prior to decisions being taken. The city medical officer often had to lead the way on new proposals, which were not always unanimously well received by some of the other committee members. In some cases, national inspectors or the chief provincial medical officer felt called upon to urge the city in no uncertain terms to take its responsibility. Reports on inadequate facilities for pigs, poorly maintained latrines and other problems poured in from the inspectors and – as from 1889 – from a newly appointed local health inspector. A threat of action could be sufficient, but sometimes the matter went to court and a fine was imposed.

When evaluating the first decades after the healthcare legislation had come into force, we must consider the dramatic population turnover and the rapid growth in immigration into the poorest urban quarters and into new suburbs. This was a challenge to the healthcare institutions in Swedish towns and cities, not least during the major wave of urbanisation during the 1870s and 1880s. Before managing to build enough housing to alleviate the problems of overcrowding and to ensure adequate hygienic conditions in new residential areas, typhus, tuberculosis, diphtheria, scarlet fever and other diseases were rife. This left its mark as a temporary mortality peak in rapidly expanding urban areas and northern sawmill districts.

This temporary rise in mortality, which was noted as early as the 1850s, may also have been influenced by the introduction of compulsory schooling, which increased children's exposure to disease in overcrowded classrooms. In light of this, the fact that a stabilisation and substantial improvement in health could be discerned as early as the 1890s is somewhat remarkable. The hygienism of the age was without a doubt partly responsible for this. Despite the difficulties, the ambitions of both the medical officer and the healthcare committee could be gradually raised and health conditions improved. Influenced by the Victorian repugnance of disorder and uncleanness, the city's upper classes found the unhygienic conditions unsatisfactory and towards the end of the century, the breakthrough and popularisation of bacteriology underlined the need for greater cleanliness.

Currents of social liberalism also flowed through the bourgeoisie, who were favourably disposed to society making a contribution to improving the population's health and public welfare through enlightened reforms. This change of attitude towards a greater concern for public health and the conditions of the poor amongst the urban elite in Swedish cities was, as has been shown, not unique. This also happened in France and Britain, suggesting that sharp differences in local policies and health conditions developed throughout the century, following the emergence of the hygienist movement [33, 34].

In the footsteps of industrialisation, other health problems emerged as well. The inspections of factory-workers' conditions in Linköping – as well as in the textile town of Norrköping – called attention to problems of poor air quality, pollution and the risk of tuberculosis infection. The healthcare committees carried little weight, however, when it came to making demands that were contrary to the interests of the economically and politically most influential city inhabitants. Occupational health was more suited to national politics and union negotiations in a more democratic society.

The epidemiological trend in venereal diseases changed during the nineteenth century. Instead of being mostly confined to rural areas, as was previously the case, the majority of sufferers could now be found in places with a large number of unmarried men and prostitutes, such as garrison towns and ports. As an illustration of Victorian double standards regarding sexuality and gender and a dark side of the hygienist movement, the stigmatising and humiliation by inspection of female prostitutes continued as before, and public action taken against infected men was clearly class-related.

# Urban water

## – two local examples

As we have seen, supporters of the miasma theory had already realised that contaminated water was a potential source of infection, since dangerous substances emanated from both earth and water. This notion gained substance when the physician *John Snow* (1813–1858), during a cholera epidemic in London in 1854, managed to convince the local authority that the infection in a specific urban area had originated from a particular pump, from which the inhabitants fetched their drinking water. Before the 1870s, most inhabitants of Swedish towns and cities also got their drinking water from wells or from barrels supplied by the water companies. In neither case was there much protection against contamination, especially if the water came from supplies into which stormwater from backyards, streets and squares ran. Thanks to the development of technology, the construction of pipes from water supply to public pumps and into houses quickly got underway in Swedish towns and cities. As a rule, drainage pipes were also laid in newly excavated ditches. Later, from the 1890s onwards, water closets were introduced into more affluent households, but it took another half century before almost all homes in the country had access to this hygienic appliance.

In the city of Norrköping, water and sewerage problems were solved shortly after 1870 as the result of a private initiative with the help of a financial contribution from the wealthy Swartz family, owners of several textile mills in the city, and other donations. This paternalistic solution led to pipes also being connected to the poorer quarters and factory-worker families being given free access to the private industrial water supplies. Representatives of the medical profession certainly argued for new systems for water and sewage on health grounds, but a very important factor was the substantial amount of water needed to run industrial plants in all the towns and cities. For the middle classes, it was also a question of greater convenience. It is unclear whether the water and sewerage systems would have been expanded so early and so rapidly, had it simply been a question of public health.

Linköping is another example of how piped water moved up the local agenda. In 1866, a year after the cholera epidemic, a motion was

put forward in the Linköping City Council concerning the draining of waterlogged areas. As the first protagonist, the mayor made direct reference to the experiences of the epidemic. Three years later, he put forward his own proposal, drawn up by two hired water engineers of considerable experience. He justified the proposal by saying that water and sewerage systems were currently being constructed in more and more towns and cities, that it was the right thing to do from a health perspective and that it would also benefit industry and provide better fire protection. The project was to be financed and implemented privately for 30 years, was only to cover the city centre and was expected to provide financial profit for its stakeholders, who were already in the process of establishing a company. The city administration would take up a fifth of the share capital, but private owners would have priority when it came to dividend distribution. Plenty of support had been mustered in advance and the city council adopted the proposal with the amendment that the system would cover a large area and fire hydrants would be installed and used free of charge when necessary.

The city administration undertook to meet the extra costs that laying sewerage pipes in the ditches would imply. The first sections of the system were completed as early as 1876 and it was gradually expanded over the next 15 years to cover almost the entire city, although in some cases houses were equipped only with a stop-cock in the backyard. Demand constantly increased and in 1893 a new pumping station and filtration devices were completed. The undertakings returned dividends of considerable size, indicating that the project was lucrative for the investors before it was taken over by the city administration in 1907.

The expansion of Sweden's first water and sewerage systems was achieved by means of various financial solutions. It occurred at the same time as many other factors were having a positive impact on the health of the population. Economic prosperity was on the up, increasingly more effective solutions to other urban hygiene issues were being found and overcrowding became less of a problem over time. In all likelihood, however, technological advancement also played a vital role in Sweden's urban health development. Water accessibility often bore a direct relationship to the level of hygiene in a household. The fact that stormwater was now being more properly drained from the streets, and that human and animal excrement was being disposed more efficiently, were probably more important factors, however.

Hans Nilsson has attempted to estimate the potential effect of the expansion of the water and sewerage system in Linköping. His study shows that infant mortality before 1875 was of approximately the same magnitude in all city districts. This was particularly apparent, as expected, regarding mortality from gastro-intestinal diseases. After 1875, infant mortality fell more sharply in those areas of the city where the system was expanded during the first ten years, but already by the mid-1880s, this difference had evened out. By this time, only a small minority of inhabitants lacked access to running water, and their health also benefited from better stormwater drainage systems [5]. Other studies also indicate an association between improved freshwater supply and falling mortality in the late nineteenth century as well as in the early twentieth century, not only for infants but also among one to four year-olds [35, 36].

## Alcohol legislation and the orderly worker

From the mid-nineteenth century onwards, the government introduced a series of restrictions relating to the manufacture and sale of alcohol. These proved to be the first effective measures aimed at reducing consumption. Excessive alcohol consumption was undesirable and certain people had begun to point out its harmful effects on health. Furthermore, it also caused social damage, although fiscal interests were just as important. In order to safeguard the government's income, both the manufacture and sale of alcohol had to be supervised. This was made possible by the introduction of licenses and control mechanisms. The legislation had the greatest impact on rural areas, where many had to travel a long way to obtain the coveted commodity, whilst there were still plenty of retail outlets in urban areas, to which certain groups were frequent visitors. This seems to be particularly true of younger, single men. Many of them had left their home districts and led anonymous lives outside the social control of the local community. A sign of this is that total alcohol consumption and mortality rates among single men clearly corre-

lated with each other after 1870, the first year for which Statistics Sweden can produce such figures [23]. Mortality peaks often coincided with times of economic prosperity, when the demand for labour was greatest, urban and industrial migration was intensive and wages soared.

The “Gothenburg system” received much international attention in late nineteenth century [37]. This involved a monopoly on sales in municipally owned taverns and off-premise retail shops, introduced in Gothenburg 1865. The intention was to reduce or eliminate private profit-making from liquor sales, and thus to control or decrease alcohol consumption. The system was later adopted in most Swedish towns and from 1905, all sales of liquor were officially handled by government-controlled companies.

Even though single men continued to be large consumers of alcohol and their mortality was still excessive compared to their married counterparts, conditions stabilised in several respects in the new industrial society that was emerging rapidly around 1900. In the old workers’ society, there were strong traditions of heavy drinking at feasts and otherwise during time off work. Taking a “free Monday” was considered the right of any journeyman, as long as it did not occur too frequently and the employer was satisfied with his performance. The growing band of men who lived off temporary work during the first half of the nineteenth century also had plenty of opportunities to relax at taverns and other drinking establishments. This was impossible for the industrial worker, who had to get to work on time and could not afford to have too much of a hangover. Hence, the nature and demands of the job imposed discipline on the working class.

Other causes also contributed to this involuntary discipline. Job security increased compared to pre-industrial society, making it easier to start families, which in turn was a positive factor. The new industrial settlements and urban communities became much more socially stable, as the working classes became more self-supporting and migration became less chaotic. The psychosocial causes of alcoholism started to decrease. Furthermore, emerging popular movements helped improve self-discipline, a factor to which we will return shortly. During the First World War, administrative control measures based on individual purchase restrictions were introduced in a number of towns. These measures lead eventually to a compulsory system (*Brattsystemet*) with individual liquor rationing and control combined with a public monopoly on alcohol trade and imports. It caused a levelling-off of the annual alcohol consumption at about five litres per capita in the adult population.

# Philanthropy – humanitarian aid and social control

Victorian morals shaped the collective ideals of a new middle class comprising public and private sector white-collar workers and small entrepreneurs. These included orderliness and morality, thrift and moderation. Philanthropic societies were founded by the well-to-do with a social conscience. Children were afforded particular attention both from the authorities and philanthropists. Parents who, due to negligence or other circumstances, could not sufficiently care for their children were to receive support or be deprived of their right to bring them up. In municipalities, the healthcare (and later child-care) committees were responsible for enforcing anti-neglect legislation.

At the turn of the century, there were over 200 voluntary associations and institutions, in the form of crèches, schools, orphanages,



Poor children fetching a bottle of milk from “The Milk Drop”, a Swedish philanthropic association active during the early twentieth century.

Photo: Nordiska museet

summer camps and other charitable establishments aimed at children, in Stockholm alone. Examples include private establishments like *Mjölkdroppen* (The Milk Drop, inspired by the French ‘Gout de lait’). Poor mothers who were unable to breastfeed could come to these establishments and receive sterilised milk for their children. Their activities were often based on a paternalistic, moralising and authoritative attitude towards the working class and the poor. It was the task of society and its more affluent members to support, supervise, inform and rectify problems [38]. Help, that could make life easier, was given at the cost of social control and subordination. The situation for single mothers was still very difficult in the late nineteenth century, but at least as far as their children were concerned, it was better than it had been before. Their mortality finally began to decline, although much later than in other groups.

## Philanthropy and public institutions – corporative cooperation

There were also societies supporting adult liberal education, prisoner welfare, persons with disabilities, etc. These associations often recruited representatives from the higher echelons of society among social conservative and social liberal entrepreneurs and public officials. This gave rise to a kind of elite corporatism. Public and private establishments complemented each other and the same people could be found in the executive management of both. Humanism mixed with moralism and paternalism was a characteristic feature of this ideological period of transition between a hierarchical class society and democratic equality. Many nineteenth century social actors no doubt had genuine compassion for the weak. Paternalism could be justified in that the stronger and more knowledgeable were both obliged and entitled to educate the weaker and less knowledgeable. Rights and obligations were negotiated in each individual case in a way that was not always pleasant for



Poor children. Photography from a philanthropic pamphlet written in 1870 about a residential school in Stockholm for poor and neglected boys

Photo: Alfred Jonsson/  
Nordiska museet

those seeking help. Social systems, both private and public, began in some cases to exercise heavy-handed control.

Elitist philanthropy did, on the other hand, not lack criticism. One line of critique came from those who believed in social Darwinism and ‘the survival of the fittest’. According to this reasoning, helping the poor would only lead to a society occupied by the weak. The most biting and famous attack from the left did, on the other hand, come in August Strindberg’s novel *Röda rummet* (*The Red Room*). His criticism of upper-class women’s attempts to feel good by giving alms to the poor was shared by radical pioneers within the socialist labour movement. At the same time, however, philanthropy helped to establish prototypes, models of social support that could be developed and modified as part of the modern welfare state.

## Popular movements – social and political grassroots in a new society

Many of those in the industrious lower-middle class, along with members of the new working class, joined free-church movements and temperance leagues, which grew rapidly during the second half of the nineteenth century. In the mid-1880s, these voluntary associations had roughly 100,000 members each and in 1920, every fourth adult Swede was a member of the workers’ movement, the free churches or the temperance movement. Most of these members had a working-class or lower middle-class background [39]. They played a fundamental role in the creation of a new society with a new outlook on the world, new values and a new semi-formal social structure, within which the growing working class could recognise and identify itself. The popular movements were just as important for the development of the trade unions and political branches of the expanding working class.

Greater class awareness was not just about identifying opponents among the powers-that-be and employers. It was also about acquiring

one's own identity, a feeling of coherence, solidarity and hope for the future – all of which were probably more important from a health perspective. More autonomous equivalents to the social norms and social solidarity of the class society and the peasant and artisan communities of yesteryear began to emerge. The popular movements also took over the socialising – or if one prefers – the disciplinary functions of the state church, village communities and guild associations. One effect of the burgeoning ideal of conscientiousness in the working-class movement was a clearly more restrictive attitude towards unrestrained drinking and alcohol consumption in general. Many workers were involved in both labour unions and the Social Democratic Party as well as in the temperance movement. The former nineteenth century “dangerous social class” was replaced by a new “popular movement” Sweden.

But the popular movements were not just concerned with discipline. The growing study circle movement also led to the dissemination of health advice on for example hygiene and healthy diet. Belonging to a free-church congregation could also provide psychological support and material help from deacons and deaconesses. At the end of the century, trade unions founded voluntary health insurance funds, from which paying members could obtain financial support when necessary.

It was in this *Folkrörelsesverige* (“Popular-Movement-Sweden”), as tradition began to call it, and in local communities that new ideas and forms of action were tested for improving welfare. In pre-industrial society, the landowners or employers had the responsibility for the care of sick and elderly workers living in their households. Industrialisation and urbanisation created a need for new solutions, and during the late nineteenth century, voluntary health insurance societies (friendly societies) expanded. Most were open and based on free individual membership; others were based on employer-controlled organisations or were controlled by labour unions. About ten per cent of the working population was registered as members in these societies in the mid-1880s [40]. The public contribution to the health insurance system was increased over time by state grants. Most white-collar employees in the public and private sector were guaranteed sick pay through collective agreements between the labour market parties. Individual membership in health insurance societies was, on the other hand, more common for manual workers until 1955, when universal health insurance was introduced [40].

## Summary: Hygienism, economic growth and social stabilisation

The four decades before the First World War represent an unprecedented era of industrialisation, rapid urbanisation and economic growth in Swedish history. Mass emigration, primarily to North America, lessened the pressure of population growth during the last decades of the nineteenth century. At the same time, new jobs and better wages were offered in the rapidly growing industrial communities. Although taking place over a strikingly short period of two to three decades, this transition, and in particular the influx of people from rural areas to cities and other industrial sites, created certain health problems. The first generation of industrial workers had to settle in overcrowded living areas where water- and airborne infections spread easily. Children suffered badly from diarrhoea, diphtheria, scarlet fever and other epidemics and adults were badly affected by endemic tuberculosis. Single men, leaving a certain degree of social control in the rural villages, were easy victims of the urban temptations to over-consume cheap alcohol at numerous drinking establishments.

Simultaneously, however, pipelines were built, which provided fresh and less contaminated water to a growing number of urban inhabitants and housing conditions improved as the result of a boom in the building industry. Overall per-capita alcohol consumption also decreased as the result of stricter regulation and a socially more stable society. Family-building was made easier and contributed to this stability together with the demand for more orderly lives from both industrial employers and the workers' own associations.

New voluntary associations became mass movements in the form of the temperance movement, free churches, the workers' political parties and trade unions. Their members could build new forms of social capital and prototypes for social security to be taken over by public institutions during the next century. All in all, these factors combined to create a healthier population, which manifested itself in declining mortality figures at all ages and a steadily increasing life expectancy for men and women in all social groups. More or less well-organised philanthropic associations tried to help the poor, for instance giving single mothers access to milk for their children. Less positive was the growing public interest in solving social issues by invading the autonomy of cer-

tain vulnerable groups, for instance “asocial” families not thought to be good parents.

Before the start of the First World War, Swedish companies had begun to make successful inroads into the world market. The first steps towards political democracy had also been taken. New types of “bridging social capital” emerged. However, rapid economic growth (interrupted by two depressions), universal suffrage and majorities in parliament for better welfare and social security all belong to the inter-war period. This story, when public institutions became more and more active in creating “linking social capital” is told in the next chapter.

## Reference list

1. Sandberg LG. The case of the impoverished sophisticate: human capital and Swedish economic growth before World War I. *Journal of Economic History* 1979;39:225-241.
2. Schön L. En modern svensk ekonomisk historia. Tillväxt och omvandling under två sekel [A modern Swedish economic history. Growth and change during two centuries]. Stockholm: SNS förlag; 2000.
3. Magnusson L. An economic history of Sweden. London: New York: Routledge; 2000.
4. Sandberg LG, Steckel RH. Was industrialization hazardous to your health? Not in Sweden! In: Steckel RH, Floud R, eds. Health and welfare during industrialization. Chicago: University of Chicago Press; 1997.
5. Nilsson H. Mot bättre hälsa: dödlighet och hälsoarbete i Linköping 1860–1894 [Towards better health: mortality and health work in Linköping 1860–1894]. Diss. Linköping: Linköping University; 1994.
6. Bergmark R. De epidemiska sjukdomarna och deras bekämpande [Epidemic diseases and fighting them]. In: Kock R, ed. Medicinalväsendet i Sverige 1813–1962 [The Medical Care System in Sweden 1813-1962]. Stockholm: AB Nordiska Bokhandelns Förlag; 1963.
7. Puranen BI. Tuberkulos: en sjukdoms förekomst och dess orsaker, Sverige 1750-1980 [Tuberculosis: the occurrence and causes in Sweden 1750-1980]. Diss. Umeå: Umeå University; 1984.
8. Åman M. Spanska sjukan: den svenska epidemin 1918-1920 och dess internationella bakgrund [The Spanish influenza: the Swedish epidemic 1918–1920, and its international background]. Uppsala: Uppsala University; 1990.
9. Axelsson P. Höstens spöke: de svenska polioepidemiernas historia [The autumn ghost: the history of polio epidemics in Sweden]. Diss. Umeå: Umeå University; 2004.

10. Andersson T, Högberg U, Bergström S. Community-based prevention of perinatal deaths: lessons from nineteenth-century Sweden. *Journal of Epidemiology* 2000;29:542-548.
11. Nyström G. Kristid och hälsa [Depression and health]. *Svenska läkartidningen* 1946;1422-31.
12. McKeown T. *The modern rise of population*. London: Edward Arnold; 1976.
13. Szreter S. The importance of social intervention in Britain's mortality decline c. 1850-1914: a reinterpretation of the role of public health. *Social History of Medicine* 1988;1:1-38.
14. Högberg U. *Maternal mortality in Sweden*. Diss. Umeå: Umeå University; 1985.
15. Johansson SR. Deferred infanticide: Excess female mortality during childhood. In: Hausfater G, Hardy SB, eds. *Infanticide: Comparative and evolutionary perspectives*. New York: Aldine; 1984.
16. Humphries J. Bread and pennyworth of treacle: excess female mortality in England in the 1840s. *Cambridge Journal of Economics* 1991;4:451-73.
17. Klasen S. Marriage, bargaining, and intrahousehold resource allocation: Excess female mortality among adults during early German development 1740-1860. *Journal of Economic History* 1998;2:432-67.
18. En socialhygienisk undersökning i Västerbottens och Norrbottens län, utförd med stöd av Kungl. Medicinalstyrelsen under åren 1929-1931 [A socio-hygienic investigation in the counties of Västerbotten and Norrbotten, performed with support from the Royal Medical Board 1929-1931]. Lund: 1934.
19. Sundbärg G. *Bevölkerungsstatistik Schwedens 1750-1900: with preface and vocabulary in English*. [Swedish population statistics] Stockholm: Statistics Sweden; 1970.
20. Sundin J. Äktenskap, ensamkap och hälsa förr och nu [Marriage, single life and health past and present]. In: Eriksson T, Guillemot A, eds. *Individ och struktur i historisk belysning: festskrift till Sune Åkerman [The individual and structure in a historical perspective; a publication in honour of Sune Åkerman]*. Umeå: Research report from the Department of History, Umeå University; 1997.
21. Burström B, Diderichsen F, Smedman L. Child mortality in Stockholm during 1865-1910: the impact of household size and number of children in the family on the risk of death from measles. *American Journal of Epidemiology* 1999;12:1134-1141.
22. Edvinsson S. Den osunda staden: sociala skillnader i dödlighet i 1800-talets Sundsvall [The unhealthy town: social inequality in mortality in 19th century Sundsvall]. Diss. Umeå: Umeå University; 1992.
23. Willner S. Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige [The weaker sex? Gender and adult mortality in 19th century Sweden]. Diss. Linköping: Linköping University; 1999.
24. Hofsten E, Lundström H. *Swedish population history: main trends from 1750 to 1970*. Stockholm: Liber förlag; 1976.
25. Willner S. Det regionala dödlighetsmönstret i Sverige från jordbrukarsamhälle till det postindustriella samhället [The regional mortality pattern in Sweden from agricultural society to the post-industrial society]. In: Nordin I, ed. *Rapporter från hälsans provinser; en jubileumsantologi [Reports*

- from “good-health provinces”: a commemorative anthology]. Linköping: Tema Hälsa och samhälle, Linköping University; 2004.
26. Graninger U. Från osynligt till synligt. Bakteriologins etablering i sekelskiftets svenska medicin [From the invisible to the visible. The establishment of bacteriology in Sweden 1850-1910]. Diss. Stockholm: Carlssons; 1997.
  27. Arbetarförsäkringskommitténs betänkande III. Statistiska undersökningar [The Committee of Occupational Insurances III. Statistical investigations]. Stockholm: 1889.
  28. Sörensen T. De økonomiske forholds og beskjaeftigelsens indflydelse paa dødeligheden [Impacts of economic conditions and work on mortality] I-II. Copenhagen 1884-85.
  29. Haines MR. Conditions of work and the decline of mortality. In: Schofield R et al, eds. *The decline of mortality in Europe*. Oxford: Clarendon Press; 1991.
  30. Almquist E. Allmän hälsovårdslära med särskildt afseende på svenska förhållanden för läkare, medicine studerande, hälsovårdsmyndigheter, tekniker m.fl. [General textbook of health service with special reference to Swedish conditions for medical doctors, medical students, health service authorities, technicians, etc]. Stockholm:1897.
  31. Thörnquist A. Arbetarskydd och samhällsförändring i Sverige 1850-2005 [Occupational safety and social change in Sweden 1850-2005]. In: Sundin J, Hogstedt C, Lindberg J, Moberg H, eds. *Svenska folkets hälsa i historiskt perspektiv* [The health of the Swedish people in a historical perspective]. Stockholm: Swedish National Institute of Public Health; 2005.
  32. Nelson MC, Rogers J. Cleaning up the cities: the first comprehensive public health law in Sweden. *Scandinavian Journal of History* 1994;19(1):17-39.
  33. Bourdelais P. Improving public health in France. The local political mobilization in the nineteenth century. *Hygiea Internationalis* 2004;4(1):229-253. <http://www.ep.liu.se/ej/hygiea/>.
  34. Szreter S. Health Economy, State and society in modern Britain: The long-run perspective. *Hygiea Internationalis* 2004;4(1):205-227.
  35. Macassa G, De Leon AP, Burström B. The impact of water supply and sanitation on area differentials in the decline of diarrhoeal disease mortality among infants in Stockholm 1878-1920. *Scandinavian Journal of Public Health* 2006;34:526-533.
  36. Cutler D, Miller G. The role of public health improvements in health advances: the twentieth century United States. *Demography* 2005;42:1-22.
  37. Room R. Sweden in an international perspective: alcohol policy and drinking habits. *Alkohol och Narkotika* 2001;95(6):139-142.
  38. Weiner G. De räddade barnen: om fattiga barn, mödrar och fäder och deras möte med filantropin i Hagalund 1900-1940. [Saved Children: Poor children, mothers and fathers and their meetings with philanthropy in Hagalund 1900-1940]. Linköping Studies in Arts and Sciences, 113. Uppsala: Hjelm Förlag; 1995.
  39. Ambjörnsson R. Den skötsamme arbetaren: idéer och ideal i ett norrländskt sågverkssamhälle 1880-1930 [The honest and diligent worker: ideas and ideals in a Norrland sawmill community]. Stockholm: Carlsson: 1988.
  40. Edebalk PG, Olofsson J. Sickness benefits prior to the welfare state: the case of Sweden 1850-1950. *Scandinavian Journal of History* 1999;24(3):281-297.





