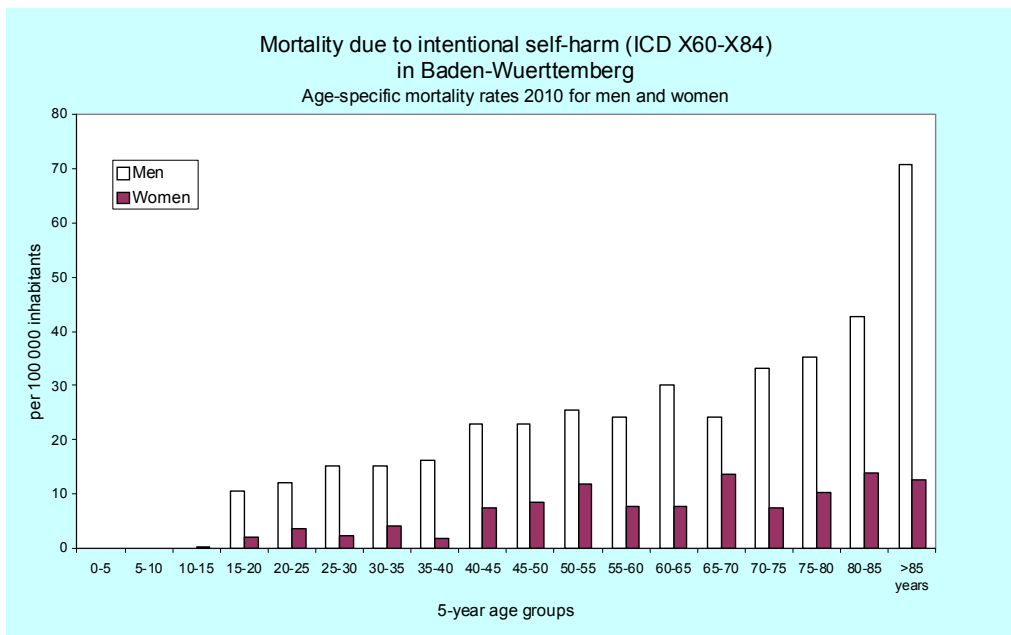


Age- and sex-specific mortality rates in Baden-Wuerttemberg 2010



**Age- and sex-specific mortality rates
in Baden-Wuerttemberg 2010**

Impressum

Baden-Wuerttemberg State Health Office · Nordbahnhofstr. 135 · 70191 Stuttgart
Tel. 0711 904-35000 · Fax 0711 904-35010 · abteilung9@rps.bwl.de · www.gesundheitsamt-bw.de

Contact:

Prof. Dr. Iris Zoellner

Klara Lorenz, MPH

Tel. 0711 904-39511 · iris.zoellner@rps.bwl.de

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Introduction

The increase of life expectancy in the first half of the 20th century is strongly associated with a substantial reduction in infant mortality and with the reduction in mortality due to infectious diseases such as tuberculosis. In 1900 the average life expectancy in Germany was about 40 years. Since then, the average life expectancy has more than doubled. On average, children born in Germany today can expect to live about 80 years or more. During the last thirty years, the mortality of men and women in older age groups decreased due to an improved prognosis of chronic diseases such as malignant neoplasms and diseases of the circulatory system.

This brochure provides an overview of age and sex specific mortality rates for Baden-Wuerttemberg in 2010 in continuation of previous reports which covered data of 1997 and 2004.

In 2010 women could expect to live approximately five years longer than men. This is largely due to differences in mortality during adult age. The current brochure shows again that the total mortality across all age groups is higher in men than in women. These differences can also be found for most causes of death in the graphs illustrating the mortality rates per 100,000 for women and men in 5-year age groups in Baden-Wuerttemberg (Source: Statistisches Landesamt Baden-Wuerttemberg).

The most frequently observed causes of death for men and women of middle age in Baden-Wuerttemberg are lung cancer, breast cancer, acute myocardial infarction and suicide (see Table 1). In these age groups nearly every tenth death is caused by lung cancer.

Today, breast cancer and myocardial infarction are understood as causes of death that more frequently occur in combination with tobacco consumption. The graphs therefore illustrate that premature death continues to be considerably related to tobacco and alcohol consumption which is true for women and men. Nevertheless mortality due to lung cancers, acute myocardial infarction and alcoholic liver disease is two to three times higher for men than for women. This has implications for the gender gap in life expectancy. Data for the whole of Germany show a similar pattern, with lung cancer, acute myocardial infarction and alcoholic liver disease being classified as the most frequent causes of death among men and women of middle age (Robert Koch-Institute, 2005).