6. Between two wars:  
Towards the Swedish welfare state  
(1920–1945)

# Introduction

**Page 150:** District nurse visiting a home in northern Sweden in 1939.

Photo: K W Gullers/  
Nordiska museet

**Page 151:** Interior from Sällskapet Barnavård (The Society for Child Care) in Stockholm.

Photo: Nordiska museet

Before 1866, the Swedish parliament (*Riksdag*) consisted of four estates, the nobility, the clergy, the burghers and the farmers. A reform in that year established a two-chamber assembly (*kammare*) to represent the people. The right to vote and become a representative was, however, limited to the wealthiest, male members of society, which meant that the upper house (*första kammaren*) was dominated by the very rich and the top state bureaucrats, while a majority of wealthy landowners and farmers sat in the lower house (*andra kammaren*). In 1907, the right to vote for the lower house was given to all adult men with a yearly minimum income of 800 Swedish kronor, a relatively substantial amount of money at the time, or a certain capital. At the same time, one vote in the local government elections was weighted on a scale from 1 to 40 based on wealth and income. The winners of the local elections then elected representatives to the upper house. In 1911, almost all men were granted the vote for elections to the lower house, but the definite democratic breakthrough came with the first general election based on universal and equal suffrage for both men and women to both houses in 1921.

These reforms resulted in a gradual increase in left-wing parties in the *Riksdag*. After a decade of heated political conflict as to whether the king had the right to appoint the government independent of house majorities, parliamentarism was accepted by all parties after the First World War, i.e. the government should reflect, or at least be tolerated by, the parliamentary majority. The 1920s saw a number of short-lived minority governments, alternately representing social democrats, conservatives, liberals or coalitions between liberals and social democrats. Stable government was established in 1933, when the social democrats and the farmers' party (the forerunner of the present-day Centre Party) formed a majority coalition, which lasted until a crisis cabinet, consisting of all parties except the communists, was formed during the Second World War. The increasing influence of left-wing representation was an important factor for the gradual introduction of new social policies in the interest of workers and small-farm holders.

For the first time in Swedish history, more people worked in industry than in agriculture in the 1930s, and just as in France at the same time,

more people lived in urban than in rural areas. Industry was dominated by engineering, mining and steel, and forest products including paper and pulp. Depressions in the world economy brought high unemployment rates, which were a dominant problem during the whole interwar period. Taxes were relatively low compared to other countries. In 1925, the tax level was only about 16 per cent of national income. However, there were substantial increases in municipal taxes, reflecting the developing ambitions of local government regarding social services and health. The takeover of government by the “worker-farmer” coalition in 1933 led to various social policy reforms, such as government subsidies to voluntary unemployment insurance, maternity benefit and the introduction of child-health centres [1]. These and similar reforms laid the foundations of the modern Swedish welfare state, although it was only fully developed in its modern form during the post-war boom period.

## The epidemiological regime

After the mortality peak caused by the Spanish Influenza pandemic of 1918-1920, death rates continued to decline. As previously noted, mortality from acute infectious diseases had declined considerably in the late nineteenth and early twentieth century. At younger ages, tuberculosis was a predominant cause of death during the interwar period. Among middle-aged and elderly people, circulatory diseases (especially infection-related rheumatic diseases in younger age groups), tumours (particularly stomach cancer) and respiratory diseases (such as pneumonia) dominated (Table 6.1). As regards sex differences in mortality, suicide and accidents made a significant contribution to total excess male mortality.

**Table 6.1** Causes of death per 100,000, 1921–1930.

	Male 20–39	Female 20–39	Male 40–59	Female 40–59
Tuberculosis	206	219	133	126
Circulatory	31	35	188	189
Respiratory	39	32	109	85
Stomach cancer	4	3	87	58
Other tumours	12	17	83	143
Suicide	22	5	51	11
Accidents	53	7	53	8
Other	96	115	240	228
Total	463	433	944	848

Source: Befolkningsrörelsen. Översikt för åren 1921–30 (Vital statistics. An overview 1921–1930). Stockholm: Statistics Sweden, 1939.

## Social and regional differences

According to Einar Rietz, there was a clear connection between infant mortality in Stockholm around 1920 and family income levels. In families where the father earned less than SEK 4,000 a year, mortality in the first year of life was 4.9 per cent, but was only 1.4 per cent among families where the father's income was over SEK 10,000 [2]. More recent studies have confirmed this pattern, indicating tangible socio-economic differences in child mortality in Stockholm around the turn of the century [3]. Besides purely material factors, class differences have also at times been associated with access to knowledge and attitudes towards the acceptance of this knowledge, especially regarding proper child-care and willingness to use medical services for sick children. This was, as we have seen, the case during the early nineteenth century, when the middle class was more prone to vaccinate their children against smallpox. Attitudes of suspicion towards the medical profession, as in accepting the isolation of children with contagious infections, have also been documented among working class families in the industrial Sundsvall region during the second half of that century.

Contemporary expertise highlights factors such as a poor diet, hard climate, overcrowding and poverty as causes of the unfavourable health situation (regarding tuberculosis, gastro-intestinal problems, anaemia and rachitis) in the northern forest counties. Numerous and frequent pregnancies coupled with hard work were mentioned in relation to adult women. But it was mostly the significance of dietary habits and housing conditions that were discussed and studied in detail.

This was done as part of a large-scale social hygiene study, undertaken in about 1930 with the support of the National Medical Board, in the two northernmost counties, Västerbotten and Norrbotten [4]. The unbalanced flour and milk-based diet, which was low in animal protein and fresh vegetables, and had a low calorie content, was seen as the most significant factor contributing to health problems in the northern counties. One positive effect, which by no means neutralised the negative impact, seems to have been a lower prevalence of arteriosclerosis – a significant cause of cardiovascular disease – in northern Sweden [5]. The underlying cause of the high mortality in the forest counties was probably to a great extent the socioeconomic conditions, characterised by higher unemployment and a more significant dependence on social assistance than in other parts of Sweden. A one-sided labour market, dominated by the forest industry, and high birth rates probably contributed to this [6].

## The institutionalisation of maternal and child healthcare

In the face of declining fertility, maternal and child healthcare was gradually institutionalised. Paediatrics and obstetrics became separate specialities and an increasing number of babies were delivered at hospital maternity wards instead of in the home. In an international context, however, midwives continued to play an important role in deliveries, which seems partly to have been due to the market for private paediatricians not being as large as in more densely populated countries, such as neighbouring Denmark. As hygiene at hospital maternity units

improved and sulpha drugs (from the 1930s) became an effective means of combating puerperal (childbed) fever, maternal and early infant mortality gradually fell. Public institutions replaced philanthropic forms of support, and in time all mothers were able to access advice and help at maternity and child health clinics from the late 1930s onwards.

## District nurses in the line of public health duty

Along with the expansion and growing professionalism of hospitals, hospital doctors began playing a decisive role in healthcare. As long as only poor people frequented the hospitals, the status of a hospital doctor was not as high as that of, say, a city medical officer, provincial doctor or university professor. But gradually, hospital patients began to be more representative of a national social average. Research required access to patients and both healthcare and research needed laboratories. The hospital became the natural workplace of medical specialists and researchers. To assist them, they now had well-trained, qualified nurses instead of nursemaids.

A special category of nurse was established, district nurses, who were to play a significant role. Sweden was a sparsely populated country and it was primarily in urban areas that people had easy access to institutionalised care. From the beginning of the twentieth century, provincial doctors were assisted by what were known as “rural nurses”, but their employment conditions and status left much to be desired. In 1919, the parliament decided to award state subsidies to municipalities and county councils that employed properly trained district nurses. These were under the supervision of the provincial doctors and were to take care of more straightforward medical care routines in the home and report back to the doctor on a variety of individual and public health issues in the district. In addition to emergency measures, much of their work comprised giving advice on, for example, hygiene issues and infant care.

The district nurse became the health service's primary link to schools, later in cooperation with school nurses and doctors. She was to pay attention to school sanitary conditions and the hygienic and general health status of the children. Among her important tasks were to explain that (clean) milk and vegetables were wholesome foodstuffs and to argue in favour of taking regular baths and against all unhealthy habits. There are many tales of the authority of these formidable women, even in the presence of grudging men folk, and houses were always swept a little more diligently in expectation of their visits. In contrast to the earlier rural nurses, district nurses were directly subordinate to the provincial doctors, providing them with more autonomy, for example when it came to putting forward their views on reform to local politicians. Dressed in uniform and equipped with the status afforded to them by their education, this occupational group became a – paradox permitting – paternalistic matriarchy [7].

## The fight against tuberculosis

One of the most spectacular events in twentieth century Swedish public health is without doubt the eradication of tuberculosis, TB. It attacked men and women in their prime with no forewarning. Humans have been familiar with the disease in different forms since classical antiquity – but its most common guise was pulmonary tuberculosis. Consumption, as it was also known, became the major widespread disease of the nineteenth century among adults. It first became a problem in the southern parts of the country, eventually reaching the extreme north. Overcrowding and growing migration over greater distances helped spread the infection. Tubercle infection did not necessarily bring on immediate visible symptoms. The degree of exposure and individual resistance were crucial factors as regards who contracted acute TB. The disease was most common among highly exposed occupational groups, such as textile workers and poor people living in overcrowded, unhygienic housing. No-one could be sure of escaping the disease, however, and even members of the Swedish royal family contracted it [8].

Many Swedish families lived in overcrowded cottages and small flats until the end of the Second World War, a perfect breeding-ground for the spread of tuberculosis and other infectious diseases.

Photo: Nordiska museet



At the end of the nineteenth century, TB was endemic, i.e. the infection was either active or latent in virtually the entire population. Some homes were particularly devastated and cultural ideas about the disease were characterised by fear and stigmatisation, whilst in literature, consumption and life in the shadow of death is often portrayed in a romantic light. There were no effective cures and preventive measures were based on classic plague-inspired models. Contact with those infected was avoided, their clothes burnt and their homes fumigated after death, but the ability of the tubercle bacillus to survive outside the human body revealed the inadequacy of the measures.

Robert Koch's discovery of the active agent of tuberculosis and his postulate that the disease could only occur if this agent was present was one of the first milestones in the history of bacteriology. This and the discovery of other dangerous micro-organisms underlined the importance of cleanliness, which is probably one of the reasons why TB began to claim fewer lives in Sweden during the early twentieth century. An increasing proportion of the urban population was given access to running water, making it easier to keep houses clean. There

was less overcrowding, which in turn reduced exposure to airborne diseases. Houses and apartments where infected persons had lived were disinfected, people were told to spit in special mugs and the international system of tuberculosis dispensaries, monitoring the disease and the emergence of new cases, was introduced. Improving living standards were equally important as they provided people with the resources to acquire more nutritious food and hence better resistance to disease.

The authorities and curative medicine still lacked effective cures, however. The first sanatorium for lung disease sufferers in Sweden was opened in 1891, followed by what were known as “jubilee sanatoriums” in the early twentieth century. Clean air, rest and gassing of the lungs were among the therapeutic measures, which were believed to have saved a number of lives. A national anti-tuberculosis association was founded in 1904 at about the same time as X-ray technology improved diagnostics. In accordance with foreign trends, tuberculosis clinics were established after 1905. These were to advise the general public how to protect themselves by means of good hygiene, diet and housing. It was not until the 1920s that the BCG vaccine was developed, which helped to reduce the number of new cases. The final, decisive break-through came in the 1940s when curative medicines were successfully developed.

## The Bratt system – solidarity among decent folk

The issue of individual liberty versus the public good and the well-being of other people had been topical ever since the age of mercantilism in the eighteenth century. Supervision of prostitutes in the late nineteenth and early twentieth century brought the same conflict of interests to the fore. During the First World War, a slightly dramatic, yet historical, encroachment on personal liberty was implemented, based on health arguments and affecting the entire population. In 1914, *Ivan Bratt*, physician and member of the Temperance committee of 1911, introduced an individual control and rationing system for the purchase of liquor in Stockholm as an alternative to the demands for prohibition

from the temperance movement. Several cities followed Stockholm's example, and in 1919, the system became compulsory throughout Sweden [9]. Any adult wishing to buy wine or spirits was required to present a personal ration-book (motbok) at the *Systembolaget* (Swedish Alcohol Retailing Monopoly). All purchases were registered and the rationing of liquor was introduced. Generally, greater rations were given to men and the better-off and towards the end of the "motbok" era, the amount was maximised to three litres of liquor a month.

A majority of women and almost half of all men were willing to go a step further in the referendum of 1922, when a proposal for a total ban on alcohol was only just rejected. Although illegal distilling and smuggling certainly existed, the low prevalence of alcohol-related deaths during the rationing period clearly indicates that their impact on real consumption levels was quite modest, and that the Bratt system managed to keep the per-capita consumption on a relatively low level and helped minimise alcohol-related diseases.

After 1955 *Systembolaget* retained public control over the retail trade, but the rationing system was abolished, and alcohol related mortality increased rapidly [10].

## Solving societal problems with the help of "social medicine"

Around the turn of the century, many public debaters and scientists were influenced by the notions of social Darwinism, i.e. the idea that there was a law of nature on the survival of the fittest that could also be applied to human society. This fuelled indifference to the welfare and human rights of the weak and permitted a more or less active screening of the population in order to uphold the good health of the human race. This could be achieved in part by keeping social interventions to help the weak to an absolute minimum and by means of an active population policy. Eugenic arguments also gained in strength and could be used to support the same ideas. Suspected epilepsy suffe-

ers were forbidden by law to get married as early as the eighteenth century, as it was thought they could pass the disease on to the next generation. The optimistic nineteenth-century belief in the possibility of being able to cure many mental diseases by administering treatment began to wane in the early twentieth century in the light of less than favourable results in mental healthcare. According to a new trend in opinion, more intensive attempts were needed to influence people's environment and upbringing so as to combat acute mental disorders.

Socially oriented medicine would be represented in Sweden by among others, the forensic psychiatrist, *Olof Kinberg* (1873–1960). Criminal aberrations, according to Kinberg, also belonged to the same family of conditionable social diseases. Eugenics, for instance the practice of trying to limit the influx of mentally disturbed individuals, was seen as a cure by many medical professionals and other public debaters. The aim, as Kinberg expressed it in 1935, was to “increase our efforts to the utmost in order to achieve a biologically and socially advanced type of human being and in addition uphold such an interest in the development of biological science so that these efforts can be realised”. Social medical officers were to stem the deterioration of the human race and limit the consequences of mental diseases.

The most well-known (and in retrospect highly scandalous) product of eugenics was the sterilisation laws which came into force both in Sweden and many other countries. A code from 1915 forbade the mentally ill and deficient to marry, not least on genetic hygiene grounds. A sterilisation bill was first drafted in the 1910s with advocates and opponents from among both the medical world and various political parties. Debates and inquiries followed, but it took until 1935 for the bill to be adopted by the parliament. Sterilisation, said its advocates, was justified on eugenic, social or humanitarian grounds. The operation was carried out on the mentally ill on condition that they themselves gave their consent, or following a decision by the National Medical Board. In 1941, sterilisation was also introduced for people displaying antisocial behaviour, such as psychopaths, if this condition was caused by some form of mental disorder. Medicine had thereby incorporated a wide spectrum of social phenomena and behaviours into the clinical concept – social problems were being “medicalised”. Not everyone in medical circles agreed on the sterilisation laws, but individual doctors in Sweden were to play a crucial role in the selection of those whose pro-

creation was considered to be harmful to both their progeny and the Swedish race. Representatives of the municipal social services, who had the power to initiate enquiries, also took part in individual decisions.

Sterilisation could sometimes be seen as a humanitarian measure for mentally retarded women, who were often sexually abused and became pregnant. Putting their children into institutional care or foster-homes was considered to have a negative impact on the children's social future. Many also gave their own consent to the operation based on medical advice. But mistakes were made even at this stage caused by incorrect diagnoses. Others were sterilised against their will, in some cases with reference to dubious medical diagnoses and theories. Many of the operations were therefore ethically indefensible, violated people's human rights and caused great personal suffering.

The population policy debate and some of its practical consequences during the interwar period were based on ideas that at the time were considered to be scientific truths. As far as we know, however, sterilisation was never explicitly justified on the grounds of racial ethnicity in Sweden. "It's not just about the shape of the head but also about what it contains", the conservative party stated in a 1934 polemic against Nazi-influenced members of their youth movement. Developments in Germany during the 1930s also made people reflect on the possible consequences of radical eugenic thinking. However, enforced sterilisations still continued to occur up until the 1960s and the law was not abolished until 1970, at which point the mentally ill were apportioned the same value as other citizens in this respect.

## Social utopia: Scientific faith and paternalism

The idea of improving the Swedish race, even if based primarily on scientifically proven methods of upbringing and efficient social institutions, took many guises. Yvonne Hirdman, and later several others, employed the concept of social engineering to describe attempts to shape human beings into good, healthy individuals, both for their own

and for society's sake [11]. This part of the project, that engaged many members of society at the time, to create a thoroughly “modern” society had come into being inspired by optimism in the face of development, a faith in the ability of science and experts and a belief in human flexibility aided by paternalistic benevolence, and actually was not that different to the spirit shown during the Age of Enlightenment.

The husband and wife team *Gunnar Myrdal* (1898–1987) and *Alva Myrdal* (1902–1986) are often regarded as personifying social engineering as a variant of social democracy. Their publications were penned against a background of falling fertility rates and the threat of a shrinking population, which inspired them to write *Kris i befolkningsfrågan* (A population in crisis), published in 1934. Many of their ideas were about how to arrest the trend by making society a better place for families with children. They reveal simultaneously an elitist view of the common citizen and a strong belief in the potential of collective institutions to “put life right”. According to the Myrdals and others of the same opinion, the way to promote a better society was via a scientifically well-founded population policy, of which upbringing and education were important components. Scientists are under obligation to disseminate and share their knowledge, based on established truths. This was primarily to be achieved through the state education system, but Alva Myrdal also visualised collectively organised day nurseries fulfilling the same role, in a form that bears a certain resemblance to the Israeli kibbutzim.

## From urban to rural health risks: “Dirty Sweden” goes rural

For a long time, urban areas were considered the most dangerous places to live in from a hygiene and health perspective, both in Sweden and in the rest of Europe. However, nineteenth-century reforms in the cities and increasing access to healthcare had produced great results, with urban death rates gradually reaching parity with – and for certain diseases and age groups – dropping lower than those in rural areas by the middle of the twentieth century. At the same time, there remained

Reporting from a journey through Sweden in 1937, the Swedish novelist and journalist Ludvig "Lubbe" Nordström used the radio, newspaper articles and a book to describe the unhealthy aspects of the countryside.

Photo: SVT Bild



pockets of poverty in Sweden among agricultural workers, crofters and other less affluent rural groups.

The standard of housing in Sweden had indeed improved since the nineteenth century, but still varied considerably among different social groups at the end of the interwar period. Housing policy subsidies were introduced during the interwar period for pensioners and large families, and for the construction of private houses in rural areas. One author and broadcaster emerged in 1938, however, who was somewhat less complimentary about the Swedish-style welfare state. Ludvig “Lubbe” Nordström (1882–1942) described both through the new medium of national radio and in book form what he called “Dirty Sweden” [12]. His nationwide travel report painted a dark picture of the spiritual, physical and material status and conditions of the Swedish rural population at the end of the 1930s. Provincial doctors and local government councillors, who symbolised enlightenment and modernity, acted as his guides to poor, draughty and dirty homes. Nordström drew a contrast between these and the priests who, with their pious religious preaching, had no contribution to make to progress and a better world and merely symbolised the past.

Nordström’s image of an almost altogether backward rural population has recently been questioned by historical researchers [13]. It has, for instance been pointed out that farmers would not have been able to cope with the rapid changes in technology and markets as well as they did, had they been backward, ignorant people. There was also a growing interest in self-education and the protection of common interests in the interwar rural population. This manifested itself, for example, in the form of cooperatives for the production and distribution of their goods, political and non-political associations and study circles discussing anything from agricultural matters to literature, world politics and – sometimes – even health problems. But let us follow in Lubbe Nordström’s footsteps for a moment:

A local government accountant conveys the experience of his first meeting with destitution in a crofter’s cottage:

*A small, rather low kitchen, a dreary, equally long chamber with shabby rag-carpets, ... A smell of herring brine and stuffy air combined with odours of wood rot, mould, chamber pots, old, sweaty clothes, clammy shoes and dirty socks filled the cottage.*

We are given a final image of a well used by villagers in the province of Närke:

*It was a hole in a ditch along the road, full of slimy green water.  
An empty bottle was strung up on a stick. There was a barn a little  
further up. I turned around. An old man emerged from the gate.  
His clothes were indescribable. His big, bushy, greyish green hair  
framed a face similar to that of an ape with a pair of burning eyes,  
and the face was one green, tangled apparently slimy beard –  
“Dirty Sweden” personified in living, human form.*

Urban areas and their inhabitants represented modernity, progress and the future. Bad employers were also lambasted, but it was in the higher echelons that Lubbe Nordström met reason and refinement. He argued that government action would not help bring about improvements. The broadcasted reports ended with an interview with *Carl Larsson i By* (1877-1948), farmer's son, author and conservative representative of rural popular movements. Listeners were told that it was a new sense of responsibility that was lacking. A welfare-state mentality had been created by “the spirit of Marxism, the public organisation, *the state shall do everything, the individual shall only be assisted* [Nordström's own italics]”. Nordström interjected with a comment about how this had “led to a constant plastering-over of the cracks in our racial substance, and what's the point of that?” Larsson responds by saying: “with all these ‘social workers’ and the like, the weak and incapable are now receiving more attention than the strong folk”. The critique of what was condemned as “the passive, sedated welfare-state mentality” has, in other words, a long history in the Swedish debate.

Lubbe Nordström added that this had been a common view among all the doctors he had met out in the rural community. There was a grave risk of degeneration and poor racial substance. The discussion ended with both protagonists afraid that Sweden would become a “weak old lady”. The other final interview was held with an agronomist, who suggested that the future of the rural community could be safeguarded through mergers and the rationalisation and industrialisation of agriculture. Women would not then have to do heavy work and could “take care of the home as is their want and duty”. Agricultural families might also need a domestic servant, but such people must be offered better working conditions.

In Sweden in the 1930s, democracy had triumphed as the political form of governance. Many displayed a strong desire for social reform. At the same time, Olof Kinberg, Lubbe Nordström, the Myrdals and several other public debaters expressed a paternalistic attitude and a blind faith in the capacity of information, science and expertise to solve society's problems – a view based on the remnants of elitism. Social hygienism was also reflected in Swedish housing policy of the interwar period [14].

It is easy for us, as modern-day people, to feel that we are on a more humane and ethically higher level than the social engineers of the interwar era. Without denying their sympathy for the weak, their way of presenting findings and proposals conveys a feeling of cool distance. This is particularly apparent when we compare their way of writing with some of their predecessors in the eighteenth century Age of Enlightenment. One of the explanations for the difference is the growing gap that was opening up between the intelligentsia and the common people and between theories supported by allegedly scientific arguments and more pragmatic ideas during the interwar period. Linnaeus and his contemporaries experienced poverty and social deprivation at much closer quarters physically, even when they moved to their aristocratic urban accommodation. They often used medical terminology to express themselves, but when they described and interpreted their practical experiences, their language, examples and logical reasoning were not altogether different from the vernacular.

In this respect, an increasingly rapid revolution occurred over the course of the following centuries. The strivings of the scientific community for objectivity created a fear of emotional elements creeping into analyses and proposals. Scientific jargon became increasingly complex, even when describing everyday phenomena. The view of the human being as a Newtonian machine or a biological, albeit complicated, organism was reinforced. In their most explicit forms, scientific theories and support for such a view became highly questionable. Utopian advice to political decision-makers was often naively exaggerated in its faith in the scientific truths of the day. With their fear of subjectivity and their pains to be scientific, the arguments from some participators in the social debate did not leave much room for compassionate humility and empathy. But we naturally need to consider these public debaters in the light of the values and predominant attitudes of the day.

Of all the Swedes who became committed to public health issues at that time, Lubbe Nordström, with his drastic images in a new medium, had the single greatest impact on the political debate. Others also made important contributions to highlighting rural problems, including the proletarian author, *Ivar Lo-Johansson* and radio reporter *Sven Jerstedt*, in expressive and more sympathetic portrayals of agricultural workers and their lot. But Lubbe Nordström's contributions had a great impact on opinion, which probably helped to accelerate reform, ironically enough to a great extent with the help of the state in which he placed so little confidence. The blind faith of Alva and Gunnar Myrdal and other medical and non-medical utopians in the potential of scientific knowledge to help build better communities was never to be realised in its more radical form. Even if many social reforms were designed and adopted on the national level, the demands and examples often came from those working at the grass-roots level within individual municipalities and urban districts. This is where the welfare state was to be built in practice. Here, people's actions were based on pragmatic reasons without too much consideration for complicated ideologies and theoretical reasoning.

## The birth of the welfare state

When summarising the history of public health between the two world wars, it is clear that some factors had a particularly significant impact: the emergence of an unprecedented rapid growth in prosperity, democratisation, the welfare state, scientific development and continuous economic structural transformation. It is obvious that the above-mentioned factors were interdependent. Not only did industrialisation contribute to the growth in prosperity, but it also created a new middle class and a working class, thereby paving the way for democratisation. It was in their interest to promote a system based on equal suffrage, democracy and collective security, for which the welfare state became a common goal. This vision was, in its most popular and still quoted form, expressed in a speech made to the Riksdag in 1928 by *Per Albin Hansson* (1885–1946), leader of the Social Democratic Party. Hansson

used “*the People’s Home*” as the image of a well-functioning society. The concept had already been used by conservatives who saw the state as an organism, in which all parts worked in harmony for the benefit of the whole.

In Hansson’s view, however, this “home” had other characteristics. He declared that:

*The foundation of the home is community - - The good home does not recognise privileged or neglected individuals, has no favourites and no stepchildren. There, one does not look down upon the other. There, nobody looks for advantages at the expense of another person; the strong do not suppress and plunder the weak. In the good home, there is equality, concern, cooperation, helpfulness. When applied on the great home of people and citizens, it would mean the destruction of all social and economic barriers, which currently divide citizens into the privileged and the neglected, the ruling and the dependent, plunderers and the plundered.*

For many decades to come, and still a living symbol in the twenty-first century, “The People’s Home” became the most powerful utopian image for those who built the Swedish welfare state.

Scientific progress led to technological advancements, which in turn created new resources for the benefit of the welfare system and science. There were however darker sides to the intellectual landscape of the time in which must be included eugenic ideas and a certain scientific “over-objectification” of social issues. Racial biology influenced the approach taken to safeguarding the health of the population. In its most concrete guise, this approach manifested itself in the form of Sweden’s sterilisation laws. Social medicine experts and leading figures in the public debate also claimed, albeit in less drastic terms, to be able to fashion the perfectly healthy human being both mentally and physically. In the light of posterity, such claims revealed a naive overconfidence in the capabilities of science.

However, the “Swedish Model” was developed concurrently, symbolised in the Saltsjöbaden Agreement between employers and trade unions signed in 1938; a “social contract” in a spirit of negotiation and cooperation instead of continued conflict, which left its mark on the Swedish political landscape for years to come concerning both social

For many Swedes, Per-Albin Hansson (1885–1946) was “the father of the welfare state – the People’s Home”. He was prime minister from 1932 until his death.

Photo: Karl Sandels samling/IBL bildbyrå



security systems in general and the health and medical service in particular. Just as insecurity in the industrial society seemed now to be a thing of the past, structural change and the internationalisation of production and consumption began to make their mark. National economic structures and national scope for formulating social policy were increasingly affected by the outside world. During the first thirty years of the twentieth century, the foundations of the Swedish model were formulated based on various ideas prevalent at the time. After the introduction of political parliamentarism and universal suffrage, it was seldom possible for one single interest to push through crucial decisions at their own discretion, either in the Riksdag or in the municipalities. The decisive influence of government on the formulation of the welfare system went without saying for the labour movement, but neither was it alien to the conservatism of the early twentieth century, which saw society as an organism, in which the well-being of all parts was interdependent.

The Liberal Party stood for the safeguarding of individual freedom, however they also appealed to and recruited socially committed mem-

bers, many of whom had their roots in temperance societies and free-church movements. The parliamentary party representing the farmers naturally supported individual and private ownership, but its members were also in touch with ordinary country people and everyday, pragmatic issues out in the parishes. In the business sector, trade unions and employers fought with each other, using strikes and lockouts as their weapons of combat, as they did in the general strike of 1909. Neither party had particularly positive experiences from conflicts and the reformist climate of negotiation won the day at the expense of open disputes, as established in the famous *Saltsjöbaden Agreement* of 1938 between employers and employees.

A welfare state developed within this political framework, most of which was in principle supported by all ideological inclinations, albeit with varying levels of ambitions and goals. Many of the initiatives taken by popular movements and philanthropic societies were legally incorporated into the remits of both central government and the municipalities. Persons with disabilities began to receive attention, for instance in the form of special schools for the blind and deaf mute and other disabled institutions established in the 1930s. Investments in child-care continued and district nurses became the most active and important agents for prevention and primary care in Sweden's rural communities, not least through their involvement in the fight against tuberculosis.

The first precursors of health and unemployment insurance funds were gradually reorganised to include at the beginning the workers' collectives and ultimately the entire population. The first, albeit modest, old-age pension was introduced as early as 1913 and poor relief became more human. The rotation and auctioning-off of elderly paupers from one household to the other was, for instance, replaced by permanent living in old people's homes. The concept of workhouses or poorhouses survived for a long time in popular parlance. The expression "old people's home" had a more positive ring to it. The fact that municipal care for the elderly was also affecting the welfare of relatives of democratically elected parish assembly members promoted a sense of community solidarity. Hospitals and outpatient healthcare were also democratised. As belief in medicine and the ability of care institutions to offer effective and humane care grew, patients increasingly represented more of a national social average as opposed to being exclusively made up of poor and destitute people, as had been the case in earlier times.

Worker protection and occupational health received increasing attention from the turn of the century onwards. Older patriarchal traditions, dating back to the ironworks and sawmills, still survived in parts of the country. This patriarchalism differed from one workplace to the next. Worker loyalty to the employer was rewarded by benefits including free medical care, lodgings and some financial support to retired workers. The employer's recognition of his responsibility was manifested at large workplaces by the presence of a company doctor who often took on the role of general practitioner for the workers. In the democratic twentieth century, this paternalistic solution was of course no longer feasible in the long run. As we have noted, worker protection was regulated by national framework legislation, within which employers and employees tried to find solutions for concrete issues via direct negotiations and agreements.

## Summary: Increased life expectancy, welfare and social hygiene

After the Spanish Flu in 1918, no major mortality peak have since occurred in Sweden. During the interwar period, a welfare state was gradually built up from modest beginnings. Economic depressions occurred in the 1920s and 1930s, causing suffering for those who lost their jobs, but without putting an end to the secular trend towards lower mortality figures for both sexes and in all age groups. Generally, people became economically better off. Political democracy encouraged more attention to occupational hazard; basic economic safety nets were developed for the sick and the unemployed. Healthcare became more accessible to all. A new profession of district nurses became apostles of health information. One visible effect of a society in transition was the shift from higher to lower urban infant mortality rates compared with the countryside. In the 1930s, unlike 100 years previously, the countryside represented “Dirty Sweden” in the eyes of one commentator.

“Social hygiene” became a popular concept and a field of interest for certain members of the medical and political professions. This was most conspicuous in the “eugenic” movement, which argued for active policies to foster a stronger and healthier population. Even when not combined with openly racist theories, these ideas led proponents to ask for measures to prevent the reproduction of “weaker social elements”. Laws allowing for compulsory sterilisation were the most conspicuous result. Arguments were also heard for what has been labelled as “social engineering”: More or less extensive social interventions in the lives of individuals were defended by paternalistic arguments that these would benefit both individuals and society at large.

At the same time, the Social Democratic Party, as the primary political representative of the labouring classes, saw the potentials for evolutionary reform instead of a socialist revolution. “The People’s Home”, a concept actually borrowed from conservatives, became the ideal for a welfare state with neither privileged groups nor stepchildren. A coalition between the Social Democrats and the Centre Party in the 1930s was followed by a government coalition consisting of all parliamentary parties except the communists during the Second World War. The need for a regulated economy during the war paved the way for those who wanted more systematic planning after 1945. This experience, supported by the prosperous economy during the post-war boom, became an inspiration for what history books have defined as the harvest time of the welfare state, presented in the next chapter.

## Reference list

1. Magnusson L. An economic history of Sweden. London: New York: Routledge; 2000.
2. Rietz E. Sterblichkeit und Todesursachen in der Kinderjahre: eine sozial-hygienische Untersuchung in den vier grössten Städten Schwedens. Diss. Stockholm: Karolinska Institutet; 1930.
3. Burström B, Bernhardt E. Social differentials in the decline of child mortality in nineteenth century Stockholm. *European Journal of Public Health* 2001;11:29-34.

4. En socialhygienisk undersökning i Västerbottens och Norrbottens län, utförd med stöd av Kungl. Medicinalstyrelsen under åren 1929–1931 [A social hygiene study in the northern counties of Västerbotten and Norrbotten, performed with support from the Royal Medical Board between 1929 and 1931]: Lund; 1934.
5. Lundquist CW, Björnwall J. Iakttagelser över arteriosclerosen i norra Sverige på grundval av obduktionsmaterialet vid Centrallasarettet i Umeå [Observations of arteriosclerosis in northern Sweden on the basis of the autopsy material at Umeå General Hospital]. Svenska läkartidningen 1936:1209-15.
6. Willner S. Det regionala dödlighetsmönstret i Sverige från jordbrukarsamhälle till det postindustriella samhället [The regional mortality pattern in Sweden from agricultural society to the post-industrial society]. In: Nordin I, ed. Rapporter från hälsans provinser; en jubileumsantologi [Reports from “good-health” provinces; a commemorative anthology]. Linköping: Tema Hälsa och samhälle, Linköping University; 2004.
7. Emanuelsson A, Wendt R. I folkhälsans tjänst: sju decennier med den svenska distriktssköterskan [In the service of public health: seven decades with the Swedish district nurse]. Stockholm: Vårdförbundet SHSTF [Swedish Association of Health Professionals]; 1994.
8. Puranen B-I. Tuberkulos: en sjukdoms förekomst och dess orsaker, Sverige 1750–1980 [Tuberculosis: its occurrence and causes in Sweden 1750–1980]. Diss. Umeå: Umeå University; 1984.
9. Bruun K. Bratts genombrott [The breakthrough of Bratt]. In: Bruun K, Frånberg P, eds. Den svenska supen [The Swedish snaps]. Stockholm: Bokförlaget Prisma; 1985.
10. Willner S. Alkoholpolitik och hälsa hos kvinnor och män [Alcohol policy and gender specific health]. In: Sundin J, Hogstedt C, Lindberg J, Moberg H, eds. Svenska folkets hälsa i historiskt perspektiv [The health of the Swedish people in a historical perspective]. Stockholm: Swedish National Institute of Public Health; 2005.
11. Hirdman Y. Att lägga livet till rätta: studier i svensk folkhemspolitik [Putting life in order: studies in Swedish welfare policy]. Stockholm: Carlsons; 1989.
12. Nordström L. Lort-Sverige [Dirty Sweden]. Stockholm: Kooperativa förbundets förlag; 1938.
13. Waltersson K. Bildning för livet: framtidsstrategier och bildningssträvanden i Tengene JUF 1930–1960 [Education for life: strategies for the future and educational efforts in Tengene association for agrarian youths]. Linköping: Linköping University, 2006.
14. Karlsson SO. Arbetarfamiljen och det nya hemmet: om bostadshygienism och klasstruktur i mellankrigstidens Göteborg [The working class family and the new home: on hygienism and class-structure in mid-war Gothenburg]. Linköping: Linköping University; 1993.





7. Harvest time for welfare policy  
and medical progress  
(1945–2006)

# Introduction

**Page 176:** During the twentieth century, the physically fit body became a target for public health interventions as well as commercial interests.

Photo: Karl Sandels samling/IBL bildbyrå

**Page 177:**

Photo: Photos.com

In the post-war period, the modern welfare state matured, characterised by low unemployment and a growing labour market for women, constantly rising wages and expansion of the public health service and social safety nets. But the period also saw a comprehensive structural transition within the production systems accompanied by regional migration and urbanisation [1]. The 1950s and 1960s were characterised by very strong economic growth throughout the western world, more rapid in Sweden than in most other countries [2]. This growth in combination with an equalisation of incomes led to a significant increase in standards of living for broad groups of the population, for example a substantial improvement of housing standards, introduction of partly income-related social security and rising mass consumption. From 1950 to 1970, total consumption is estimated to have risen by nearly 100 percent. Public consumption rose even faster than private consumption, leading to rapidly increasing taxes. In the early 1970s, tax levels reached nearly 50 per cent even on ordinary incomes.

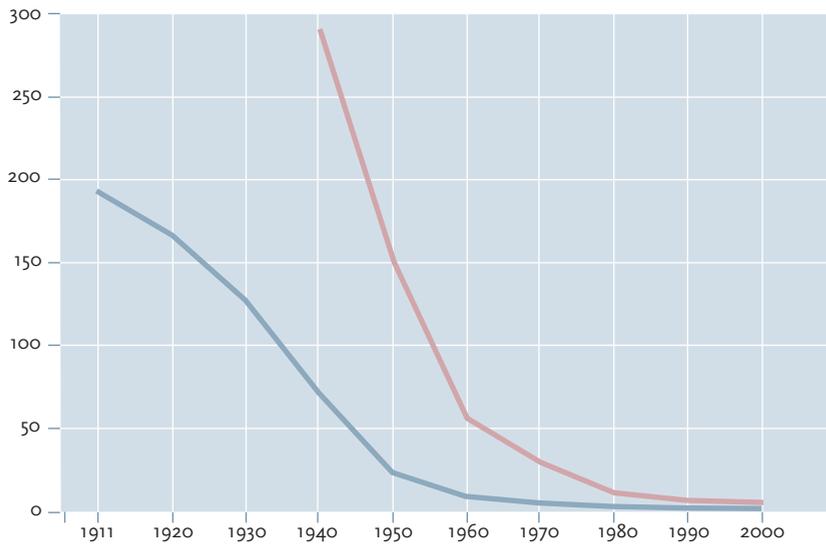
There was a decline in agriculture, and an upswing in industry, particularly in engineering, and the service sector expanded. An extensive redistribution of the population took place. At the same time, population declined in the northern forest counties, while the large cities and their surrounding areas grew rapidly.

During the post-war period, gainful employment increased rapidly among women, particularly from the 1960s onwards, when many women were employed in the rapidly expanding public sector of health and medical care, schools and child-care. Unemployment figures were very low, well under five per cent, until the crisis of the early 1990s.

## Epidemiological trends

Effective chemotherapy, initially developed during the 1930s, in the form of sulpham drugs, and antibiotics, in the form of penicillin, have contributed to the dramatic post-war decline in infection-related morbidity and mor-

tality, for example from pneumonia and rheumatic heart disease. Effective drugs (in the form of streptomycin and paraaminosalicylic acid) were introduced in the mid-1940s to combat tuberculosis, resulting in reduced mortality. Large-scale polio vaccinations were initiated in the late 1950s. It is nevertheless apparent, as seen in the previous chapters, that the general decline in infectious diseases (including tuberculosis) began long before the introduction of effective drugs or vaccinations (Figure 7.1).



**Figure 7.1** Incidence and deaths from tuberculosis per 100,000 in Sweden, 1911–2000.

Source: EPI-aktuellt 2004; 3:13 (Swedish Institute for Infectious Disease Control), Statistics Sweden.

— new cases/100,000  
— deaths/100,000

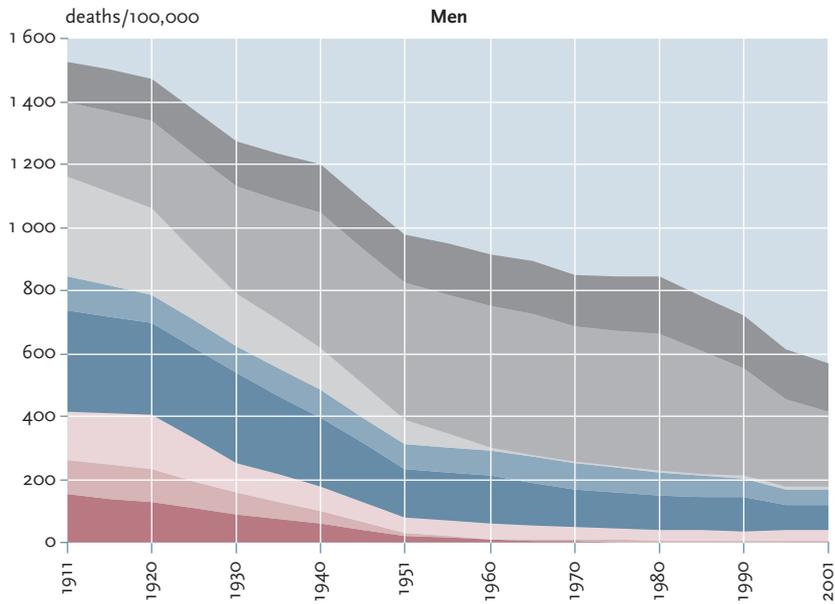
The development of cancer and circulatory diseases is more uncertain in a long-term perspective, due to diagnostic difficulties during the early eighteenth century, when many cases of cancer and cardiovascular disease were passed off as “diseases of old age” [3]. Some forms of cancer, including lung cancer, have certainly increased, whilst others, such as stomach cancer, have decreased. As regards the post-war era, we can also establish that a relatively substantial rise in cardiovascular mortality affected some groups (middle-aged men) until about 1980 (Figure 7.2).

Registered alcohol consumption per capita and mortality from liver cirrhosis (a proxy for alcohol-related mortality) increased significantly from the mid-1950s to the mid-1970s. The consumption increased from about five litres of 100-percent alcohol per adult person to over seven litres. Some plausible factors contributing to this are the abolition of the rationing system (“motbokssystemet”) in 1955, more positive

Purchasing the monthly ration of alcohol at the state monopoly store before the abolition of restrictions on alcohol consumption in 1955.

Photo: SVT Bild

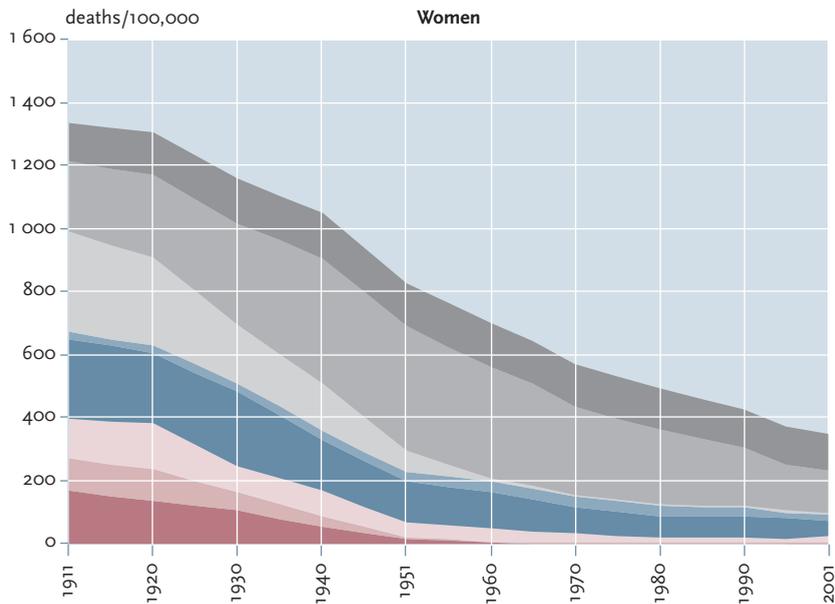




**Figure 7.2** Age-standardised mortality from various causes, 1911–2001.

Source: Sveriges Officiella Statistik, Dödsorsaker (Statistics Sweden, Causes of Death) 1911, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2001; S Preston et al. Causes of Death. Life Tables for National Populations, 1972 [4].

- tumours
- circulatory
- unknown
- other infections
- others
- respiratory organ
- other infections
- pulmonary TB



attitudes towards alcohol consumption among the public, and the free sale of medium-strong beer (“mellanöl”) 1965–1977. As a consequence of Swedish membership in the European Union in 1995, more liberal import regulations have been introduced, leading to the import of large quantities of alcohol from other EU countries. As a result, alcohol consumption per capita in the early 2000s reached over ten litres of 100-percent alcohol per person over fifteen years of age, probably the highest level for 100 years. Yet Sweden has a relatively low per-capita consumption of alcohol as well as a low level of alcohol-related mortality from a European perspective. It is likely that the traditional restrictive alcohol policy has contributed to this. For example, the state-owned alcohol monopoly retailer (Systembolaget) continues to control the domestic retail trade of strong beer, wine and spirits.

From a global perspective, the threat from infectious diseases is still a reality. The world has had to face new threats from both old and new infectious agents in epidemic form: HIV, Legionnaire’s disease, Ebola fever, SARS, BSE and multi-resistant TB, to mention only a few. Although infectious diseases have a very small impact on the cause of death panorama in Sweden today, they still play a considerable role in costs associated with sick leave and medical care. Increased travel and the import of resistant germs from the surrounding world have also made it more difficult to treat various infectious diseases efficiently.

## Men and women

The post-war period has seen a dramatic rise in the male/female relative mortality ratio in all age groups except in infants (see Appendix). The general decline in mortality from infectious diseases (especially tuberculosis) has played an important role in younger age groups. Since tuberculosis mortality was previously slightly higher among girls, it reduced the effect of high accident mortality among boys, while today accidents and suicide are by far the most dominant cause of death among young people. In spite of male accident mortality having decreased substantially since the beginning of the twentieth century, boys still meet with far more accidents than girls, resulting in very considerable gender differences in total mortality (Table 7.1).