Table 1: The three most frequent causes of death by sex and 5-year age groups covering the age of 50 to 65 years in Baden-Wuerttemberg (numbers of deaths in 2010, N=total number of deaths per age group)

	Women	Men
50 - 54 years N=940	Breast cancer (135) Lung cancer (89) Suicide (47)	Lung cancer (143) Acute myocardial infarction (133) Suicide (105)
55 - 59 years N=1149	Breast cancer (162) Lung cancer (131) Alcoholic liver disease (34)	Lung cancer (231) Acute myocardial infarction (223) Alcoholic liver disease (107)
60 - 64 years N=1507	Breast cancer (184) Lung cancer (153) Acute myocardial infarction (69)	Lung cancer (322) Acute myocardial infarction (251) Chronic-ischemic heart disease (156)

Source: Baden-Wuerttemberg State Statistical Office, mortality data 2010

Between 1990 and 2010, the mortality due to malignant neoplasms of respiratory organs and intrathoracic organs among women of 45 years and above increased slightly, while it decreased for men of the same age group (see Figures 1a and b).

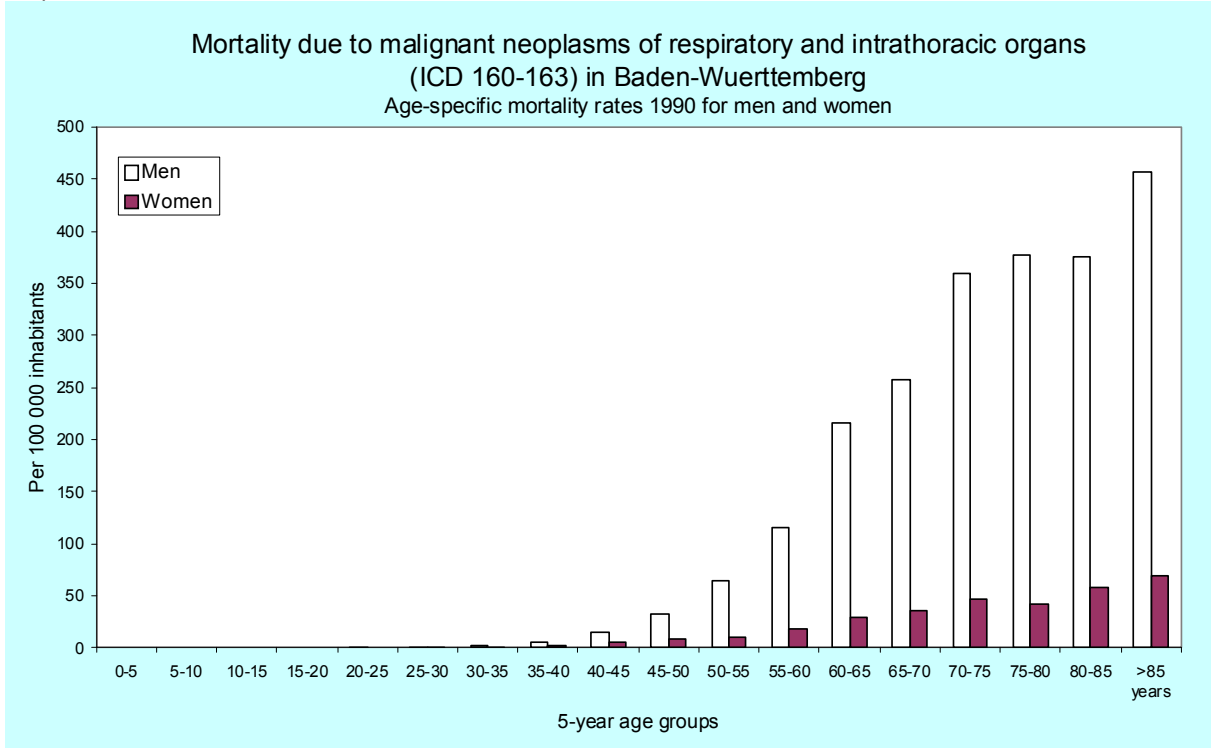
Over the same time period, mortality due to diabetes mellitus (see Figures 2a and b) and due to infectious and parasitic diseases (Figures 3a and b, please note differences in scale of Figures 1-3) increased.