**Table 7.1** Cause-of-death patterns for men and women aged 15–19 and 50–59 years. Deaths per 100,000.

a) 1911–1915	15–19 years		50–59 years	
	Men	Women	Men	Women
Infections*	229.9	280.0	245.7	201.4
Tumours	4.9	4.3	264.0	258.6
Circulatory organs**	39.0	38.0	283.9	253.2
Respiratory organs***	36.9	36.3	193.0	128.1
External causes	75.0	14.6	145.9	23.2
Others	67.0	64.9	315.8	260.7
<b>Total</b>	<b>453</b>	<b>438</b>	<b>1,448</b>	<b>1,125</b>

\* excluding influenza, \*\*including cerebral haemorrhage, \*\*\*including influenza, to obtain a similar classification to the period 1991–1995.

b) 1991–1995	15–19 years		50–59 years	
	Men	Women	Men	Women
Infections	0.8	0.5	3.6	1.9
Tumours	4.9	3.0	185.2	205.5
Circulatory organs	2.1	1.5	234.6	68.8
Respiratory organs	0.8	0.3	19.2	13.3
External causes	33.6	13.4	81.2	33.6
Others	6.6	4.3	97.1	44.3
<b>Total</b>	<b>49</b>	<b>23</b>	<b>621</b>	<b>367</b>

Source: Sveriges Officiella Statistik, Dödsorsaker (Sweden's official statistics, Causes of Death) 1911–15, 1991–95, Statistics Sweden.

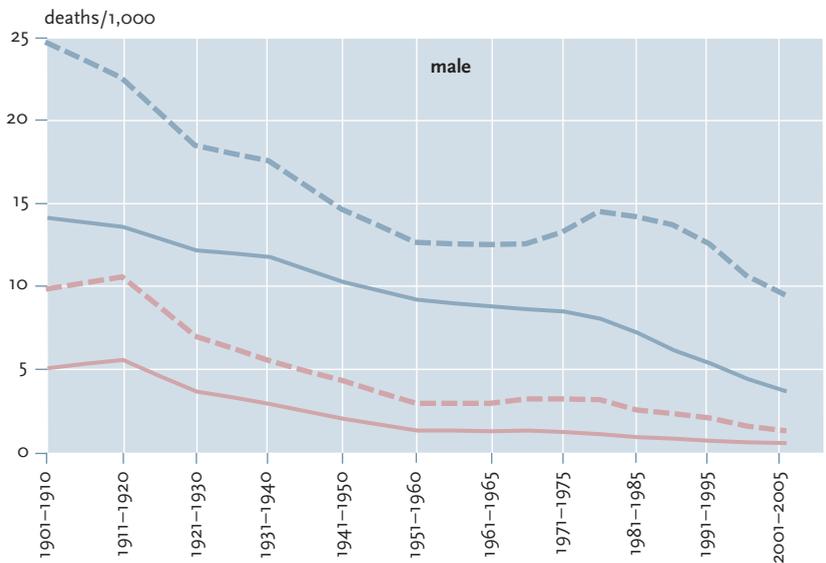
For many women of reproductive age, illegal abortion became a major medical problem in the interwar period. An estimated 20–25 per cent of women undergoing the procedure became sterile, and almost 10 per cent of hospitalised cases resulted in death. This should be seen in the

light of very restrictive abortion laws. Abortion was not decriminalised until 1975, when a woman's right to abortion became statutory. This has eradicated a major social and medical problem for a vulnerable group of women [5].

Among middle-aged and older people, the decline in mortality from infectious disease is not as significant for the greater gender difference in total mortality (Table 7.1). The pattern has instead been influenced by a greatly divergent trend between men and women in diseases of the circulatory organs (ischemic heart disease in particular). There has been an increase in these types of diseases among men until about 1980, whilst female mortality has instead decreased. A certain amount of convergence occurred thereafter due to a more rapid fall in male levels. It should also be observed that mortality from heart disease during the initial stages of the twentieth century was caused much more by infection-related diseases (rheumatic fever) than it is today, especially in younger age groups, a fact that also helps to explain the changed gender pattern. Naturally, the likelihood of changes in diagnostics also having influenced the differences between the periods should also be taken into consideration.

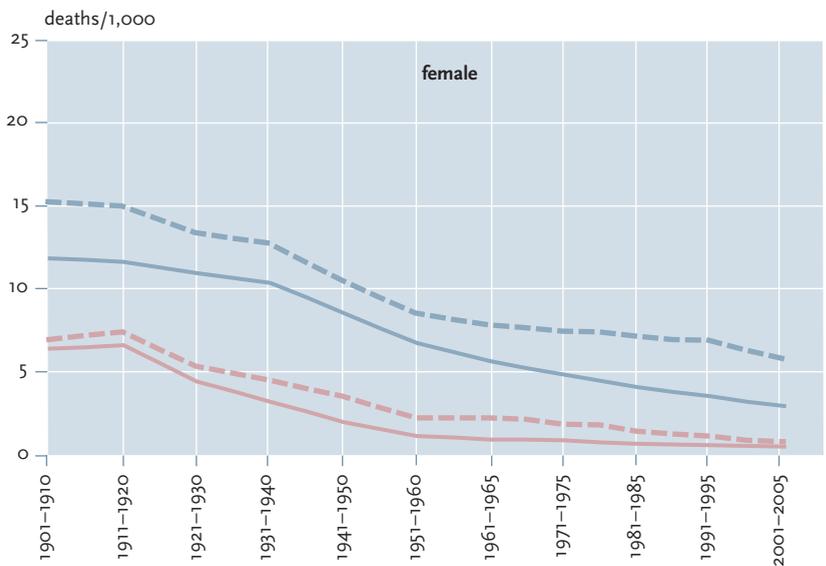
The substantial excessive male mortality after the Second World War is considered to be the result of gender differences in smoking habits and changed eating habits having a more negative effect on men due to the fact that female sex hormones prevent cardiovascular disease [6]. The closing gender gap in mortality since the 1980s is probably to some extent an effect of a more rapid decline in male smoking. Since the late 1980s, a higher proportion of women than men have been daily smokers [7].

Excessive male mortality is particularly apparent among single people and divorcees (Figure 7.3). During the first half of the twentieth century, marital status differences in mortality diminished, while there was an increase in excessive mortality for the non-married in the 45–64 age group for both sexes during the 1960s–1980s. Death rates increased significantly, even in absolute figures, among single middle-aged men during the 1960s and 1970s. One explanation is their high mortality from more or less lifestyle-related conditions, such as cirrhosis of the liver, alcohol-related mental illnesses, suicide, accidents and cardiovascular diseases (Figure 7.4). Simultaneous major regional migration and urbanisation, combined with increased wages, may have been important underlying factors, which encouraged tobacco and alcohol consumption and contributed to greater social stress [8].



**Figure 7.3** Age-standardised mortality in the 25–64 age group among married and non-married people, 1901–2004.

Source: Befolkningsrörelsen (Vital statistics) 1911–20, 1921–30, 1931–40, 1941–50, 1951–60, Befolkningsförändringar (Population changes) 1961–90, Befolkningsstatistik, Del 4, Födda och döda, civilståndsförändringar mm (Population statistics. Part 4, Vital statistics) 1991–2004, Statistics Sweden.

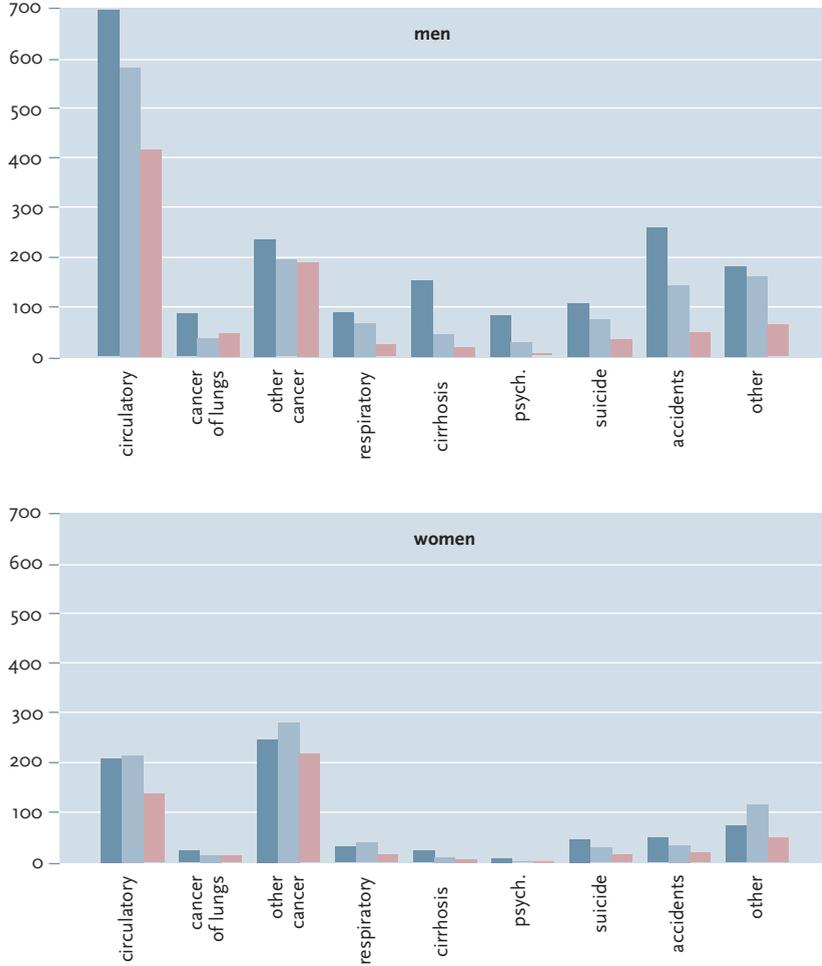


— non-married 25–44  
 - - non-married 45–64  
 — married 25–44  
 - - married 45–64

**Figure 7.4** Causes of death and marital status, 1969–1978, 45–64 age group.

Source: Statistics Sweden, Statistical report HS 1981:10.3, vol III.

■ divorced  
■ unmarried  
■ married



## Social differences in health

Several studies from the latter stages of the twentieth century, from both Sweden and other countries, all unequivocally show that ill-health and the risk of mortality are greatest among socially and economically disadvantaged groups, among both men and women and in all age groups, irrespective of professional status, level of education or income. Middle-

aged men in less skilled professions are twice as likely to die as well-qualified white-collar workers, for example. The greatest difference, however, is between occupationally active and non-active people (long-term unemployed, those on long-term sick leave or disability pension).

In the 1970s, social differences in mortality increased among middle-aged (particularly single) men, having been relatively minor at the beginning of the 1960s. This seems above all to have been an effect of rising mortality from cardiovascular disease among industrial workers, whilst well-qualified white-collar workers enjoyed much more favourable health trends. After 1980, mortality also began to fall among industrial workers, whilst amongst less qualified professions in the service and transport sectors, it developed less favourably than among other groups [9]. According to the 2005 Public Health Report, social differences in mortality remain, but almost all socioeconomic groups of working age, apart from women in unqualified professions, enjoyed continuous improvements in health. The social differences are still, however, substantially greater among men than among women [10]. Myocardial infarction is an important cause of the social differences in mortality among adults, despite lung cancer, suicide and alcohol-related deaths also playing a major part [11, 12]. A large number of research reports have suggested that socioeconomic differences in health in modern European societies, including Sweden, are caused by partly intertwined and overlapping factors such as health-related lifestyles (including physical exercise, dietary habits, smoking and alcohol consumption), psychosocial problems related to stressful circumstances, social exclusion, social support, etc. Some studies have, for example, presented evidence suggesting that social isolation or lack of control over work and home life can affect health and even lead to premature death. Other studies show that social support and good social relations contribute to better health [13]. There have, however, also been objections to the focus on psychosocial factors rather than on “real” material conditions, such as inequalities in the distribution of public and private resources [14].

In relative terms, social differences in mortality among middle-aged men during the latter stages of the twentieth century seem to have been about the same in Sweden as in other western European countries, including the other Nordic countries, Great Britain, Italy and Spain. The death rate was roughly about 50 per cent higher among blue-collar than among white-collar workers. Swedish blue and white-collar workers had generally speaking low mortality and relatively minor dif-

ferences in absolute figures in comparison with the majority of other countries, however [10, 15]. Lately, a growing emphasis has been put on the effect of the entire life course for understanding health inequalities. The fact that health outcomes of today are the result of socioeconomic conditions both now and in the past must also be considered [16, 17].

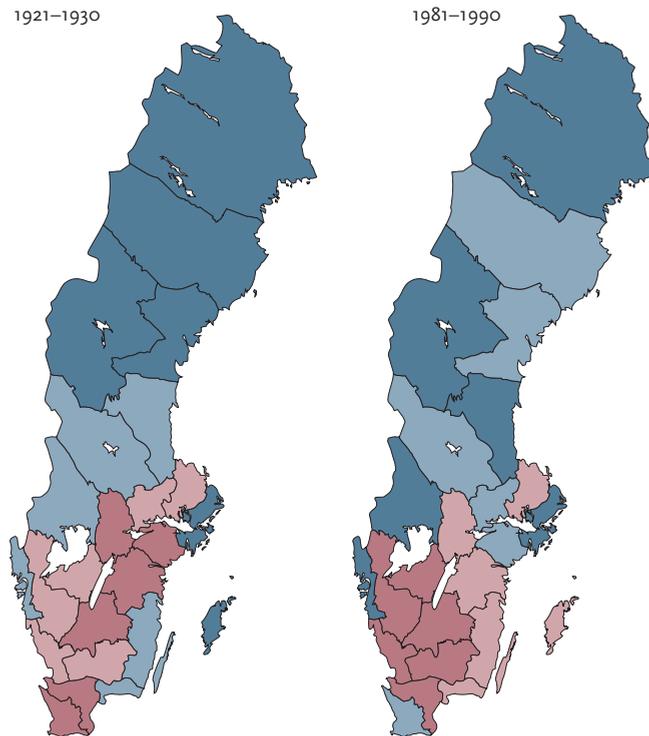
## Regional differences in mortality

The regional mortality trend has been relatively stable since the inter-war period, with the highest death rate in the forest counties to the north and in the metropolitan regions (above all for men), and the lowest levels in southern Sweden excluding the metropolitan regions (Figure 7.5). This

**Figure 7.5** Age-standardised mortality for Swedish counties in the 20–59 age group.

Source: Befolkningsrörelsen (Vital statistics) 1921–30, Livslängden i Sverige. Livslängdstabeller för riket och länen (Life expectancy in Sweden) 1981–1990, Statistics Sweden.

- 4 Highest (6)
- 3 (6)
- 2 (6)
- 1 Lowest (6)



is also reflected in the differences in average life expectancy between the counties, with a span of about two years between the highest and lowest ranked during the 1990s. Mortality from cardiovascular disease is the greatest contributory cause to the differences between northern and southern Sweden, with significantly higher levels in the north than in the south. The counties of northern Sweden have also performed badly if we consider other ill-health and disease indicators such as self-rated health and number of people on long-term sick leave and disability pension. The differences in average life expectancy and mortality levels between municipalities are even greater and are clearly linked to variations in social conditions. There is a clear statistical relationship, for example, between high dependence on social assistance and low average life expectancy. Excessive mortality in metropolitan areas can be partially explained by high levels of lung cancer and alcohol-related death, which reflect differences in smoking and alcohol consumption habits [18].

Excessive mortality in the forest counties has often been explained over the last twenty or thirty years by high intakes of saturated fat in food, which have contributed to high levels of cholesterol [19, 20]. As we have seen, the unfavourable health situation in the forest counties during the interwar period was more often attributed to a calorie-deficient and unbalanced diet, based on milk and flour products and lacking in animal protein. The differences in the social and economic conditions probably constitute an important underlying factor as regards the stable trend in regional mortality, despite the dramatic social changes after the Second World War, the emergence of the modern welfare state and an improved standard of living in general. Variation in the prevalence of tuberculosis was the dominant factor behind the regional differences during the interwar period, whilst cardiovascular diseases have dominated since the end of the Second World War. A common denominator for the forest counties both in the interwar and post-war periods has been a relatively high dependence on social assistance and high levels of unemployment coupled with an unbalanced diet [21].

# Harvest time for the welfare state

Compared to countries that have been more or less directly involved in war, Sweden found itself in an economically favourable position in the immediate post-war period. The production apparatus was intact. Wood, steel and engineering products were in demand in a Europe that needed to be rebuilt. During the war years, government planning had been an essential tool, and the political left, including the social liberals, now wanted to utilise the growing resources to extend the welfare state still further. This was a question of improving the social safety-net which was already in place for the sick, disabled, unemployed, aged and families with children. The coalition government of the crisis years was dissolved and political antagonism centred on the role of the state, economic planning and the private versus public relationship. The political landscape still offered scope for new social reforms, however, before the issue of national supplementary pensions drew a clear dividing-line between left- and right-wing parties at the end of the 1950s.

Whilst the post-war British National Health Service was introduced in one single step, the Swedish health and welfare system developed in

Swedish day-care centre for children in the 1950s. The aim of these centres was to provide good child care and thus ensure equal opportunities on the labour market for men and women.

Photo: Sören Hoffman/  
SVT Bild



phases. In the 1960s in particular, there was a dramatic expansion in government-administered welfare reforms initiated and administered by the state. The Swedish welfare regime (like in other Scandinavian countries highly influenced by the social democratic parties) has, according to Gösta Esping-Andersen, been characterised by universalism, comprehensive risk coverage, generous benefit levels, egalitarianism, and explicit efforts to minimise market dependency in the welfare system [22]. Compared with other types of social welfare systems, according to this typology, the main objective of the Scandinavian system is to guarantee an equal living standard for all, while the liberal protection system is more concerned about the fight against poverty and the conservative corporatist system wants to maintain worker revenue levels. Both the northern Europe and British welfare states are principally financed by taxes, while continental and southern European systems are mainly financed by “social contributions”, for instance voluntary insurance systems. From 1950 to 1980, the percentage of the government’s revenues spent on public sector consumption rose from 11 to 34 per cent [2]. Some examples of social reforms during the post-war period are: national basic pension for all (1946), universal child benefit (1947), three weeks statutory holiday (1951), compulsory health insurance (1955), new law on public welfare replacing the old legislation on poor relief (1957) and compulsory nine-year basic education (1960). Subsequent legislation has increased the annual leave to five weeks, introduced supplementary pensions (ATP), brought down the working week to forty hours, introduced a system of housing subsidies, prolonged time for parental leave, etc. There has also been a substantial expansion of health and hospital care as well as of municipal day nursery services, facilitating the entry of women into the labour market. Health provisions (GP consultations, hospital stays, etc.) have mainly been financed by the compulsory health insurance system, and only to a small extent by charges paid by the patients. The severe economic decline at the beginning of the 1990s, however, put an end to further welfare reforms.

The construction of the modern welfare society guaranteeing basic or income-related social security to all eradicated absolute poverty and meant that no-one needed to go cold or hungry. Still however, social safety-nets favour those who have had the chance to enter the workforce, whilst they are less generous to groups who are outside it for whatever reason.

# Urbanisation, housing crisis and the “million-homes” programme

At the same time as the general level of wealth increased, society had to deal with the effects of rapid migration from rural agrarian business sectors to urban industries and the service sector. Day nurseries and other forms of day-care for children had to be established to allow mothers the opportunity to venture onto the open labour market, supplemented by the extension of the right of parents with small children to paid leave. The health service was in particular need of more resources, to a great extent as a consequence of the constant introduction of new services created by scientific and technological development.

The housing crisis that accompanied the rural-urban migrations was tackled after the Second World War through different types of financial support for new buildings and housing was subsidised for the economically disadvantaged. When the issue had gained the maximum political priority, the million-homes housing programme was initiated between 1965 and 1974 (known as “the record years”) in order to solve the problem using large-scale technology. Economically more affluent families settled in urban downtown areas or built private houses with the help of state-subsidised loans. In the larger towns and cities, less affluent wage earners ended up in what the critics referred to as suburban “concrete ghettos” with an accumulation of social problems. While the depopulation of rural areas was seen to a great extent as a necessary and positive consequence of modern society, politicians began in the 1970s to try to reduce the streams of rural migrants by using subsidies and labour market policy to prevent rural areas from becoming impoverished.

The heavily subsidised housing sector grew at a rate that made it difficult to establish socially efficient environments in some suburban areas. Inadequate facilities and poorly planned estates in some residential areas hardly facilitated social adjustment. Economic and social segregation, which is difficult to avoid without encroaching too much on people’s freedom of choice, took place. Much of the problem lay in the nature of migration itself: leaving one environment and entering another always involves the risk of a sense of not belonging and estrangement.

Swedish mortality rates rose among adult men during the 1970s. This increase was particularly evident among single and divorced men, a group that is often especially sensitive to rapid social change. As noted, this was also the case in early nineteenth century Sweden and during the unprecedented rapid urbanisation of the 1870s. According to migration research, however, those living in migrant housing areas may find new forms of social stability after a certain time. To some extent, this has happened in the oldest, established suburbs of Swedish cities.

To achieve a fair balance, especially from a health perspective, we must compare the driving forces of “the million-homes project” and the effects of urbanisation with the housing conditions that prevailed prior to and at the early stage of the major migrations of the post-war period. Even though Lubbe Nordström’s depiction of “Dirty Sweden” in the 1930s was coloured by the author’s sense of drama, it still reflected problems that had not all been solved at the end of the Second World War. The majority of city apartments had a water closet, but by no means all. The physical burden placed on housewives was considerable in the absence of household appliances, which we later have come to expect as a matter of course. In hindsight, even if certain things could have been done on a more humane scale during the “record years” around 1970, the positive benefits must also be attributed to local government officials, city planners, architects and engineers, who managed to solve the housing problem under heavy political pressure.

## Biomedical progress

The technological and scientific revolution of the twentieth century provided medicine and the health service with fresh economic resources, knowledge and instruments, at a pace unimaginable during the previous century. Primary care, hospitals and specialist clinics expanded rapidly. The laboratory and microbiology became symbols of medical progress, which now covered increasingly in-depth knowledge about the human cell and its relationship to the world around. Since the introduction of the smallpox vaccine in the early nineteenth century, only slight progress had been made and applied regarding immunity

Vaccination.

Photo: IBL bildbyrå



and the alleviation of the effects of other infections prior to the outbreak of the Second World War. The sulpha drugs and penicillin constituted in time the major breakthrough in the emergency treatment of infectious diseases. After the Second World War, new vaccines and antibiotics started to benefit the population on a large scale.

Tuberculosis, diphtheria, polio and many other infectious diseases could one by one be both prevented and cured, at least in rich countries. In the 1970s, the World Health Organization (WHO) ran a spectacular and successful campaign to rid the world of smallpox. The epidemiological revolution, it seemed, was about to be fully accomplished, at least

in rich countries. This dramatic progress, along with developments in sterilisation, anaesthesia, pain relief, sophistication of surgical methods and new medicinal drugs promised dramatic change in the balance of power between health carers and their worst enemy, disease. At the same time, many microbiologists became more cautious during the course of the last two decades of the twentieth century with their promises about infectious diseases being gone for good. This might not be the case – not even in the wealthier parts of the world.

## The health service in economic crisis

In Sweden, mortality rates have continued to fall slowly in all age groups and average life expectancy has increased during the second half of the twentieth century. Paradoxically, however, this has not led to a decrease in medical care costs. On the contrary, this social sector became supply-driven. New knowledge, new medicines and new treatment methods created new scope for curing and alleviating disease, but also brought with them constantly increasing costs and the need for care rose, despite the number of care days falling for many disorders. This is even more evident if we consider the greater need for care of an ageing population. To begin with, county councils and central government were able to employ extra resources to cope with the trend, but during the 1980s, it became clear that this was not possible in the long term. Waiting lists for clinics started to appear and the system ended up in serious crisis.

This was exacerbated by strained central government and municipal finances during the economic recession of the early 1990s. Cutbacks affected healthcare personnel, unemployment increased across the board and the number of people on long-term sick leave and disability pension eventually began to rise. The situation became very serious for Sweden's public welfare systems and the economy of the welfare state. A struggle of priorities began in the health service, in which resources for preventive measures were pitched against care activities, outpatient

care against specialist care and speciality against speciality. New solutions were demanded and tested: more care in the home and less in expensive institutions, a purchaser-provider model between different hospital units and the privatisation of some previously publicly run units concurrent with trends that also characterised other central government and municipal activities. This development received strong ideological support from liberal currents, which are critical of collective solutions and prescribe less regulation, more competition and individual responsibility.