The further increase in life expectancy over the past 25 years deserves a positive valuation. For women and men in Baden-Wuerttemberg life expectancy increased by 5 and 7 years, respectively. Improved therapeutical options and prevention of cardiovascular diseases have played an important role in contributing to an increase in life expectancy by approximately 3 months per year since 1980 (Weiland et al., 2006).

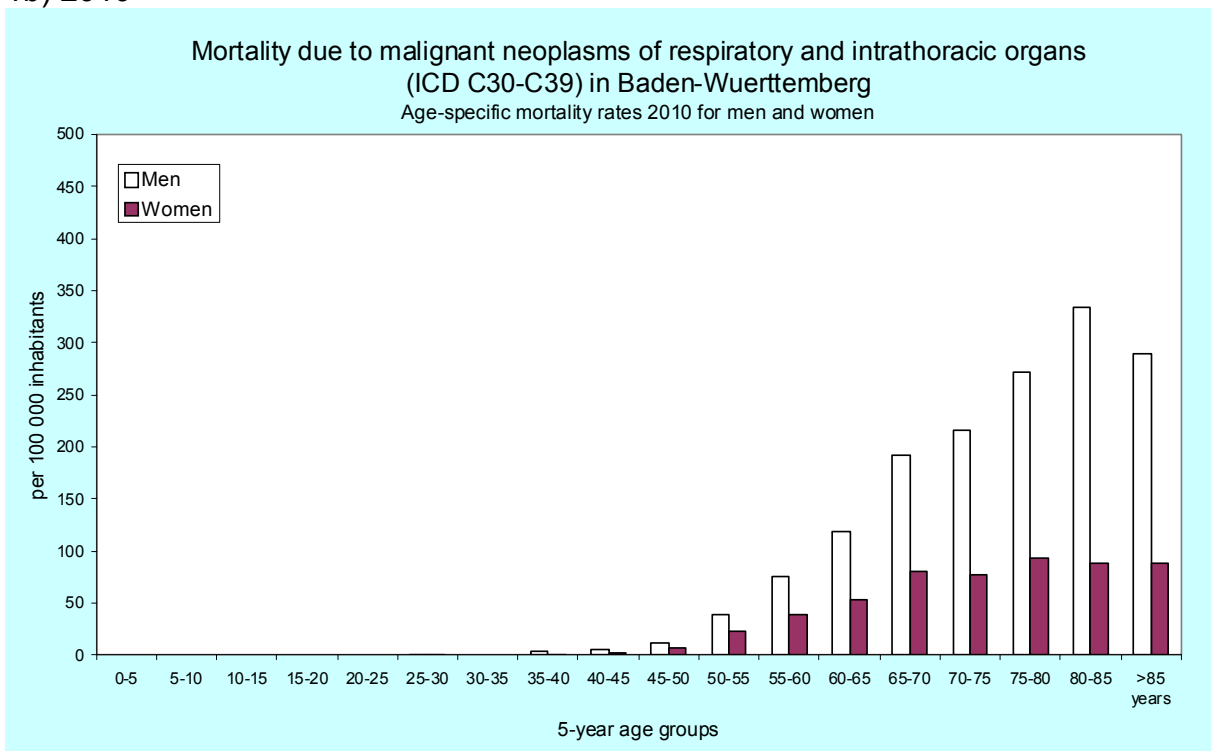
Figures 1a and 1b: Deaths due to malignant neoplasm of the respiratory system and intrathoracic organs in Baden-Württemberg 1990 (1a) and 2010 (1b)
 Sources: Baden-Wuerttemberg State Health Office and State Statistical Office