## Occupational and environmental health risks

Industrialisation led to the work environment being highlighted as an important health issue of the twentieth century. Occupational health and health services were mainly administered separately from other public health issues, an example of the Swedish model on the labour market. As industrialisation gathered pace, factories handled increasing amounts of chemical substances as part of their production, substances that had more or less well-known effects on the natural environment and human health. In agriculture, production-enhancing chemicals supplemented manure. Petrol-powered motor vehicles replaced horses, barges and trains as the main means of transportation for goods and people. Scientific and technological research helped to introduce these new substances into the environment, the workplace, homes and food. Even the ability of science to rapidly develop new medicinal drugs proved to involve certain risks.

Increasingly, it was the task of biochemical and epidemiological research to identify environmental problems and highlight how they should be solved and monitored. In certain cases health disasters among exposed workers, such as asbestos-induced cancer and silicosis, were required before the authorities and producers began to heed the warnings from far-sighted researchers. In others, research has disseminated knowledge and been listened to before dramatic consequences ensued. The deve-

lopment of occupational medicine and industrial hygiene lagged behind in Sweden compared to earlier industrialised countries.

During the 1960s and 1970s, growing attention was paid to health and safety at work and the status and influence of local safety representatives, the National Board of Occupational Safety and Health and the Labour Inspectorate were strengthened. Since then, increasing emphasis has been attached to musculo-skeletal disorders and psychosocial problems. Evidence shows that health is negatively affected if the individual has little control over working conditions in combination with high work demands. This can lead to a greater risk of low back pain and cardiovascular disease [23]. Among the occupational groups with an increased risk of negative stress are, for example, nursing assistants, post-offices clerks, shop assistants, drivers, waiters and cooks [24].

To conclude, negative stress appears to be most common in typically female occupations in the service industry. Fatal working accidents have clearly declined as have many classical occupational diseases (such as silicosis and asbestosis), and fewer workers are now exposed to carcinogenic substances, to a large extent thanks to preventive measures. There are, however, also strong indications that rising physical demands in working life lead to increased negative stress in certain occupational groups, such as professional carers.

Occupational health and safety in Sweden have been regulated by state control and legislation (for example the Occupational Safety and Health Act of 1949 and the Working Environment Act of 1977, revised in 1991) but also to a great extent through negotiation and agreement between the Swedish Employers Confederation (SAF) and the Swedish Trade Union Confederation (LO) until the early 1990s [25].

## Swedish Public Health Institute

After years of political wrangling and inquiry, the Swedish Public Health Institute was established in 1938. With financial support from the Rockefeller Foundation, the Institute received first-class interior fittings and equipment, as did institutes in several countries at that time. Its task was to prepare and promote preventive measures, which

“focused on preserving or improving public health”. This task included investigative and research-oriented activities within the various fields of hygiene. In addition, the Institute was to provide training for various staff-members within the national health service. The Institute had a public hygiene and an industrial hygiene department as well as a food hygiene laboratory, to which a vitamin laboratory was later added. After a few years, a link was established between the occupational medicine function and the clinical activities at Karolinska Hospital in Stockholm. Toxicological activities were developed during the 1950s. The basic premise was to highlight major hygienic problems with the help of scientific measurements, which could then be eliminated by applying technical solutions. In 1956, 211 persons worked at the Institute, of whom 50 occupied official positions. Specialisation increased in time and various activities were hived off during the 1960s and integrated into other national agencies focusing on food, environmental protection, occupational safety and health. The activities of the Swedish Public Health Institute came to an end in 1971.

## Epidemiology, risk factors and health

Social medicine and epidemiology have been redesigned as modern health sciences. The international research community has described the relationship between society and health/disease in a swift current of investigations and articles. The relationship between public welfare and health was manifested when the National Medical Board (Medicinalstyrelsen) was merged with the National Board of Social Affairs (Socialstyrelsen) to become the National Board of Health and Welfare (Socialstyrelsen) in 1968. The Swedish national registration system became, along with larger and smaller registers and databases, a rich source of information for statistics-based studies. Health status and mortality among the population were surveyed with regard to a range of different variables, including age, sex, geographical location, occupation and family situation. A national cancer register helped to identify a number

of risk factors, including the significance of smoking for lung cancer. In addition to cross-sectional studies, longitudinal surveys were introduced to increase knowledge about the long-term effects of living conditions and lifestyles on health. Knowledge about how various societal factors influenced health increased; the major challenge was often to understand and explain why the various connections have arisen.

Despite all the new knowledge, a rich welfare society and health equity promotion measures, one inconvenient fact remains – class inequalities in health and life expectancy. They have varied over the centuries, but have always been there and have been particularly large in times of radical and rapid social change. As regards mortality, these inequalities have often been more visible among men than among women. This seems to be due to the fact that male social and cultural gender roles have been less adaptive to change. The male role as the strong breadwinner is threatened when it cannot be fulfilled due to restructuring and unemployment. The answer often seems to be harmful social stress or irrational reactions in the form of lifestyles that have a negative impact on health. The female gender role has shown itself through time and in many cultural contexts to be more flexible and more inclined to lifestyles that are more constructive from a health point of view.

## Restructuring the economy, social stress and health

It is generally agreed that the economic crisis of the 1990s contributed to a more insecure existence for large groups of the population. At the workplace, employers and managers were subjected to economic restrictions and tougher competition. Individual employees and trade unions were forced to put up with cutbacks. As all evidence shows, unemployment increases the risk of disease, caused not least by psychosocial factors. Greater productivity is not only achieved by means of technical improvements, but also by means of fewer people working harder, not least in personnel-intensive sectors such as healthcare and social services. The

threat of redundancy weakens employment security and the feeling of control and influence over one's own situation at the workplace. Many researchers feel that this is one of the main causes of the rise in sick leave numbers during the 1990s. Not surprisingly, higher-than-average morbidity also occurred among culturally and socially vulnerable immigrants.

Morbidity is, however, difficult to measure unequivocally. It has been suggested that the Swedes have become more inclined to worry about themselves and prefer being on sick leave to working under unsatisfactory conditions, not as a generation effect but rather a tendency affecting several age groups simultaneously. The evidence pointing to different parts of the social insurance system interacting with factors such as unemployment, oppressive working conditions, psychosocial problems and physical disease seems more conclusive, however. Various rewards in the regulatory framework and the levels of reimbursement steer individuals towards one or another part of the system.

The problem of infectious diseases, which was often linked to social structures and environmental factors, was seen as less threatening and affording less priority during the last decades of the twentieth century. Instead, the focus for public health interventions turned to cancer, cardiovascular diseases and other more or less lifestyle-oriented issues. It therefore seemed logical that most attention should be paid to individual factors and attempts to promote healthy human behaviour. This was also the major strategy when the HIV pandemic caused great anxiety. Attempts to promote safe sexual behaviour became the main preventive effort.

## Care of the body, the perfect body ideal and health as market commodities

The fact that tobacco smoking was a serious health hazard with major measurable effects on morbidity and mortality had no impact on legislation and public awareness until the late twentieth century. Before that, a calm, pipe-smoking (male) doctor often communicated his



Anti-tobacco advertisement published by "A smoke-free generation".

health advice in advertisements and information campaigns. He was superseded by anti-smoking campaigns in schools and the mass media. New legislation in public places aims to isolate the activities of smokers from the rest of the population. The image of the smoker is no longer just of a person risking his own health, but also one who is disloyal to those around him. Along with seatbelt legislation, which drastically reduced the number of car deaths, anti-smoking campaigns are another example of a successful public health measure, which in this case resulted in a spectacular decline in the number of smokers in Sweden. At the same time, however, smoking has become more associated with class, for instance with women in minor, low-paid positions. Paradoxically, many of these women work in the health service.

Even as early as the early nineteenth century, gymnastics became a recognised activity, partly motivated by health reasons, but also as training for military purposes. During the nineteenth century, the majority of the population did heavy manual work and therefore had no need for extra physical activity. The twentieth century was the century of sport, practised firstly by the middle class and later as a mass movement. Caring for one's body by means of a healthy diet and physical training was also prescribed by the medical profession. The aesthetically perfect

body symbolised by ancient Greek statues was idealised in place of the stout torso of the Baroque age or the ethereal figures of other epochs. Even in totalitarian regimes such as Nazi Germany and the Soviet Union, the perfect physical body was depicted in art and propaganda as an example of public welfare and national desire. This manifested itself not least during the Berlin Olympic Games in 1936 and in the efforts of socialist states in top-level sport after the Second World War. During the 1940s, Swedes went on marches and did early morning exercises to the sound of a rousing, sergeant-major-like voice on the radio.

Many people of post-war generations have lacked the feeling of spontaneous physical activity as a need, despite work becoming less physical for many and walking and cycling to work and the shops being replaced by car journeys. A high-calorie everyday diet was supplemented by fast food rich in sugar and fat. Swedish people became on average heavier and less fit. Parallel to this, the slender, well-trained body ideal was increasingly exploited in the mass media and advertising. Body-building, fitness training and aerobics were on offer at gymnasiums for men and women. The health spas and bathing facilities of yesteryear were reborn in modern guises. Miraculous dieting methods are presented in newspaper advertisements and health food shops are filled with more and more new products. Advertisements for foodstuffs with the lowest possible fat content fill the newspapers and shop shelves, at the same time as the National Food Administration has shown how certain commodities have unnecessary sugar additives to entice consumers. A commercially favourable future is prophesised for “functional food” with additives that are deemed to promote good health.

The preoccupation of medical research and the health service with the problems of anorexic and overweight individuals is a new chapter in human history. Too much food or a refusal to eat presupposes an overabundance of food. Physical activity and obesity are high-priority areas in the new public health objectives and we can look forward to increased action to reverse the trend. Epidemiological reports present a number of findings that identify high-risk groups based on sex, social background, health status and other factors.

Unfortunately, legitimate misgivings about the negative effects of overweight threaten to create stigmatisation as an unintended and undesirable side effect. Generalisations about those who deviate from what is considered to be healthy, based on the statistical over-representation of

certain factors, have also been made in some scientific articles. The media, too often describing “the archetypal fat person”, “the typical smoker” and other problem groups, makes things even worse, when summarising more or less substantiated and occasionally not even cause-related statistical relationships between a number of individual factors and a specific health problem. Such stereotypes often present “the typical problem person” as low-paid, low-educated with poor self-confidence, insufficient self-control and sometimes with psychological problems.

In the middle of this often confusing stream of good advice stands modern man. New and old discoveries and advice about how to preserve health, beauty and attractiveness are presented daily by media. Health is a product in demand, manufactured, packaged and offered for sale as part of an industry that is responsible for an ever-increasing share of our gross domestic product, perhaps even more so on the private market than within the publicly financed sector. We can pick and choose. This represents one of the greatest future challenges facing public health science in order to further the health of the community as well as strengthen the individual’s right and opportunities to exert personal influence on her health. It was easier for the eighteenth century provincial doctors and priests with their monopoly on expert knowledge and preferential right of interpretation to communicate the right way to good health.

## Swedish public health in a global individualistic world

A full-scale account of the public health history of the last sixty years would need a book of its own. It represents the zenith of classic industrial society, which has been superseded by the structural transformation of the business sector, the financial crisis of public welfare systems, an ideological conflict between civil liberties and collective solutions, the waning power of national politics concurrently with the globalisation of financial capital and trade and the formation of international bodies with the right to intervene in national decisions, including those made

in the area of social policy. But it is also about what has been – at least during an optimistic period – experienced as the finale of epidemiological transition in the rich countries of the world. We have left behind us a past, where infectious diseases posed the biggest threat to health, and entered an era in which new complaints were seen as the most important tasks for public health interventions, above all cardiovascular diseases and cancer. In the light of HIV, an increasing multi-resistance of the TB virus and the behaviour of other aggressive micro-organisms, there are prominent representatives of microbiology, however, who warn that the battle against infections is not yet won. Even rich countries can find themselves facing the same plight as the poorest parts of the world, which have yet to undergo epidemiological transition. The latter are nowadays often hit both by health problems associated with poverty and by the lifestyle diseases of industrialised countries.

The years after the turn of the millennium have seen overweight, physical inactivity, drugs and other lifestyle factors become the focus of concrete public health policy measures in the industrialised world, as they are the primary causes of premature death. The same issues also dominate the problem scenarios and competence building incorporated in the majority of practical training courses aimed at future public health analysts and practitioners. The focus has intensified on the health behaviour of certain groups and individuals. At the same time, traditional paternalism is no longer accepted, a fact that the international public health science community is trying to resolve through what it likes to call “The New Public Health”. The key word is now empowerment – individuals need to be given more scope to influence their health themselves. Swedish public health plans for the new millennium emphasise the significance of identifying and influencing structural factors. Finding ways of influencing society’s structures is, however, with the hindsight of history, the most difficult problem facing public health policy-makers. When singling out concrete methods for reaching overarching health aims, individually oriented, regulated and behaviour-influencing interventions are most common. At the same time, structural conditions, both economic and social, have throughout history been the most powerful health determinants. Such conditions are best influenced through economic and welfare policies.

# A comprehensive Swedish public health policy

A comprehensive Swedish public health policy was adopted by the Swedish Parliament, the Riksdag, in April 2003 [26]. It pushes health up on the political agenda and affords equity in health high priority. The overall aim of the policy is to “*create societal conditions for good health on equal terms for the whole population*”. To help achieve this aim through multi-sectoral efforts, the Government has established eleven “domains of objectives” (areas of determinants of public health where efforts are to be concentrated):

1. Participation and influence in society
2. Economic and social security
3. Secure and favourable conditions during childhood and adolescence
4. Healthier working life
5. Healthy and safe environments and products
6. A more health-promoting health service
7. Effective protection against communicable diseases
8. Safe sexuality and a good reproductive health
9. Increased physical activity
10. Good eating habits and safe food
11. Reduced use of tobacco and alcohol, a society free from illicit drugs and doping, and a reduction in harmful effects of excessive gambling.

The basis for this policy can be traced back to measures within different policy areas that have been put forward in the Swedish history of public health. One important aspect has been an increasing concern about inequity in health. Considerable inequities in health were recognised in the 1980's together with a growing knowledge that modern high tech medical care was not dealing well with the major health problems arising from lifestyles and environmental factors. In 1987 the Government appointed a high-level task force of officials and scientists, the Public Health Group, to develop a national public health strategy which

would not only promote increased equity in health but integrate public health with the general welfare policy system. The task force proposed among other things a new governmental authority, the Swedish National Institute of Public Health, to direct health promotion and disease prevention activities at the national level. The Institute was set up in 1992.

In 1997 the Government appointed a National Committee for Public Health. It was made up of members of all the parliamentary parties as well as experts both from central government agencies and various other authorities and sectors in society – the research community, labour market and organisations representing older people, immigrants and the disabled. The main task for the committee was to draft proposals for national public health objectives and suggest strategies to guide intersectoral public health work. A second task was to “politicise” the public health issue, i.e. raise awareness and put public health issues high up on the political agenda, especially in relation to Sweden’s municipalities and county councils. The committee submitted a final report in 2000 called *Health on Equal Terms – National Goals for Public Health*. This report, with objectives and targets focusing health determinants, was to become the foundation of the Government’s public health bill.

According to the bill, many actors on all levels of society are responsible for the implementation of the new comprehensive public health policy. Central government agencies, whose tasks and activities have a direct impact on public health, are obliged to consider the effects of and monitor their work. Municipalities (n=290) and county councils (n=21) have their own tax-levying powers and a significant degree of autonomy vis-à-vis the state. For them, the eleven domains of objectives, according to the Government, “show how their activities can be incorporated to help achieve the overall national public health aim”.

A national steering committee, under the leadership of the Minister of Public Health and Directors-General of the agencies concerned, has been established to improve coordination on the national, regional and local level. The Swedish National Institute of Public Health is responsible for monitoring and coordinating the implementation of the national public health policy. The institute is also a national centre of excellence for the development and dissemination of methods and strategies in the field of public health, and exercises supervision in the areas of alcohol, illicit drugs and tobacco.

As part of its role to monitor the public health policy, the Swedish National Institute of Public Health is working with descriptive and

analytical reports focusing on both the development of health determinants and actions to promote health. A Public Health Policy Report was submitted to the Government in 2005 and a new one will be produced within the next few years. The aim of the reports is to provide an effective way for the Government to communicate with the Riksdag regarding public health issues.

“The 2005 Public Health Policy Report” shows time-series data for 42 important health determinants and describes the actions taken during the 2003-2005 period by 30 central and regional state agencies, the 21 county councils and 239 out of the 290 municipalities. In the report, the Swedish National Institute of Public Health puts forward 29 priority proposals related to health threats in the areas of mental ill-health, working life, air pollution and accidents, communicable diseases, overweight and physical activity, tobacco, alcohol, violence against women and inequalities in health. There are also 13 proposals aimed at improving public health interventions, including the involvement of more actors, better coordination of regional public health work and more support to municipalities in the form of different competences within the field of public health [27].

## Health – a field of compromise

Epidemiology, biology, chemistry and other natural sciences became the cornerstones of knowledge needed to overcome health risks. But the issues are multi-dimensional. Political, economic and other factors are influential components of these complex problems. Conflicts easily arise between what are considered the interests of the whole population and the right to individual integrity and freedom. Economic gains and losses are weighed against estimated dangers that may affect the natural environment and human health. Regarding atmospheric pollution, global warming and ozone depletion, individual measures in different parts of the world are insufficient, almost meaningless other than as examples encouraging further action. A national public health policy can be pursued less and less in isolation from the surrounding world. All actors must participate in close cohesion. In the worst case scenario,

this may lead to compromise among different interests, in which long-term effects on public health pale somewhat in significance. The consequences of EU membership for Swedish alcohol policy represent a prime example of this conflict.

## Summary: Harvest time for welfare policy

The decades after the Second World War have been described as a “harvest time” for Swedish welfare policies. The most active agents of reform were found among left-wing and social-liberal politicians but most welfare reforms were gradually accepted on the wider political spectrum. The systems for social security and healthcare were further improved to deal with all vulnerable life situations. Some of these systems were organised not only nationally but also on a local community level. The positive contributions of medical technology to people’s health and survival were more evident than previously. Continuous economic growth, enhanced by the fact that Sweden had avoided the devastating effects of war, was of course a factor that helped to bring down mortality figures.

From the 1950s and onwards, the engagement of the working population in industrial production and services accelerated and, consequentially, a decline in rural jobs created massive migration into urban areas. Industrial life meant better paid jobs and wealthier lives. The shift from rural to urban lifestyles may, however, also explain why mortality ceased to decline for some decades among middle-aged men and even increased for unmarried men. These men also belonged to the first generations of heavy cigarette smokers and had easier access to alcohol due to more lenient restrictions. After the peak, the male mortality hump disappeared, to be replaced by a new decline, which narrowed the gender gap during the last decades of the twentieth century.

During the post-war period, deaths caused by chronic diseases, such as cardiovascular problems and lung cancer, increased in numbers and share of total mortality. This is one logical reason why the focus of

public health discourse became more concentrated on individual lifestyles. Following a tradition that had already started before the Second World War<sup>1</sup>, information and other interventions in schools and media giving advice on social issues and healthier lifestyles became popular instruments for change. The most successful of these campaigns was undoubtedly that directed against tobacco smoking. Later, the growing percentage of overweight people, even in the youngest generation, and the anticipated negative health effects of a less restrictive regulation of cheap alcohol following Sweden's entry into the European Union in 1995, resulted in similar public health interventions. This concentration on individual behaviour is understandable due to the fact that behaviour is an active agent in many of the modern "welfare diseases". At the same time, the need to protect the individual's dignity, self-respect and autonomy can be jeopardised if certain groups are labelled and stigmatised.

Simultaneously, mental complaints became a growing concern for the national insurance and healthcare systems. Scientific studies indicated a relationship between these problems and psychosocial life conditions at work and elsewhere. Links were seen to exist between psychosocial stress caused by working conditions, unemployment, etc. and a spectrum of negative biomedical responses, such as cardiovascular disease and diabetes. These findings and other evidence have been used to argue that campaigns against unhealthy individual lifestyles must not exclude continued attention to structural factors in society and health.

## Reference list

1. Guteland G, Holmberg I, Hägerstrand T, Karlqvist A, Rundblad B. *Ett folks biografi: befolkning och samhälle från historia till framtid* [The biography of a people – past and future population changes]. Stockholm: Liber; 1983.
2. Magnusson L. *An economic history of Sweden*. London: New York: Routledge; 2000.

---

1. On the role of the radio as a new channel for communication of advice in all types of social issues, see for instance Seifarth 2007 [28].

3. Carlsson G. Liv och hälsa: en kartläggning av hälsoutvecklingen i Sverige [Life and health: mapping the health development in Sweden]. Stockholm: Liber förlag; 1979.
4. Preston SH, Keyfitz N, Schoen R. Causes of death: life tables for national populations. New York: Seminar Press; 1972.
5. Högberg U. Maternal mortality in Sweden. Diss. Umeå: Umeå University; 1985.
6. Hemström Ö. Biologiska förutsättningar och sociala förhållanden: hypoteser om könsskillnader i dödlighet [Biological and social conditions: hypotheses on gender differences in mortality]. In: Östlin P, Danielsson M, Diderichsen F, Härenstam A, Lindberg G, eds. Kön och ohälsa: en antologi om könsskillnader ur ett folkhälsoperspektiv [Gender and ill-health: an anthology of gender inequalities from a public health perspective]. Lund: Studentlitteratur; 1996.
7. Nordlund A. Tobaksrökning och hälsa i Sverige under 1900-talet [Smoking and health in Sweden during the 20th century]. In: Sundin J, Hogstedt C, Lindberg J, Moberg H, eds. Svenska folkets hälsa i historiskt perspektiv. Stockholm: Swedish National Institute of Public Health; 2005.
8. Sundin J, Willner S. Social stress, socialt kapital och hälsa: välfärd och samhällsförändring i historia och nutid [Social stress, social capital and health: welfare and social change in past and present]. In: Sundin J, Willner S, eds. Samhällsförändring och hälsa: olika forskarperspektiv [Social change and health: different research perspectives]. Stockholm: Institute for Futures Studies; 2003.
9. Diderichsen F, Hallqvist J. Trends in occupational mortality among middle-aged men in Sweden 1961-1990. *International Journal of Epidemiology* 1997;4:782-7.
10. Socialvetenskapliga forskningsrådet. Ojämlighet i hälsa: ett nationellt forskningsprogram [Inequality in health: a national research programme]. Stockholm: SFR; 1998.
11. Persson G, Danielsson M, Rosén M, Alexandersson K, Lundberg O, Lundgren B et al, eds. Health in Sweden – The National Public Health Report 2005. *Scandinavian Journal of Public Health* 2006;34(Suppl 67).
12. SOU [Official Government Report] 2000:91. Hälsa på lika villkor – nationella mål för folkhälsan [Health on equal terms – national goals for public health]. Available in English in: *Scandinavian Journal of Public Health* 2001;29(Suppl 57)
13. Marmot M, Wilkinson R, eds. Social determinants of health. Oxford: Oxford University Press; 2006.
14. Lynch JW, Smith GD, Kaplan GA, House JS. Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions. *BMJ* 2000;320:1200-1204.
15. Kunst AE, Groenhof, Mackenbach JP. Mortality by occupational class among men 30-64 years in 11 European countries: EU Working Group on socioeconomic inequalities in health. *Social Science Medicine* 1998;11:1459-76.