Deaths due to malignant neoplasms of the respiratory system

1a) 1990



1b) 2010

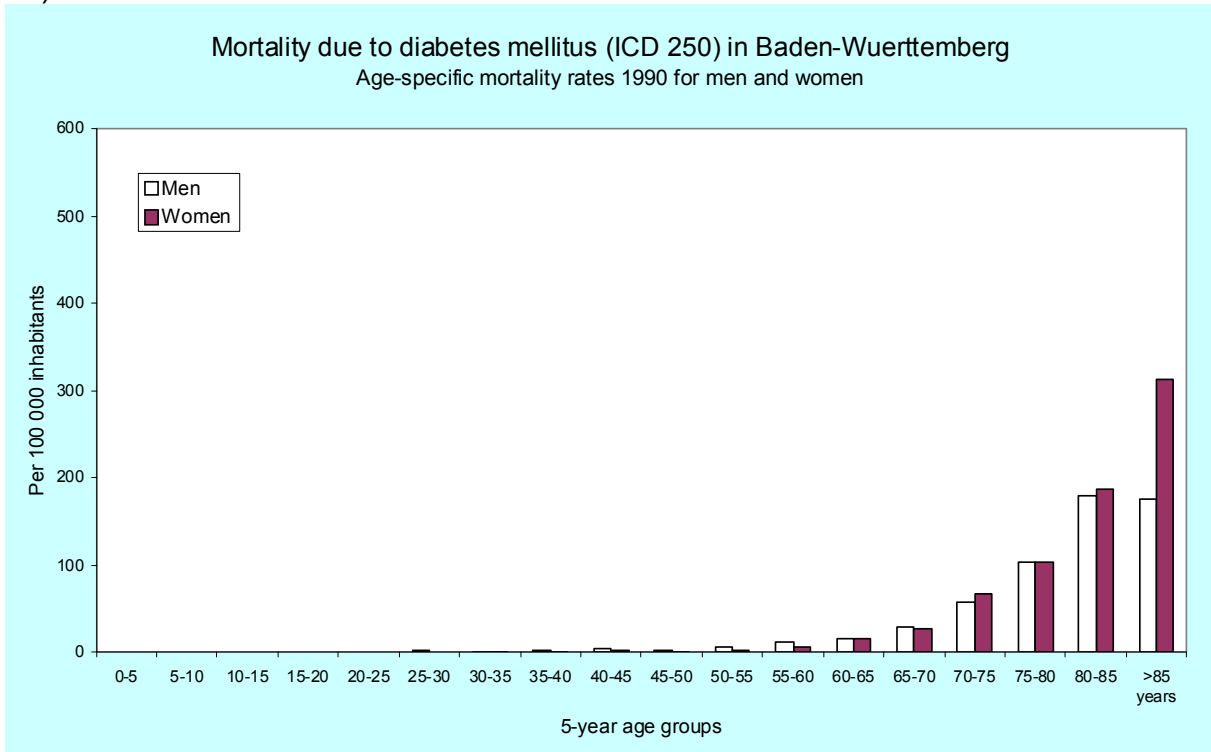


Figures 2a and 2b: Deaths due to diabetes mellitus in Baden-Wuerttemberg 1990 (2a) and 2010 (2b)

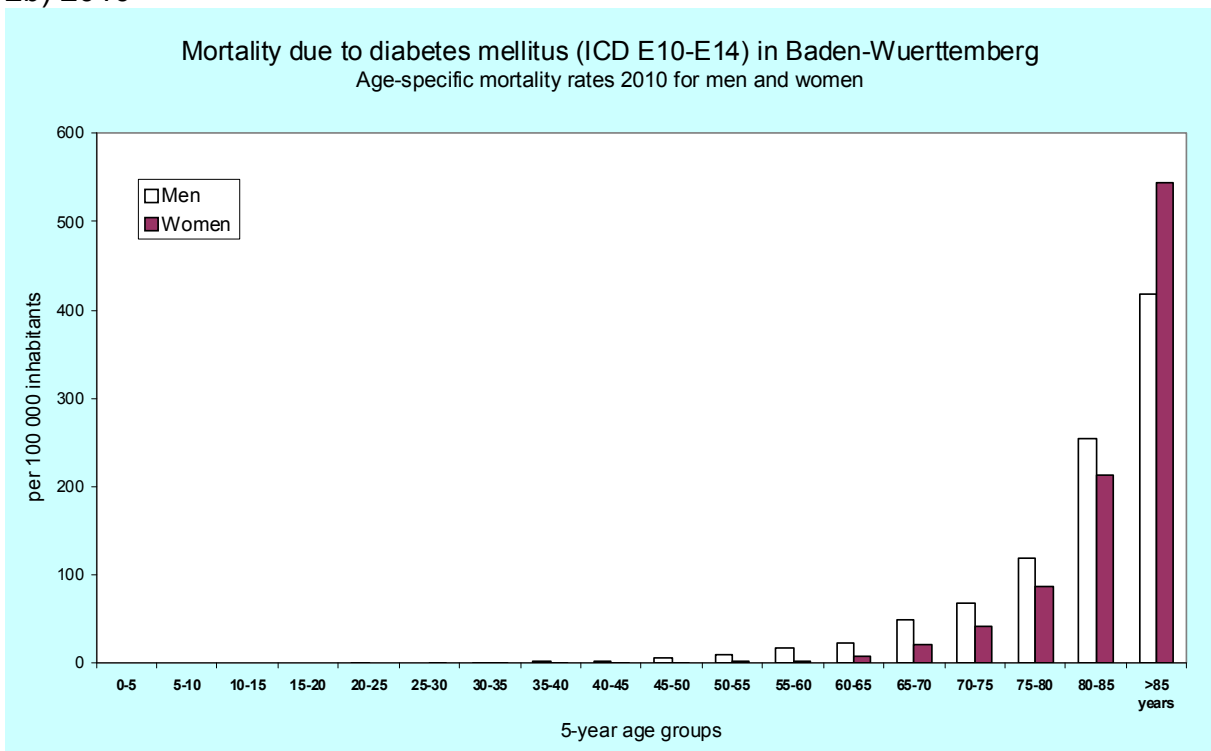
Sources: Baden-Wuerttemberg State Health Office and State Statistical Office

Deaths due to diabetes mellitus

2a) 1990



2b) 2010

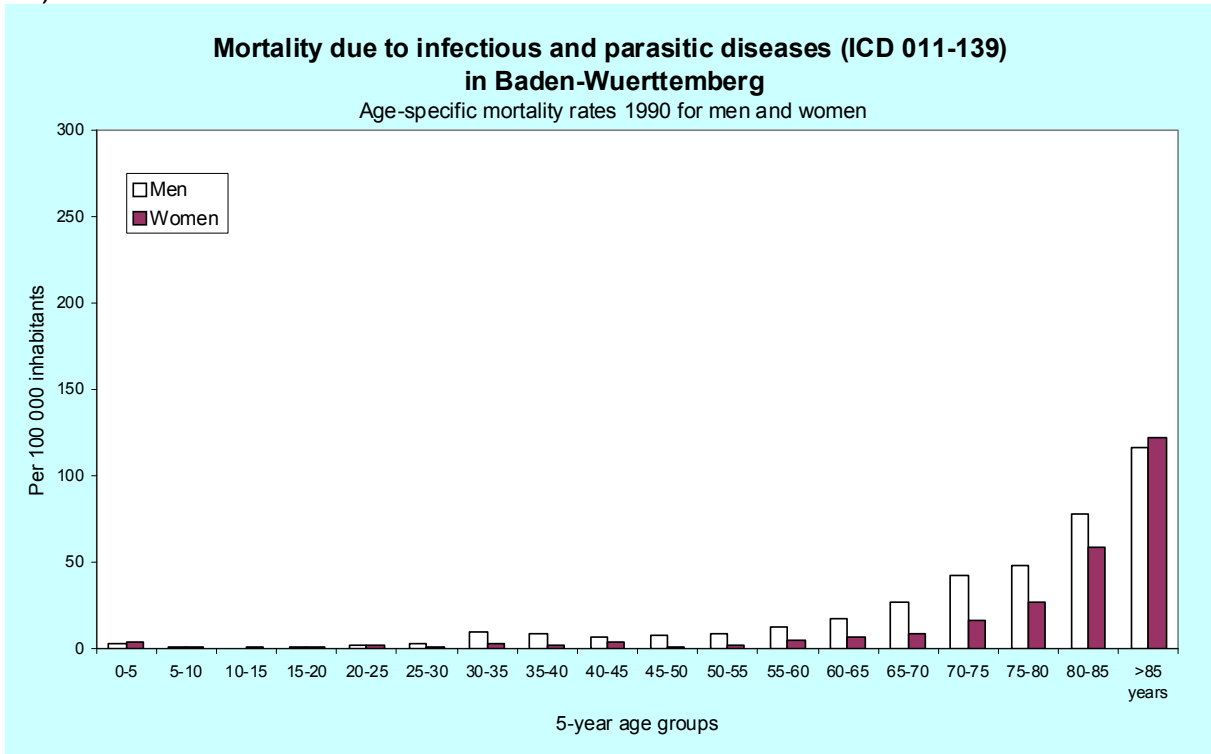


Figures 3a and 3b: Deaths due to infectious and parasitic diseases in Baden-Wuerttemberg 1990 (3a) and 2010 (3b)