16. Kuh D, Ben-Shlomo Y, eds. A life course approach to chronic disease epidemiology. Oxford: Oxford University Press; 2004.
17. Fritzell J, Lundberg O, eds. Health inequalities and welfare resources: continuity and change in Sweden. Bristol: The Policy Press; 2007.
18. Molarius A, Janson S. Regionala skillnader i medellivslängd i Sverige [Regional differences in life expectancy in Sweden]. *Läkartidningen* 2001;10:1084-9.
19. Rosén M. Epidemiology in planning for health. Diss. Umeå: Umeå University; 1987.
20. EpC-rapport 1997:1. Riskfaktorer för hjärt-kärlsjukdom – regionala och sociala skillnader i Sverige [Risk factors for cardiovascular diseases – regional and social differences in Sweden]. Stockholm: National Board of Health and Welfare, Swedish National Institute of Public Health; 1997.
21. Willner S. Det regionala dödlighetsmönstret i Sverige från jordbrukarsamhälle till det postindustriella samhället [The regional mortality pattern in Sweden from agricultural society to the post-industrial society]. In: Nordin I, ed. *Rapporter från hälsans provinser: en jubileumsantologi* [Reports from “good-health provinces”: a commemorative anthology]. Linköping: Tema Hälsa och samhälle, Linköping University; 2004.
22. Esping-Andersen G. Social foundations of post-industrial economies. Oxford: Oxford University Press; 1999.
23. Theorell T, Karasek R. The demand-control-support model and CVD. In Schnall et al, eds. *The workplace and cardiovascular disease*. Philadelphia: Hanley & Belfus; 2000.
24. Järvholm B, ed. *Working life and health: a Swedish survey*. Solna: Swedish National Board of Occupational Safety and Health; Stockholm: Swedish Council for Work Life Research; 1996.
25. Thörnquist A. Arbetarskydd och samhällsförändring i Sverige 1850-2005 [Occupational safety and social change in Sweden 1850-2005]. In: Sundin J, Hogstedt C, Lindberg J, Moberg H, eds. *Svenska folkets hälsa i historiskt perspektiv* [The health of the Swedish people in a historical perspective]. Stockholm: Swedish National Institute of Public Health; 2005.
26. Hogstedt C, Lundgren B, Moberg H, Pettersson B, Ågren G, eds. *The Swedish Public Health Policy and the National Institute of Public Health*. *Scandinavian Journal of Public Health* 2004;32(Suppl 64).
27. Statens folkhälsoinstitut. *Folkhälsopolitisk rapport 2005* (The 2005 Public Health Policy Report). Stockholm: Statens folkhälsoinstitut; 2005. A summary in English can be found on the web: [http://www.fhi.se/templates/Page\\_6725.aspx](http://www.fhi.se/templates/Page_6725.aspx)
28. Seifarth S. Råd i radion: modernisering, allmänhet och expertis 1939-1968. [Advice on the radio: modernisation, general public and expertise 1939-1968] Diss. Linköping: Linköping University; 2007.





# Introduction

**Page 212:** Health care clinic in Gambia.

Photo: Sean Sprague/  
Phoenix

**Page 213:**

Photo: Photos.com

The interplay between a society and its people's health makes a fascinating but challenging history. Attention must be paid to a number of fields ranging from medicine and science, economic, political and social factors to culture and psychosocial conditions. Obviously, an in-depth knowledge of such a range of fields cannot be expected from the authors of this book. We have, however, been aware of the challenge, and have not shied away from attempting to identify some of the most obvious aspects of health and social change in a broader context. Conditions for health are constantly changing, which makes it difficult to formulate solid "laws" and wide-ranging general theories, which would be valid independent of their historical context. Comparison between societies, in different periods and different geographical areas and dissimilar in many other important ways, is even more hazardous. And yet, in this chapter, we will attempt to highlight some themes, patterns and processes over 250 years of Swedish history, which may give further food for thought and reflection on the basic conditions for the health of populations.

## Social determinants and health – a Swedish example<sup>1</sup>

Throughout the last 250 years, one factor stands out as differentiating health within a population, namely the effect of socioeconomic stratification. It is therefore time to summarise how this pattern has presented itself in different periods.

As usual in historical investigations, we must rely on evidence regarding the absolute opposite of health. Swedish demographic data in general is as good as can be asked for concerning the time-span (from 1749 and onwards), particularly in providing mortality rates for age,

---

1. A more extensive discussion on the Swedish history of social determinants and health is forthcoming in Sundin J and Willner S 2008 [1].

gender and contemporarily diagnosed causes of death. However, the social distribution of deaths has not been well represented historically in the national data sets. Lack of knowledge on this important factor is probably a product of the limited interest among authorities and scientists in the past. Unlike for instance Great Britain, public statistics on mortality by socioeconomic group came to the fore comparatively late in Sweden. The issue did, however, receive increased attention from the late 1960s and onwards, when it was obvious that social inequalities had not been eradicated by the welfare project [2]. This was also demonstrated in a series of public reports on the relationship between economic resources and welfare [3]. Similar British evidence in the famous Black Report [4] stimulated Swedish researchers to continue studying the connection between wealth and health.

As seen in previous chapters, social resources have had a constant impact on mortality figures. The commonest way of identifying and measuring social determinants is the use of statistical data on social group or “class”, the term varying depending on research traditions. This concept is usually expressed by variables on occupation, income and/or educational level. Material resources, working conditions and knowledge influence an individual’s potential for a good life. Occupation and education may also be a proxy for collective cultural patterns that are good or bad for health. In addition, empirical studies usually confirm that these variables are correlated with health or ill-health.

Yet, not all of the complex mechanisms behind these correlations are known. Modern studies have introduced psychosocial theories, for instance about status and satisfaction at work, and concepts such as social capital, in order to go beyond purely material resources in understanding how social factors work [5]. In historical studies, data on such factors are hard to find, which does not of course mean that they may not have been important. They could be at least part of the explanatory discussion.

There are, however, additional perspectives that throw more light on social mechanisms. Men and women live under significantly different conditions, which usually manifest themselves in different health outcomes within the same “class”. Social circumstances and the organisation of collective welfare systems can affect health differently in different age groups, making total life expectancy a rather crude indicator of the causes behind class differences. Belonging to primary groups such as the traditional family or less formal conjugal unions is positively

correlated with health. “Ecological” factors are also important, i.e. material and cultural conditions in a certain place at a certain time. All these factors are of course interrelated and correlated to each other. Hence, “class” and conventional “social groups” should not be looked at in isolation. As far as the scattered data allow, gender, age, civil status and geographical locality have been factored in.

## MATERIAL RESOURCES AND PUBLIC HEALTH

Reasonable access to purely *material resources* is one of the obvious positive assets. Without detailed evidence, we may still assume that this was also the case before the great mortality decline. However, as we saw in Sweden, high levels of exposure to all types of infections made premature death “democratic” and hard to escape. High population density and intensive human association were dangerous threats to life. *Where* you were living was many times more important than *who* you were.

As seen, for instance in Chapter 6, overwhelming evidence from historical research shows that Thomas McKeown’s thesis in its general form, that improved nutrition is the primary reason for the long-term decline of mortality in Europe, cannot be sustained. On the other hand, basic access to food and other necessary commodities was of course important. Before the last three decades of the nineteenth century, years of bad harvests and famine threatened the health and lives of the poor. During that century, poor people in rapidly growing cities lived in overcrowded housing and hygienically dangerous environments. These factors are also apparent in studies of Swedish regional mortality. Local customs may explain certain geographical patterns but once population density ceased to be the dominant factor, indicators of material wealth became more visibly correlated with life expectancy.

*Social group* as a concept encapsulates income and wealth, but cultural resources like education and social capital, are also correlated with survival rates. The strength of its impact does, however, depend on specific circumstances at a given place and time. Before the nineteenth-century decline, Swedish infant and child mortality rates were, by western European standards, relatively high in all social groups. Once the decline started, social group (both as a material and a cultural factor) became more important. Public health advice and campaigns, be they for breast-feeding, better personal and environmental hygiene or smallpox vaccination, were usually accepted earlier among the urban



A farmhand's family kitchen in southern Sweden in 1938.

Photo: Otto Ohm/  
IBL bildbyrå

middle class than among craftsmen and workers. Differences in material resources were perhaps less important than the readiness to accept new advice and tools. In parts of the countryside, relatively wealthy farmers' wives were less prepared than other groups to change their breast-feeding habits. Yet, after a short time lag, infant mortality figures started to decline in all social groups except among illegitimate children.

*Social group* became more important again, when poor housing conditions helped to spread childhood infections in the period of rapid urbanisation during the second half of the nineteenth century. Income was negatively correlated with infant mortality as late as during the interwar period. For infants and children, we may conclude that social group may have had its strongest effects on survival either when social conditions were particularly hard for the less wealthy or when socially established groups had the resources to apply new knowledge and attitudes more rapidly for the preservation of their children's health.

## GENDER AND HEALTH

Understanding the mortality of adult generations requires the analysis of social group in relation to the impact of *gender*. Where data are available, we find that female mortality is often less sensitive to class differences, not least during periods of profound social change. This is shown in a few case studies from the nineteenth century and – most of the time – for later periods in Swedish history.<sup>2</sup> Obviously, this cannot be an effect of purely economic factors. The average income of women has always been less than that of men in all social groups. Work-related health problems have of course existed for certain male occupational groups but they cannot explain the different outcome between the two sexes to any great extent. Nor should we underestimate the physical health risks for previous generations of working-class women.

The variation over time of adult male surplus mortality indicates that the high ratio is not only caused by constant genetic, biological factors. Instead, we must look for socially defined and practised gender roles, including different rights, duties, behaviours and probably also gender-specific psychological reactions to different conditions and demands. This includes the empirically proven fact that men tend to be allowed, and allow themselves, to become more involved in unhealthy behaviour, taking higher risks in potentially dangerous situations and using unhealthy drugs more frequently. On the other hand, women are stereotyped as less aggressive and more ready to endure setbacks, a social role they have sometimes proved to be more able to live up to in certain ways. Male status has also traditionally been defined by active and successful participation on the labour market and being the family's major breadwinner. Hence, we may understand men's vulnerability to rapid social change when these roles are threatened or cannot be fulfilled. Whether this pattern will remain in a society where gender roles still exist but are becoming less evident inside and outside the labour market remains to be seen. Recent reports in the Swedish media are, for instance, claiming that the health of women in certain occupational groups was particularly affected by the economic recession of the 1990s.

---

2. A recent example of gender differences is the astonishing mortality among Russian men after 1989. See for instance: Shkolnikov et al. 2004 [6].

## SOCIAL CAPITAL AND HEALTH

In modern research, social networks and *social capital* are often shown to be important resources for good health. As indicated in Chapter 1, these concepts have been seen as resources for individuals, groups or societies as a whole. This was probably also the case in previous societies. In a quantitative sense, men do tend for instance to have as many friends and participate in as many networks as women. Qualitatively, however, things may sometimes be different. Micro-studies from early nineteenth century Swedish cities show that poor single mothers and widows often lived together under the same roof and provided mutual assistance to each other. Old widows could, for instance, be babysitters while younger mothers were out at work. The young mothers could, on the other hand, help the widows with physically difficult everyday tasks. Male networks were of course not always negative for their well-being, but the time men spent at drinking houses was not necessarily positive for their survival.

Looking at the three different types of social capital identified in Chapter 1, we have seen that “*bonding social capital*” within networks of equals was a necessary asset in traditional society in which most people had few material resources. Neighbours, craftsmen’s guilds and other networks would often help their members in times of need. For “outsiders” who did not belong to such a network, every misfortune could be fatal. By the end of the nineteenth century, new religious associations, and the temperance movement, created “*bridging social capital*” across social boundaries and often also provided “*linking social capital*”, a way for the “haves” to give to the “have-nots”. Poor relief provided by local institutions centuries ago can of course also be seen as such an example. In the twentieth century welfare state, linking social capital became an institutionalised cornerstone.

## THE VULNERABLE SINGLE MAN

The link between male surplus mortality and alcohol was strong during the early nineteenth century. *Marital status* is an intervening factor making this pattern visible. During the industrial boom and rapid urbanisation in late nineteenth century Sweden, there is a clear correlation between the general level of alcohol consumption and mortality among middle aged unmarried men in urban areas. In contrast with the previous period, this “hump” cannot be explained by deteriorating

working conditions or reduced access to steady jobs. It is rather an expression of slackened social control in an urban milieu with many temptations. At the same time, there was a sharp decline in overall male mortality, caused by better living conditions, more stable family situations and a stronger code of “decency” within the working class itself. Consequently, class differences in mortality became less evident among adult men in at least one major industrial area in the north in the late nineteenth century.

Since the end of the nineteenth century, secular mortality rates have declined steadily in all adult groups and in both sexes independent of marital status. However, as we have seen, middle-aged male life expectancy stagnated during the 1970s. As a social determinant of health, marital status by gender is in certain contexts highly sensitive to social change both in better and worse times, notwithstanding the striking class differences in mortality between rich and poor residential areas, as for instance is still documented in Stockholm.

#### SOCIAL DIFFERENTIALS AND HEALTH BEFORE THE EPIDEMIOLOGICAL TRANSITION

Summarising the major findings concerning social determinants and health in Swedish history, periods with certain characteristics stand out. During the era of ravaging epidemics and infectious diseases, population density and exposure to infections were the primary causes of mortality differences, both for children and adults. However, the poor suffered more than others during mortality peaks caused by harvest failures and subsistence crises. Generally, infant mortality was not differentiated between social layers, but children of mothers without husband or supportive networks were extremely vulnerable, with mortality rates up to and above 50 per cent during their first year of life.

#### THE NINETEENTH-CENTURY MORTALITY DECLINE

Population density became a less powerful factor for mortality with the decline of epidemics and infectious diseases in the nineteenth century, even if cities continued to report the highest rates. The mortality decline started among children and adult women and came later among adult men and the oldest age group. At the same time, socioeconomic factors became more visible in the death statistics, among children

partly due to sociocultural lags in the adaptation of better childcare habits, including breast-feeding and smallpox vaccination. Among middle-aged men, the socioeconomic differential seemed to be strong and the resulting high male/female mortality ratio was evident in all major causes of death.

### THE INDUSTRIAL BOOM (C. 1870–1900)

All ages and both sexes benefited from a substantial mortality decline during the second half of the nineteenth century concurrent with the rapid industrialisation of the country. However, in the beginning and particularly during the most hectic economic boom in the 1870s, environmental problems emerged in the cities' immigrant areas, which for a while increased the social differential among children. High mortality was registered among urban unmarried men, tempted by anonymous urban lifestyles, but after a couple of decades this pattern became weaker. Sanitation programmes had begun to take effect, migration had slowed, family-building started earlier in life, living conditions improved steadily and industrial work demanded more disciplined labour. Trade unions, temperance movements and “free churches” contributed to the emergence of “the orderly workers”.

### TWENTIETH-CENTURY MORTALITY DECLINE WITH REMAINING SOCIAL DIFFERENTIALS

Mortality continued to decline for all ages and social groups from the end of the nineteenth century onwards. Still, in spite of a developed welfare state, significant social differentials in health remain in Sweden: between occupational and educational groups, between men and women and between married and unmarried men. There is also a difference of several years in life expectancy between socially segregated residential areas in the major cities.

# Health and the response of society

An official committee report on Swedish public health policy, adopted by the Swedish Riksdag in 2003, underlines the importance of structural economic and social factors for the health of the population [7, 8]. As we have seen, such a conclusion is supported by empirical findings. The social, cultural and economic situation in each historical period does, to a great extent, determine the conditions for welfare and health. But structures are not merely the product of an invisible hand outside the control or influence of human action.

The refusal to accept deterministic interpretations of our life conditions, whether as an effect of God's mysterious will or caused by Chance, was an important contribution of the Enlightenment era. Its belief in scientific empirical observation and reason, coupled with economic arguments and the political wish for a large and healthy population, were ideological foundations for a proactive state with an interest in public health. Compared with the "scientific" and "objective" language of reports from the twentieth century, a more emotional, compassionate tone towards suffering human beings can be found among some eighteenth-century writers. Hence, in addition to economic arguments, such concerns were also raised by those who advocated interventions to prevent disease and premature death.

The first direct collective public health interventions in Sweden were implemented to combat plague in the seventeenth century. Inoculation against smallpox was recommended by the medical profession during the eighteenth century but did not become a universally efficient weapon against the disease. Edward Jenner's vaccination method, implemented and executed by local agents during the early nineteenth century, was, on the other hand, a striking success with great symbolic importance for the authority of medical doctors. It did have positive synergy effects on the same profession's promotion of breast-feeding and hygiene during the nineteenth century.

## PUBLIC HEALTH AND LOCAL COMMUNITIES

It has been said that Swedes seem to be surprisingly obedient to messages and proclamations from public authorities and more prone to accept collectivism than to protect individual rights and freedom. We have no reason to involve ourselves too deeply in this debate, but a related issue concerns the reasons why, for instance, the nineteenth-century public health campaigns met with relatively little resistance from the general public. In a comparative European perspective, the successful introduction of mass vaccination against smallpox can be said to be one of these examples. Within the first decade of the century, this innovation had spread to most parts of the country to the benefit of the new generation of young children.

The leading advocates of the vaccination were of course found among the medical doctors but, in order to be successful, the message had to be accepted by the local administration and the population. This must to a considerable extent be ascribed to the organisation of local affairs and the, mostly flexible, communication between these bodies and external authorities. The local priest had traditionally been the key figure acting as a mediator between the central state and the common people. An organisational framework for the implementation of the vaccination campaigns was therefore already in place, ensuring that they worked, for the most part, very smoothly enough.

Other public health initiatives were not so easily introduced and accepted. The propaganda for breast-feeding had to overcome long-lasting cultural traditions, and the benefits of hygienic reforms in the cities were not at all self-evident to their inhabitants. The visible and immediate success of mass vaccination did of course strengthen the professional authority of medicine. A period (sometimes stretching over several decades) of patient persuasion was, however, also usually needed before other advice and proposals were accepted by a political majority. In the end however, conservative peasants accepted the advice of the publicly trained midwives over that of the traditional wise women, their wives started to breast-feed newborn babies more consistently and townsmen started to keep the cities cleaner. Other examples can very well be found where people were less ready to listen to proclamations from experts and representatives of the state. When handled skilfully, however, such negotiations did make a successful contribution to public health.

## EARLY NINETEENTH CENTURY: THE UNSOLVED SOCIAL ISSUE

In the local communities, the traditional primary welfare system rested upon family and kin, complemented by some minimal support from local funds to the “deserving poor”. For those who had this form of minimal “social capital”, some support could be expected in times of utter need. Other “outsiders”, without family or friends, perhaps even with a bad social reputation, found themselves in precarious situations. The state’s and local communities’ responsibility for the weakest members of society was extremely limited before their material resources had grown and other ideologies emerged during the nineteenth century.

The weakness of this patchy collective protection of the poor was demonstrated during the great transformation of traditional agricultural society that occurred in Sweden during the first half of the nineteenth century. The population grew rapidly and, without any significant industrialisation that created new jobs, unemployment and under-employment became the fate of a large part of the new generations of Swedes. While voices were raised arguing for social reform, the dominant policy was primarily concentrated on controlling this new, socially dangerous class of paupers, vagrants and prostitutes presumed to be sources of contagious venereal disease. The size of the problem became an impetus for local administrations to try and get rid of the growing number of “non-deserving” individuals claiming support from meagre poverty relief funds. The state responded by promulgating more severe laws against vagrancy and building houses for compulsory work, a method that was too expensive and inefficient to turn the tide.

Hence, while conscious policies may have helped to improve health and increase life expectancy for women and children from the beginning of the nineteenth century, we have seen that the same thing did not happen for middle-aged men. For them, their plight was a combined product of the social context and gender aspects.

## INDUSTRIALISATION AND PUBLIC HEALTH POLICY

Industrialisation was rapid during the last three decades of the nineteenth century. In spite of years of recession, in the long run this meant more jobs, safer incomes for the workers and more local and national resources in the public sphere. While industry was still unable to

absorb whole generations of new workers, mass emigration to North America helped to limit unemployment figures. Emigration might also have strengthened the bargaining power for better wages and working conditions of those staying in Sweden. Throughout the nineteenth century, politics continued to be the domain of wealthy minorities, providing little scope for the landless and the growing number of industrial workers to influence either local or national affairs.

During the second half of the nineteenth century, local urban institutions made their most spectacular contributions to health by slowly creating cleaner cities, particularly by the introduction of pipelines for freshwater provision and sewage disposal. Representatives of the medical profession did their part, arguing for reforms, although matters of convenience and comfort may have been even more important for these technical innovations. The state issued laws and regulations and organised systems of inspection but, in the end, the decisive factor was the willingness of urban middle-class taxpayers to accept and take the practical consequences. Even alcohol regulations were in practice frequently introduced on a local level.

To begin with, industrialisation and urbanisation resulted in a situation where the majority of citizens did not have a formal say in politics and public affairs. The emergence of multiple voluntary associations – temperance movements, “free churches”, trade unions and the workers’ political organisations – signifies the perceived necessity to fill the vacuum left in the absence of the traditional agrarian ancient regime. Helping brothers and sisters in need became one of the imperatives of religious associations and welfare arrangements, just as social security benefits for the unemployed and the sick were started by the workers themselves. These initiatives became prototypes for the building of a democratic welfare state after the First World War.

## THE “PEOPLE’S HOME” AND THE WELFARE STATE

Even if medical science and institutions have played an important role in prolonging life expectancy during the twentieth century, the general welfare system must be seen as the primary agent for a healthier life. Ideas about the welfare state were, of course, not uniquely Swedish but manifested themselves in a variety of ways, moulded by the different national contexts. In Sweden, *Folkhemmet*, the “People’s Home” as described in 1928, continued to be seen as the ideal society up until the

“The people’s home”.

Photo: Sydsvenskan/  
IBL bildbyrå



end of the twentieth century; more and more public resources were allocated in order to give all citizens a materially safe life and good healthcare from the cradle to the grave. Numerous reforms codified in national legislation are milestones in this process, while proposals for reform often emanated from initiatives taken by voluntary associations or politicians representing demands and needs felt in local communities.

Instead of only being a product of social engineering exclusively implemented from the top of the nation state, the welfare state in practice is the result of imports of models from abroad, national policy and legislation and negotiation between local and central interests. Many practical models were first adapted and tested locally, becoming national legislation at a later stage. Supervised by national laws, regulation and control, regional and local political bodies became and still are the chief administrators of the public system for welfare and health in

Sweden, including the right to levy taxes for its funding. So, in conclusion, the historical evidence tells us that promoting public health and welfare has been and is still to a great extent a local concern. The ability of society as a whole to collaborate with international bodies and to communicate at the local level, and the ability of institutions on all levels to communicate with, be trusted by and identify the needs of their citizens, will decide a society's potential to promote health.

## Health and social change

Early modern society did not offer the majority of its members much physical security: people had to live according to the collective norms in order to be accepted and given support in times of need. It did, however, also mean that life was in certain respects easier than in a more individualistic world, where people have to choose between alternative life-plans, which may or may not become reality. Being born into a farmer's or a craftsman's family would, for instance, usually mean membership of that social group for those who were lucky enough to survive childhood without serious physical handicap.

### PRE-INDUSTRIAL TRANSITION

For a growing number in each new generation, this social system changed by the beginning of the nineteenth century. The early nineteenth-century Swedish mortality crisis among adult men was no doubt connected to socioeconomic changes. Politically, Sweden experienced a peaceful coup d'état in 1809, but social problems were never of such a magnitude that they threatened the political establishment, and Parliament was reformed in the 1860s, giving the majority voice to the wealthier farmers and the growing middle-class. Although the state and local communities were capable of introducing reforms that improved the health of children and women, they had neither the economic resources nor the political will to give adequate help to the growing proletariat, a fact that was detrimental to the health of adult men. The results have been described in Chapter 4.

## INDUSTRIALISATION

### – SHORT-TERM PROBLEMS AND LONG-TERM PROFITS

From the middle of the nineteenth century, industrialisation meant a new type of change, which also had certain negative effects on the health of those moving from the countryside to crowded and, from a sanitary perspective, poor housing in cities and other industrial areas. The effects are seen in the mortality figures of the last decades of the century. Tuberculosis and other infectious diseases thrived in primitive lodgings and workplaces. As we have seen, however, the hygienic situation eventually improved and early family-building had a stabilising effect, which was also reflected in the mortality figures for middle-aged men.

The emerging popular movements provided new social networks for the working class, offering a sense of coherence and collective social protection. Trade unions can of course be seen as producers of bonding social capital. “Free churches” and the temperance movements could create “bridging social capital” between the lower-middle classes and the workers. Philanthropic associations and public authorities to a certain extent initiated activities, which could be seen as emerging forms of vertically produced, “linking social capital”. Slowly, local communities were able to handle environmental and social problems when their revenues increased as a result of general economic growth. For the first time, even the most vulnerable group, illegitimate children with single mothers, could enjoy more social support and a healthier life than before.

### THE STATE AND LINKING SOCIAL CAPITAL

During the twentieth century, in Sweden and other industrialised countries, economic growth and democracy jointly formed the basis of the welfare state, a systematic representation of the attempts to create the conditions for linking social capital, when the strong and “haves” stand up for the weak and “have-nots”. The health service could offer more efficient remedies to all citizens. Social safety nets were gradually developed to minimise the consequences of economic upheavals and structural changes on the labour market.

### SOCIAL CHANGE – WINNERS AND LOSERS

Swedish history shows that social change, especially when extensive and relatively quick, has had visible impacts on health. There were – at

least in the short-time perspective – winners and losers but who they were was a product of contexts and specific conditions. Winners were those with the luck or resources to use the opportunities offered by the new social circumstances. The losers – when using mortality as the dependent factor – were, as we have seen, often men who for one reason or another had problems in coping with the new situation. That these patterns emerge when the chances of social success are insecure may not be surprising. Perhaps more unexpected are the examples of increasing male surplus mortality during the boom periods coupled with migration into economically expansive urban milieus.

### SOCIAL CHANGE AND INSTITUTIONAL RESPONSE

Health in a population is not a mysterious state beyond human influence. It requires resources and these resources are never evenly distributed over time, space and social groups. Here, we refer not only to undoubtedly important material resources but also to what we have called cultural and social capital. Knowledge is not just a question of purchasing power but also entails the acquisition of the cultural norms that have to be adapted to this knowledge. At least for the less wealthy in a society, social capital is also a resource that can exist in different forms and with different effects. It can be a very closely-knit bonding capital within the family, or a much wider net, including the collective and institutionalised forms of linking capital provided by NGOs or public institutions on a local and national level. Social change tends to alter the conditions under which different types of cultural and social capital effectively uphold people's welfare and health. Such capital may need to be reshaped and rebuilt in new forms to suit new conditions and needs.

This underlines the importance of the political and institutional contexts in which social change takes place. The social networks of the old agrarian society were in certain respects unable to meet the demands of a society in transition during the early nineteenth century, at least for a considerable number in the growing proletariat. Nor could Manchester liberalism or social Darwinism deliver the right prescription. Economic growth helped to create the tools for welfare and health during the last century but these resources had to be channelled through proper institutions at local, regional and national level, in Scandinavia as well as in other industrialised countries like Britain and France.

# Sweden and its European neighbours – converging systems

For centuries, Sweden has shared a common European heritage, experiencing similar developments and being exposed to the same flow of ideas, borrowing and copying models from its neighbours. The plague was the first example of how states tried to exclude an epidemic from the country or at least stem its spread. In Sweden and many other countries, the growing strength of the central state and its need of a productive population, as well as the new optimistic, investigating spirit of the Age of Enlightenment, already began to stimulate an interest in public health policies as early as the eighteenth century.

The last two centuries have involved continued convergence among different countries in Europe on a range of social policies and their effects on health. Medical breakthroughs and the growth and institutionalisation of healthcare under the aegis of the welfare state have contributed to this development. The supervision of public health and interventions motivated by health reasons also followed this pattern. The fact that Sweden managed to avoid two world wars helped the country to remain at the top of survival rate tables, whilst average life expectancy in previously poorer parts of Europe did not reach the same levels until recently. In general, the size of a western European country's public investment in health relates to the degree of economic development. While healthcare has increasingly become publicly financed in all countries, the division between publicly and privately run care varies due to historical circumstances. In Sweden, publicly run healthcare institutions have dominated and this is still essentially the case, even if privatisation of hospitals and primary healthcare centres has recently been on the agenda.

## THE MEDICAL PROFESSION – SERVANTS OF THE SWEDISH STATE

The medical profession in Sweden has been historically shaped by the country's geographical and political circumstances. The collegiate system of administration, born in the seventeenth century to meet the

growing needs of the country as an emerging great power in northern Europe, included Collegium Medicum, which gradually became the state's information body and the instrument with which to monitor and supervise health conditions and healthcare. A similar system of provincial doctors was to be found in other countries such as Denmark and Norway. However, compared to Britain, Denmark and even Norway, the market for private practitioners was unusually limited in a widespread, sparsely populated country like Sweden, with an insolvent peasantry.

This, in combination with the ambitions of the state to promote population growth, meant that the Swedish medical profession was largely made up of public officials employed by the state rather than working in a private market. As they grew in number, they formed a link between patients, the local community and the medical and political leadership in Stockholm. Trained midwives were also incorporated into this organisation, employed and paid by parishes, towns and cities to serve the poor free of charge. In the twentieth century, local midwives received support with the advent of salaried district nurses, who cooperated closely with provincial doctors as the primary agents of disease prevention and healthcare.

## HYGIENISM

As we have seen, the early nineteenth century brought with it a decline in mortality. On the other hand, the difficulties of solving the social issue in the form of a growing proletariat were typical of what was happening in many other countries at that time. The widening economic and cultural gaps between a growing middle-class elite and the new proletariat led to social conflicts and hygienic problems in segregated slum areas, especially in urban immigrant areas. Not until the later nineteenth century would the economy catch up and the interest of the elite in hygienism and the sanitation of urban areas gather real pace in Europe, having a decisive impact on the fight against the ravages of infectious diseases. Hygiene became an established science and practical activity, manifested in its professionalisation and international conferences. Local public health committees and inspectors are a Swedish version of the “Gesundheitspolizei”, a concept minted by *Johann Peter Frank* (1745–1821), a medical doctor working in eighteenth century Vienna [9]. Similar public health officials, interventions and technical solutions for urban water supply and waste disposal were for instance

found at an earlier stage in Britain and France, influencing Swedish professions and authorities [10–15]

A less attractive side of hygienism, as an exercise of power against marginalised women, emerged in the control and stigmatisation of prostitutes and individuals, who were branded “depraved”. Currents of “social hygienism” in the twentieth century established eugenics as a quasi-science and led to enforced sterilisations. This was not a uniquely Swedish phenomenon. Social hygiene derived its arguments and models from an international movement.

### A SUBORDINATE PEOPLE?

It is sometimes said that the Swedish population is unusually passive and subordinate in accepting the decisions and intentions of the authorities. This assertion is made hand in hand with a second assertion that political intentions have often been implemented with less friction and conflict than in many other countries.

Local autonomy was a necessity in a large but sparsely populated country. To be successful, public health policy messages had to be accepted by those at whom they were aimed. The lasting Swedish culture of negotiation between the state and comparatively egalitarian local communities, influenced as it is by geographical factors, engendered a certain degree of trust between people and rulers. At the same time, European differences should not be exaggerated. It is a fact that densely populated and more socially stratified countries experienced sharper conflicts. But it has for instance been pointed out that hygienic and social reforms in urban Great Britain and France during the second half of the nineteenth century were also products of a growing sensitivity to the needs of the whole population, in spite of the political hegemony of the middle class.

# Swedish history and the world today

In the industrialised, wealthy parts of the world, a long and healthy life is seen as the natural condition for almost everyone. During the last 200 years, average life expectancy has doubled from 40 to about 80 years. It will soon be 200 years since Swedish men were drafted as soldiers in a war with their neighbours. Serious infectious diseases are rare, and when they occur, most are curable. Hunger has been replaced by over-consumption of food, and physical inactivity and obesity have become major health problems. But this is only true for a minority of the world's population. Millions of infants still die from causes similar to those that took the lives of Swedish children in pre-industrial society. Even more efficiently than in previous ages, war causes chaos, pain and death to civilian populations in many places; and malaria, tuberculosis and HIV/AIDS are constantly part of everyday life in poor countries. Life expectancy declined since the 1970s, most rapidly during the 1990s, in Russia and other parts of the former Soviet Union and there are still no clear signs of endurable change to the better.

Why then has not the example of Sweden and other fortunate countries been successfully copied when the world's collective material resources are much larger than they have ever been before? And why is health actually deteriorating instead of improving in some places? The simple answer is of course that we cannot copy history when solving new challenges, since society and the conditions for health are constantly changing. Yet, the problems facing poor parts of the world today have much in common with the European nineteenth-century economic and social challenges – structural problems that were tackled by what came to be known as hygienism in a wide sense. The following discussion is an attempt to draw some conclusions from our experiences of the past. It can only be “narrative scenarios”, hopefully casting some light, on a general level, on relations between health and its determinants. It may at least stimulate reflections on what can erode, preserve or enhance individuals' and societies' resources for health during rapid social change.<sup>3</sup>

---

<sup>3</sup> Our reflections on this theme emanate from a collaboration with international colleagues in preparation of a volume on “Health and Social Change. Past and Present Evidence [16].

## RUSSIA AND SOUTH AFRICA – TWO CONTEMPORARY EXAMPLES

Let us take a quick glance at two examples in today's world in a simple, some would say simplified, manner. This is not to suggest that these examples are comparable in all respects to early nineteenth-century Swedish experiences.

On a smaller scale, the middle-aged male mortality crisis in early nineteenth-century Sweden has some striking similarities with what happened in an alarmingly short space of time in the former Soviet Union with accelerated speed after 1989. In Russia, life expectancy declined from the 1970s to the mid-1980s. Then it increased between 1985 and 1989, probably as a result of President Gorbachev's campaign against alcohol abuse. After 1989, life expectancy declined rapidly, especially for men (6.6 years between 1989 and 1994!). The mortality rates then stagnated or even decreased for a short time, but seem, according to recent figures, to have stabilised on a high level [6, 17–23].

The high adult mortality in Russia after the political upheaval of 1989 was particularly visible in causes such as heart disease, accidents, alcohol-related disease and, in marginal groups, diphtheria and tuberculosis as well. In the middle-age group, mortality increased moderately among women and dramatically among men. Mortality increased more among those who were unmarried, had only a basic education, and/or were unemployed and the negative trends were more marked in certain regions. Among the factors that are thought to have influenced these developments are political and social disintegration; a weak state; deterioration of systems of welfare and healthcare; rapid privatisation of the economy (which created unemployment); increased migration and uprooted groups; a weak civil society (family structure, other types of social networks, etc.); alcoholism; lawlessness and criminality. This has sometimes been summarised under the concept of collective and individual "social stress".

In *South Africa*, the most affluent country south of the Sahara, socioeconomic and epidemiological factors combine in ways that are unhealthy for both sexes and all ages. The legacy of the past is still a heavy burden. Families were split due to the apartheid labour migration system. Miners in Johannesburg were, for instance, recruited from "homelands"; segregated impoverished enclaves created for the black population. These workers were not allowed to bring their wives and

children with them, which had a devastating impact on the stability of family systems, and HIV/AIDS found an early breeding ground in these male cultures. Generally, most of the problems faced after “Freedom Day” in 1994 are rooted in the apartheid policies. Democratisation did not immediately bring about a Rainbow Society where population groups of all colours were to live together in harmony with social security and equality for all – a frustration not least for those who were still poor and vulnerable.

In the 1990s, South Africa’s borders were opened to the global economy. Previously protected domestic industries, for example the textile industry in Cape Town, found it hard to compete on the markets. The result was rapid de-industrialisation and unemployment. Shantytowns expanded in the suburbs of big cities as the result of mass-immigration of poor people from the countryside, once the black population was granted mobility. These urban “informal settlements” endure difficult social and hygienic conditions, extremely high unemployment, drug abuse and high rates of injuries caused by violence and traffic accidents and other types of crime. Well-functioning local communities have been hard to establish, although non-governmental organisations and the state have tried to alleviate the conditions [24–37].

Life expectancy is declining dramatically, since mortality has increased for more than a decade. Death rates were still increasing in 2004. This



Care centre in  
Mocambique.

Photo: Sydsvenskan/  
IBL bildbyrå

trend is of course primarily caused by HIV and AIDS, but also consequently by tuberculosis and other diseases affecting the respiratory tracts. In 2004, HIV prevalence among confirmed TB patients was about 60 per cent or more in the states with the highest incidences of HIV/AIDS. Children either become orphans and/or die themselves at an early age mainly because of transmission from the mother. The healthcare system faces an enormous challenge and it is often least developed in rural areas with the most urgent needs. Official anti-retroviral treatment programs against AIDS started in 2004 but only a minority of those infected had access to this vital aid in 2005. [38, 39].

Exact and reliable figures are hard to find, but it is clear that HIV and AIDS are more common among young and middle-aged women than among men in the same age groups [40, 41]. This is partly caused by women's higher physiological risk of being infected by the virus. Whilst most South Africans seem to know about HIV/AIDS and how to remain HIV-negative, culturally defined gender roles intervene and make it difficult for many women to stand up for their right to voluntary and safe sex. One problem is that safe sex is not usually practised by married or cohabitating couples, while, as a more positive sign, the use of condoms is seemingly becoming more frequent among younger unmarried generations, at least among more educated groups [42–52].

Male deaths are reported to be lower than female deaths from HIV/AIDS but the opposite is true for mortality caused by injuries. Traffic accidents are one of the major causes of death for both sexes but the very high figures for homicide and other forms of intentional violence are mostly a male phenomenon, both for perpetrators and victims. The age-specific distribution of this latter cause of deaths is similar to the pattern in Russia, i.e. with a huge peak in ages 20–40. The increase of violent deaths eventually stagnated in 2004. It remains to be seen whether this trend will last, but the rate is still extremely high in an international perspective [39, 53].

In other words, a large proportion of mortality occurs in the generation which should be providing for the youngest and the oldest. Cost for treatment, need of social support and loss of production are growing problems for the nation.

## DIFFERENT BY CONTEXT – SIMILAR BY CHARACTER?

Social change is often a process stretching over several decades and social, political and institutional adjustment to change takes time. Both Russia and South Africa suffered from the legacy of oppressive systems when the new, democratic era began in the 1990s. In the first five years of the new millennium, there are no clear signs that the tide has turned towards stabilisation and improvement of welfare and health improvements for the most vulnerable in either case.

When comparing a number of factors/conditions related to health and welfare during social change in early nineteenth century Sweden versus present-day Russia and South Africa, certain key patterns are seemingly similar in character, omitting the evident differences due to historical period and geographical location. In all three cases, even in Russia and South Africa, where one positive element of change was the progression towards democracy, socioeconomic change caused social instability and migration of poor people into urban areas poorly equipped to provide good living conditions. Old rules and norms on how to succeed in life changed during this geographical and “mental” migration to a new milieu. A sense of being uprooted threatened stability and trust in local communities, something some men are particularly poor at handling. At the same time, the local community is the most important level for a healthy society.

Although similar in character, the scale of change in former Soviet republics and South Africa is on a much larger scale than in early nineteenth-century Sweden. One important difference between then and now is that, in the twenty-first century, advanced medical knowledge and technology for material welfare and health are there on the global market – for those who can buy and use them. On the other hand, lack of material resources and globalisation puts restraints on national policies. Before the globalisation of the world market, local authorities and national states were in some ways more autonomous in social issues. In return for development loans, international credit-givers have, for instance, until recently often prescribed structural reform. As a cure for underbalanced state budgets, governments have been advised to limit social expenditure.

# Health and lessons from history

The question has been posed whether the positive developments for population health that occurred in Sweden and western Europe in the second half of the nineteenth century will be repeated today or tomorrow in the still less wealthy and healthy countries of the world [24]. The answer is of course that every new situation needs its own specific solutions. Certain observations may, however, still be valid.

A successful public health policy requires good knowledge. Medical and biological knowledge come first to mind. In societies ridden with infectious disease and epidemics, as Thomas McKeown pointed out, it is crucial to understand the interplay between germs and the human body. Two centuries ago, the theoretical understanding of disease was, from a modern standpoint, rudimentary or in many respects false. The medical profession did, however, speculate how infectious diseases spread. Could it be something that emerged from soil, water and air (miasma)? Or was some kind of substance communicated from one person to another (contagion)? The miasma theory led to an interest in clean air, clean water and clean food, whilst the best defence against contagion was to stay away from, or isolate, infected persons and to control and hinder its migration over land and sea.

In some respects, both recommendations might also help to fight endemic infections by implementing sanitary interventions or by keeping epidemics outside a country or a town. Hence, certain positive effects of early public health initiatives could be seen even before there was a clear understanding of the underlying biological mechanisms. Such endeavours were much more effective and easy to understand and support once medical science could deliver more convincing explanations, advice and cures, starting at the end of the nineteenth century. Contemplating the situation of today's world, it is easy to see that the greatest obstacle to many potential improvements is not the lack of biomedical knowledge. Often it is rather a matter of finding a way to communicate this knowledge to the whole population.

Turning back to Sweden more than 200 years ago, it is still intriguing how so much good public health advice can be found in the literature and, somewhat later, could also be put into practice. Even as early as the eighteenth century medical doctors promoted cleaner cities. Inocu-

lation against smallpox was followed by mass vaccination after the year 1800. Such messages were gradually heard and resulted in a dramatic mortality decline throughout the nineteenth century, especially among young children.

#### OBSERVING AND ACTING

This brings us to the emerging interest in empirical observation during the Enlightenment, which in turn created a desire for population registers and led to the birth of demography and epidemiology in Sweden. It was the statistical reports from the Swedish population registers, starting in 1749, that highlighted the problematically high mortality figures among children. Similar observations were made in early local surveys in France and Germany. The Swedish statistics also showed that urban areas, even of a small size, were dangerous for health. It was also clear that infant mortality was much higher in areas where infants were not breast-fed properly, thereby drawing attention to the relation between cultural habits and health. The first, eighteenth century, observations were followed by a growing number of studies and reports, which increased understanding of the distribution of health and disease in a population. They showed in undisputable figures the detrimental effects of epidemics, the toll taken by tuberculosis, later on the effects of drug abuse and obesity, and the continuing large health differentials between social groups. All of these and other problems challenged representatives of both medicine and general society.

These Swedish examples, and many others, clearly demonstrate the importance of keeping track of the population and its determinants as a basis for public health policies. Although we cannot find direct causal explanations in statistical evidence, lack of such data makes it difficult to identify problem areas and start considering potential causes and solutions. Policy-makers must have the will and administrative resources to monitor the health and welfare of the population in order to be able to implement the necessary reforms.

#### LITERACY AND GENDER

Literacy (and in modern times other media channels than the written word) is of course a necessary condition for the spread of knowledge to those who need it. The good advice for better childcare, launched by

Nils Rosén von Rosenstein during the second half of the eighteenth century, was printed and distributed in large numbers in almanacs that were bought and read in ordinary Swedish peasants' households. This mass health education was made possible by the literacy campaigns started by the church a century before and made an important contribution to the eventual success of the efforts of von Rosenstein and other colleagues. Literacy is a cultural capital making it possible for vulnerable groups and individuals to verbalise and highlight their needs and claims. It is hard to envisage a functioning democracy and reasonable equality without general literacy.

Studies have shown that the traditional Swedish type of home education, compulsory for all, actually meant that women were more skilled readers than men, which is almost never the case when literacy is offered as a voluntary asset on a "market". It was of course important for the survival of the children, for whom the women had primary responsibility. Equally, studies have shown that female literacy is a positive factor for the good health and survival of children in many areas of today's world.

This reminds us of the consistent appearance of gender factors in public health history and contemporary societies. Not only are mothers important for the health of the next generation due to traditional gender roles, but these same roles also produce striking differences in health outcomes and mortality figures from birth to old age. However, the differences may be weaker or stronger depending on time, place, social and cultural conditions. And this is not solely because men are involuntarily brought into more dangerous situations (for instance at work or at war). Men also engage themselves in more risky behaviour without being formally obliged to do so. Certain aspects of these differences even affect others, for example in the form of drug abuse, neglect of the family, violence against kin and neighbours and transmitting venereal diseases and HIV. Consequently, more gender equality, more power for dominated or abused women and policies aimed at minimising the factors causing risky behaviour among men have, in qualitative and quantitative terms, the potential to bring about the most notable positive achievements in health and welfare.

## INDIVIDUAL AND STRUCTURE

In post-World-War-Two western societies, there has been a tendency to direct public health policies and interventions towards individual behaviour. One of the reasons for this trend is, of course, that in affluent societies lung cancer, cardiovascular problems, diabetes and other non-infectious diseases come to the forefront as dominant problems. There is, as we know, a clear link between these diseases and lifestyles, the classical inter-mediators being lack of physical exercise, over-consumption of unhealthy food, obesity or drug abuse in different forms. At the same time, however, recent research shows that these type of problems are also affected by society's provision of general welfare, feelings of coherence, safety, and similar psychological phenomena. This knowledge, together with the obvious negative psychosocial effects of the depression in the 1990s, is one of the reasons why the officially declared Swedish public health policy of 2003 also emphasised the need to consider structural, socioeconomic factors.

Less affluent societies, facing an epidemiological regime resembling the situation in nineteenth century Europe, are of course even more aware of the negative link between poverty, weak economic and public infrastructures and health. The fight against infectious disease is still the paramount goal, even if obesity, heart disease and other "modern" health risks are also having a visible impact on the mortality figures in, for instance, South Africa. Enhancing economic growth, while at the same time trying to direct the distribution of growing wealth to all parts of the population, is a great challenge for national and regional policies. The experience of early nineteenth-century Sweden shows that, for the first generations, the path from a traditional poverty-ridden agrarian society towards a wealthier industrial society tends to produce losers as well as winners. Migration and uncontrolled rapid urbanisation added to the problematic situation.

Certain general conditions for success or failure can be suggested. For instance, the improvement of health conditions in urban areas did not occur by itself. Besides unprecedented economic growth, the will and ability of public authorities and new voluntary associations were important factors paving the way for the success of the welfare state in the twentieth century. Even earlier, the existence of a local administration in a negotiating position between state and people, with a reasonable degree of trust from the latter, made vaccination against smallpox a

nineteenth-century success story. Small reforms successively improved sanitary conditions during the same century, in Sweden as well as in other places in Europe.

### THE MIDDLE CLASS – AGENTS OF REFORM?

The role of the nineteenth-century middle class, growing in size, wealth and influence, also deserves comment. Here were the winners of de-feudalisation who felt that their success depended on their own abilities rather than on inherited privileges. They had an interest in a well-ordered society where merit and personal ability counted, and where the rule of law and good governance, rather than unpredictable autocracy and corruption, prevailed. In addition, most had recent roots among the common people, although they often disliked what they saw as the unruly behaviour of “the dangerous classes”. Increasingly, they entered the ranks of state and local administration, many of them being either “social conservatives” or “social liberals”. As in, for instance, France and Great Britain, many joined voluntary philanthropic associations, embraced proactive ideologies about citizenship, tried to improve the social conditions of the working class and approved a more ambitious policy for sanitary urban reforms. In other words, they acted as agents for “linking social capital”.

The role of the industrious middle class has also been emphasised in today’s developing economies. In some countries, such a middle class exists and has a certain political influence. In others, the social pyramid consists of a small – economically, socially and politically – privileged elite, the rest of the population having limited or no share of the benefits of economic growth. The latter structure is, in a European context, more similar to a medieval, feudal world or, at best, a state with an eighteenth-century enlightened monarchy/aristocracy. Some developing countries are rather recent creations, still lacking a sense of reasonable national homogeneity, common values and social coherence. In such conditions, equipped with limited financial resources, much has to be achieved before they can become welfare states with an efficient social and administrative infrastructure.

## ECONOMIC GROWTH AND SOCIAL POLITICS

Related to this issue is the question of how, by whom, and where, efficient welfare systems should or could be promoted. Is this a goal that can only and will automatically emerge, when economic per capita growth has reached a certain level? Many countries have seen a significant improvement of life expectancy correlated to economic growth. On the other hand, as we have seen, there has not been an immediate positive effect everywhere to the benefit of everybody. So, first of all, policies that attempt to minimise the degree of deterioration during rapid and profound phases of change would be welcome. Secondly, if the claims by Richard Wilkinson and others are true [54], namely that there is a positive correlation between a more equal distribution of wealth in a population and the health of all citizens in the same population, independent of the absolute level of the average income per capita, policies that aim at a more even distribution of wealth should have a positive general impact on health and life expectancy for all.

Such policies do, of course, require an ideological motivation among the ruling elite. Or, as Simon Szreter puts it [55], that those who have the basic resources for a good life are prepared to share with those who have not. In addition, good governance has to rest upon a certain degree of trust and effectiveness in order to achieve sustained social harmony and development. Since, as history shows, health is primarily produced locally, the knowledge, awareness, skill and trustworthiness of local governments will be of utmost importance. Essential factors include access to health care institutions, safety, the best possible education for the inhabitants, trust among local inhabitants (bridging social capital) and trust between local inhabitants and their authorities (linking social capital) on all levels. To create the conditions for such social infrastructure poses a challenge for many societies suffering widespread poverty, great inequality, local communities fractured by heavy migration, and old and new infectious diseases like malaria and HIV/AIDS.

## PEACE

Sweden's public health history has been a comparatively happy one, but not because Swedish authorities were exceptionally wise, exercised extraordinary foresight or because problems resolved themselves. The fortunate coexistence of several positive factors was crucial. These inc-

luded the country's relative social homogeneity, the high literacy rate, stable local administration and, by the end of the nineteenth century, the emergence of new popular movements fit for new social circumstances.

We have mentioned the Swedish nineteenth century commentator's reference to "peace, vaccine and potatoes" as one way of summarising the factors behind the beginning of an era of almost constantly decreasing mortality. Potatoes stand for the material resources needed for a healthy population. Vaccine may stand for scientific discoveries and ideas successfully implemented. Peace may, however, be sometimes forgotten as an important aspect of the Swedish case. From being among the high-mortality European states at the beginning of the nineteenth century, Sweden had achieved one of the lowest figures by the year 1900 and has remained in that position ever since. This pattern coincides with an era of unbroken external peace and relatively little internal social conflict, a state of affair only shared by Switzerland amongst its European neighbours. War not only results in the death of soldiers in the battlefield, It also facilitates the spread of diseases among soldiers and civilians, destroys material resources and drains those same resources from collective civil needs. Furthermore, it contributes to psychological stress and trauma and prevents the establishment of good civil institutions. Sweden had considerable experience of violent conflict before the end of the Napoleonic wars and the peace treaty of 1814; other European states have up until the late twentieth century been involved in war and political turmoil several times, and many populations in the world are still suffering their effects. No wealthy and healthy society with few "avoidable deaths" can emerge under such conditions.

## POWER AND EMPOWERMENT

By definition, war is the ultimate collective expression of power by physical force. Power can, however, be exercised in other ways for other reasons. During the course of Swedish public health history, compulsory measures were taken. Quarantines and the establishment of cordons sanitaires against plague epidemics in early modern times were, for instance, implemented with considerable shows of blatant force. In the nineteenth century, compulsory smallpox vaccination and the regulation of prostitutes were enforced by the state. During the early twentieth century, the authorities were invested with extended powers to bring children into educational institutions, if these children

were seen to be insufficiently cared for by their parents or to be socially wayward. Restrictions on the sale of alcohol were introduced in order to reduce the medical and social damage associated with its free use. As an, often, scientifically and ethically ambiguous product of “social hygienism”, laws were passed in the interwar period which allowed the enforced sterilisation of certain mentally, physically or socially “abnormal” citizens. Power was exercised against some or all for the presumed benefit of themselves or others within fields more or less completely outside the traditional definition of the criminal sphere.

Per Albin Hansson, the Swedish politician, who used “The People’s Home” as an image of the ideal society, observed that the inhabitants of this “national home” had both responsibilities and rights, but found that the state was stressing the responsibilities more than the rights of its citizens. The social debate during the 1930s can be seen as an attempt to define the demarcation line between duties and rights. What must a citizen do in order to have the right to claim the benefit of the social system? And what power was society entitled to exercise against the citizen in order to keep the People’s Home in good order? In this debate, some have been portrayed as “social engineers” who went too far towards intervention in the private sphere when presenting their benevolent version of a “social democratic” utopian society. However, social reforms immediately before and after the Second World War were less utopian and more pragmatic. Elements of the welfare state were sometimes questioned in detail but not in principle by other political movements. Power is still, and has always been, used to a certain extent in welfare and public health policies: today for instance in traffic regulations or restrictions of the right to smoke in public spaces. Yet, the dominant approach of modern welfare policy in practice has been “empowerment”, i.e. to provide all citizens with the resources for a good and healthy life, rather than using paternalistic force to achieve that end.

As we have seen, during periods of social transition, certain groups tend to pay a price in the form of health problems and high mortality. Sometimes this may result from their lack of information and access to new knowledge, sometimes it has to do with the lack of material or psychological power to adapt to the new world. A society’s ability to minimise such negative effects by protecting or increasing the resources of vulnerable groups will determine the outcome for the health of its citizens. Such “empowerment” may also be achieved through voluntary mobilisation of new forms of collective agencies. This was, for instance,

the case when popular movements introduced a new approach to understanding and handling social issues in late nineteenth century Sweden. Focusing on the most vulnerable may sometimes mathematically add less to the nation's average life expectancy than public health interventions aimed at the whole population. But the choice between either of the two strategies is not a purely mathematical problem. It is also a matter of ethical and ideological deliberations.

The balance between the rights and responsibilities of the individual versus the state will always be debated when social circumstances and values change. Different interpretations of empirically observed relations between health and the social fabric, ideologically founded value systems and conflicts of interest between different layers of the society will always exist. In Swedish history, the – some would say nostalgic – image of the People's Home and the idea of consensus rather than social conflicts have been two icons shaping welfare and health politics.

#### HEALTH MAKES WEALTH

Finally, it should not be forgotten that both reason and historical evidence tell us that there is a positive correlation in both directions between the wealth and the health of a nation. Even the elite may benefit if society pays attention to the sufferings of its disadvantaged members.

The eighteenth century idea that a strong, healthy population was a requisite for a strong, wealthy state mostly derived from the interests of the dominant elite and owed little to humanitarian values. In essence, however, that conclusion is still valid.

## Reference list

1. Sundin J, Willner S. The History of Social Determinants and Health in Europe. A Swedish Example. In: Social Determinants of Health: Global histories, contemporary debates and future directions, to be published by Orient Longman India Ltd, New Delhi, and Sangam Books UK, London, forthcoming 2008.
2. Inge G. Den ofärdiga välfärden [Incomplete welfare]. Stockholm: Tiden/Barnängen; 1967.

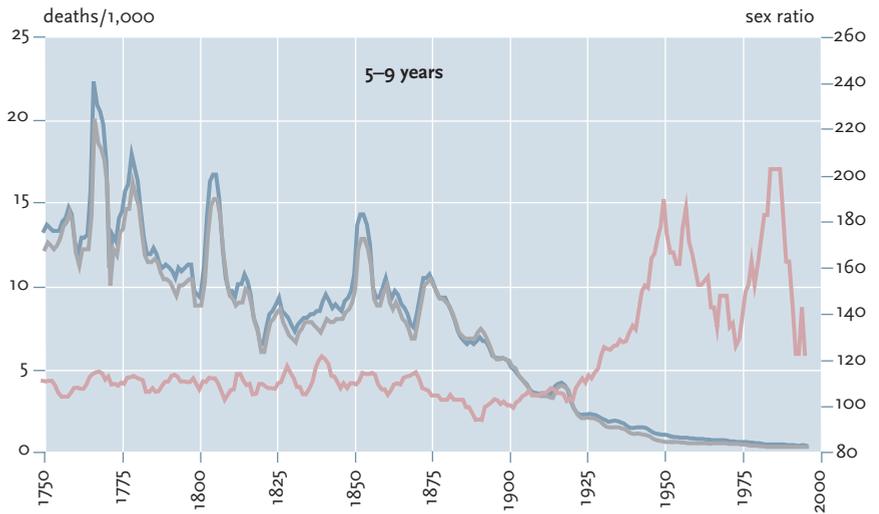
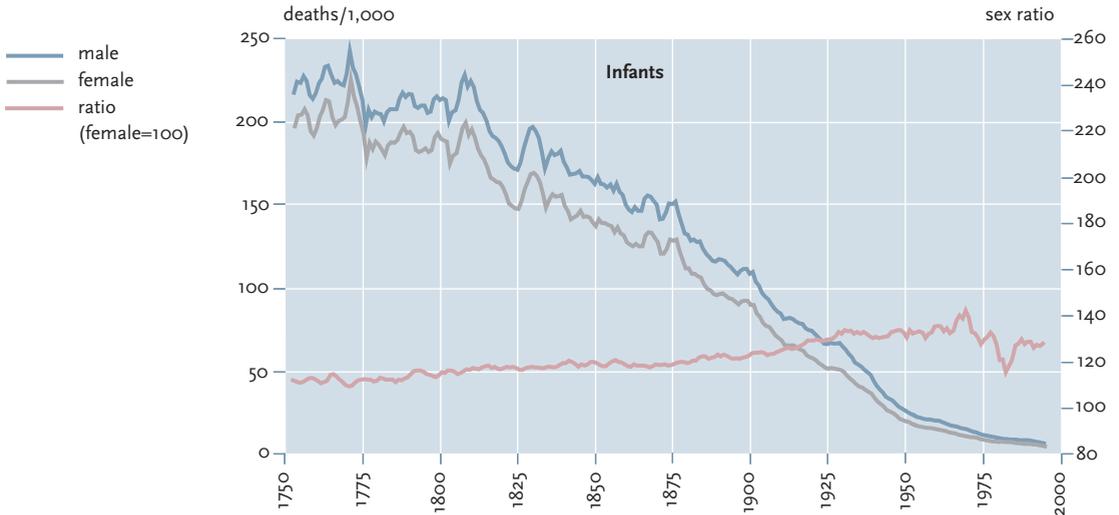
3. Låginkomstutredningen [Government commission on low-income earners]. Stockholm: Allmänna förlaget; 1970-73.
4. Black D (chair of committee). Inequalities in Health. Report of a Research Working Group ("The Black Report"). DHSS; 1980. Published electronically at: <http://www.sohealth.co.uk/history/black.htm>.
5. Marmot M, Wilkinson R. Social determinants of health. Oxford: Oxford University Press; 1999.
6. Shkolnikov VM, Evgueni MA, Leon DA, McKee M, Meslé F, Vallin J. Mortality reversal in Russia: the story so far. *Hygiea Internationalis* 2004;4(1):29-80. Published electronically at: <http://www.ep.liu.se/ej/hygiea/>.
7. Hogstedt C, Lundgren B, Moberg H, Pettersson B, Ågren G, eds. The Swedish Public Health Policy and the National Institute of Public Health. *Scandinavian Journal of Public Health* 2004;32(Suppl 64).
8. Ågren G. Sweden's new public health policy. National public health objectives for Sweden. Stockholm: Swedish National Institute of Public Health; 2003:58. Also available at: [http://www.fhi.se/shop/material\\_pdf/newpublic0401.pdf](http://www.fhi.se/shop/material_pdf/newpublic0401.pdf).
9. Frank JP. System einer vollständigen medicinischen Polizey. 6 Volumes, 1779-1819.
10. Hardy A. The epidemic streets: infectious disease and the rise of preventive medicine, 1856-1900. Oxford: Clarendon Press; 1993.
11. Sheard S. Nineteenth century public health: a study of Liverpool, Belfast and Glasgow. Liverpool: University of Liverpool; 1993.
12. Sheard S, Donaldson L. The nation's doctor: the role of the Chief Medical Officer 1855-1998. Abingdon: Radcliffe; 2006.
13. Sheard S, Power H, eds. Body and city: histories of urban public health. Aldershot: Ashgate; 2000.
14. Bourdelais P, ed. Les Hygiénistes. Enjeux, modèles et pratiques. Paris: Éditions Belin; 2001.
15. Bourdelais P. Les épidémies terrassées. Une histoire de pays riches. Paris: Éditions de LaMartinière; 2003.
16. Chopra M, Sundin J, Willner S, eds. Health and Social Change. Past and Present Evidence. *Hygiea Internationalis* 2004;4(1). Published electronically at: <http://www.ep.liu.se/ej/hygiea/>.
17. Carlson P. An unhealthy decade: a sociological study of the state of public health in Russia 1990-1999. Diss. Stockholm: Almqvist & Wiksell International; 2000.
18. Cockerham W. Health and Social Change in Russia and Eastern Europe. New York: Routledge; 1999.
19. Cornia GA, Panicià R, eds, The Mortality Crisis in Transitional Economies. Oxford: Oxford University Press; 2000.
20. Džúrova D. Mortality differentials in the Czech Republic during the post-1989 socio-political transformation. *Health and Place* 1999;6(4):351-362.

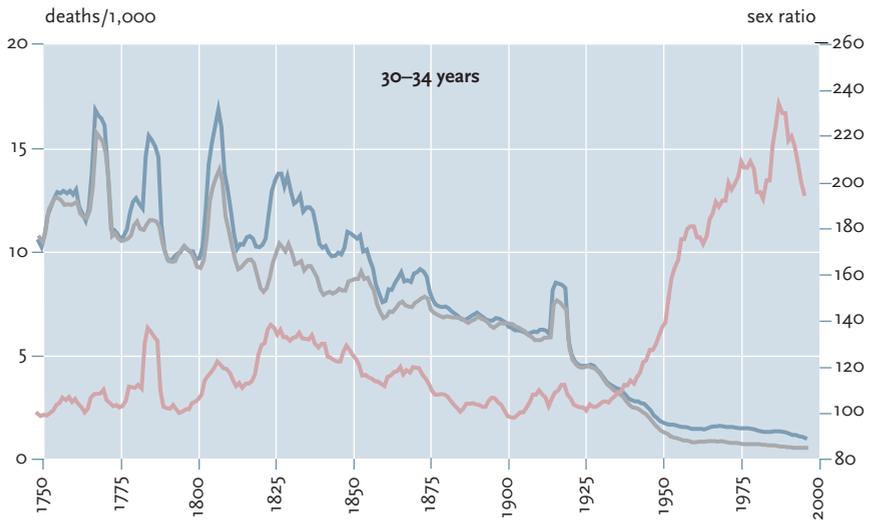
21. Meslé F, Vallin J. Évolution et variations géographiques de la surmortalité masculine. Du paradoxe français à la logique russe. *Population* 1998;53 (6):1079–1102.
22. Shkolnikov VM, Cornia GA, Leon DA, Mesle F. Causes of the Russian Mortality Crisis: Evidence and Interpretations. *World Development* 1998;26(11):1995-2011.
23. Walberg P, McKee M, Shkolnikov VM, Chenet L, Leon DA. Economic change, crime, and mortality crisis in Russia: regional analysis. *BMJ* 1998; 317:312-318.
24. Chopra M, Sanders D. From Apartheid to Globalisation: Health and Social Change in South Africa. *Hygiea Internationalis* 2004;4(1):153–174. Published electronically at: <http://www.ep.liu.se/ej/hygiea/>.
25. Barbarin O. Mandela's children: growing up in post-apartheid South Africa. New York: Routledge; 2001.
26. Bassett MT. The pursuit of equity in health: reflections on race and public health data in Southern Africa. *American Journal of Public Health* 2000;90(11):1690-1693.
27. Bhorat H, Leibbrandt M, Maziya M, van der Berg S & Woolard I. Fighting poverty: Labour markets and inequality in South Africa. Cape Town: University of Cape Town Press; 2001.
28. Bond P. Elite transition: from apartheid to neoliberalism in South Africa. London: Pluto; 1998.
29. Glantz L, Spiegel A, eds, Violence and family life in contemporary South Africa: research and policy issues. Pretoria: HSRC, no 96; 1996.
30. Loewenson R. Globalization and occupational health: a perspective from southern Africa. *Bulletin of World Health Organization* 2001;79(9): 863–868.
31. London L. The 'dop' system, alcohol abuse and social control amongst farm workers in South Africa: a public health challenge. *Social Science and Medicine* 1999;48(10):1407-1414.
32. Midgley J. South Africa: the challenge of social development. *International Journal of Social Welfare* 2001;10(4):267-275.
33. Möller V. Quality of Life in South Africa: Post-Apartheid Trends. *Social Indicators Research* 1998;43(1-2):27-68.
34. Parry C, Bennetts AL. Alcohol policy and public health in South Africa. Cape Town: Oxford University Press; 1998.
35. Pillay AL, Sargent CA. Relationship of age and education with anxiety, depression, and hopelessness in a South African community sample. *Percept Mot Skills* 1999;89:881-884.
36. Studies on the social dimensions of globalization. South Africa. Geneva: ILO; 2001.
37. Unterhalter B. Inequalities in Health and Disease: The case of mortality rates for the City of Johannesburg, South Africa, 1910–1979. *International Journal of Health Services* 1982;12(4): 617-636.
38. *South African Health Review* 1999–2006.
39. *Statistics South Africa: Adult mortality* 1997-2004.

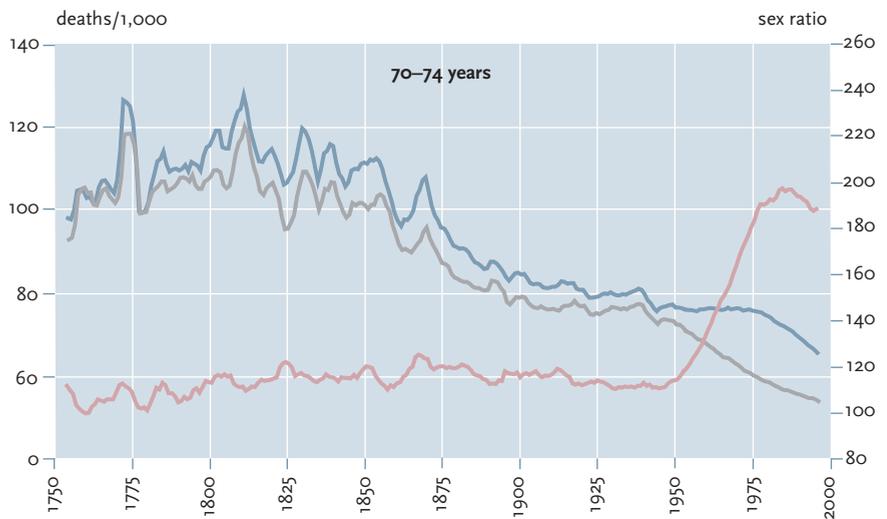
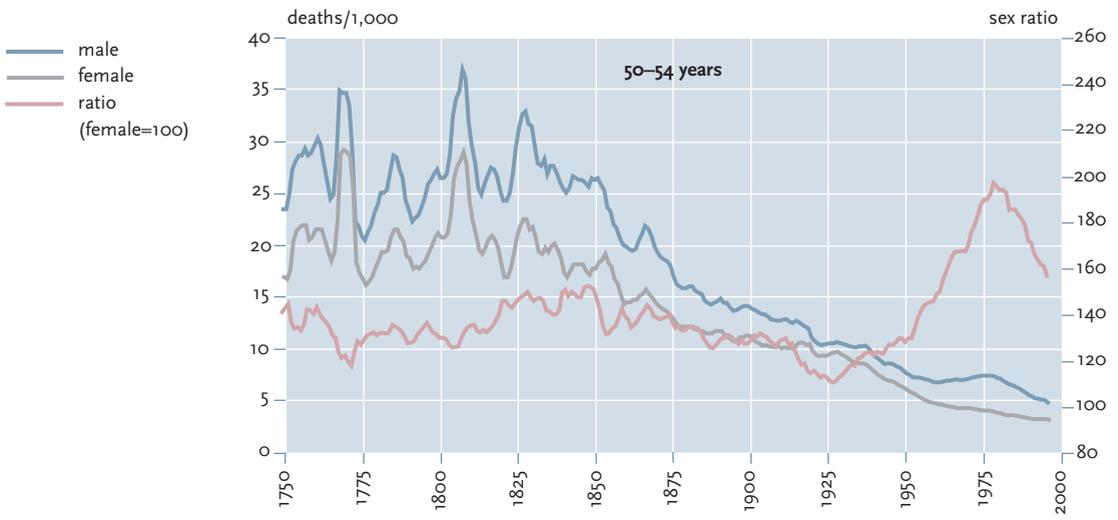
40. Bassett MT. Keeping the M in MTCT: women, mothers, and HIV prevention. *American Journal of Public Health* 2001;91:701-703.
41. Jaffrey Z. *AIDS in South Africa: the new apartheid*. London: Verso; 2001.
42. Ackerman L, de Klerk GW. Social factors that make South African Women vulnerable to HIV infection. *Health Care Women International* 2002; 23(2):163-172.
43. Campbell C. Selling sex in the time of AIDS: the psycho-social context of condom use by sex workers on a Southern African mine. *Social Science and Medicine* 2000;50:479-494.
44. Dolby N. *Constructing racialized selves: youth, identity and popular culture in South Africa*. New York: State University Press; 2001.
45. Jewkes R et al. Relationship dynamics and teenage pregnancy in South Africa. *Social Science and Medicine* 2001;52:733-44.
46. Kaler A. "It's some kind of women's empowerment": the ambiguity of the female condom as a marker of female empowerment. *Social Science and Medicine* 2001;52:783-796.
47. MacPhail C, Campbell C. "I think condoms are good but, aii, I hate those things": condom use among adolescents and young people in a Southern township. *Social Science and Medicine* 2001;52:1613-1627.
48. Maharaj P, Cleland J. Women on top: the relative influence of wives and husbands on contraceptive use in KwaZulu-Natal. *Journal of Women and Health* 2005;41(2):31-41.
49. Maharaj P. Condoms become the norm in the sexual culture of college students in Durban, South Africa. *Reproductive Health Matters* 2006;14 (28):104-112.
50. Ramphele M. Teach me how to be a man: An exploration of the definition of masculinity. In: Das V, Kleinman A, Ramphele M, Reynolds P, eds. *Violence and subjectivity*. Berkley: University of California Press; 2000.
51. Reddy SP. *Sense and sensibilities: the psychosocial and contextual determinants of STD-related behaviours*. Diss. Maastricht: Tygerberg; 1999.
52. Wood K, Maforah F, Jewkes R. "He forced me to love him": putting violence on adolescent sexual health agendas. *Social Science and Medicine* 1998;47(2)233-242.
53. South African Medical Research Council: *National fatal injury profile for 2004*.
54. Wilkinson RG. *The impact of inequality: How to make sick societies healthier*. New York: The New Press; 2005.
55. Szreter S. The state of social capital: bringing back in power, politics and history. *Theory and Society* 2002;31(5):573-621.

# Appendix

## SEX- AND AGE-SPECIFIC MORTALITY AND SEX RATIO IN MORTALITY. SWEDEN, 1750–2000.







Source: 1750–1900: Sundbärg. *Fortsatta bidrag till en svensk befolkningsstatistik för åren 1750–1900* (Further contributions to Swedish population statistics, 1750–1900). *Statistisk Tidskrift* 1909. (Statistics Sweden). 1901–1910: *Bidrag till Sveriges Officiella Statistik A. Befolkningsstatistik* (Population statistics) 1901–1910; *Befolkningsrörelsen* (Vital statistics) 1911–1960; *Folkmängdens förändringar* (Population changes) 1961–1966; *Befolkningsförändringar* (Population changes) 1967–1990; *Befolkningsstatistik* (Population statistics) 1991–2000. Statistiska centralbyrån (Statistics Sweden).