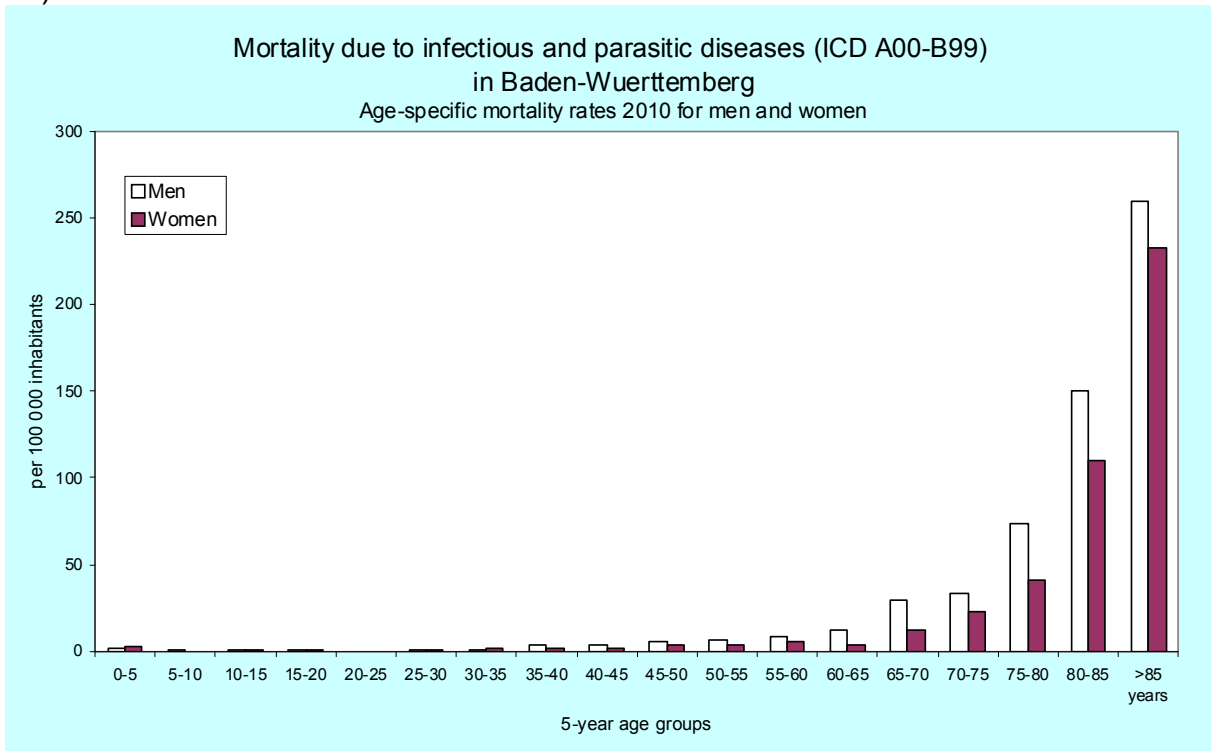
Sources: Baden-Wuerttemberg State Health Office and State Statistical Office

Deaths due to infectious and parasitic diseases

3a) 1990



3b) 2010



Overview of age- and sex-specific mortality rates for selected causes of death

Why this overview?

The following graphs aim to illustrate available data on age-specific mortality for selected causes of death. The selection includes the most frequent causes of death, such as malignant neoplasms and diseases of the circulatory system as well as causes of death which might be of particular interest for prevention (i.e. accidents, malignant neoplasms of the trachea, bronchus and lung, and alcoholic liver disease). Taken together, the selected causes of death cover 93 % of the total mortality in 2010.

What is an age- and sex-specific mortality rate?

An age-specific mortality rate is the number of deaths during a specific period among a certain age-group (e.g. among the 40–45 year old) divided by the number of inhabitants in this age-group. As mortality of men and women generally differs, age-specific mortality rates were calculated and illustrated separately according to gender.

For the graphs in this booklet, mortality data provided by the Statistical Office of Baden-Wuerttemberg for the year 2010 were grouped into 5-year age bands.

Which causes of death have been selected?

Table 2 provides an overview of the distribution of the number of deaths due to the selected causes of death arranged according to ICD-10 codes. (ICD: International Code of Diseases, Version 10)

Diseases of the circulatory system and malignant neoplasms are the most frequent causes of death in Baden-Wuerttemberg and Germany as a whole. About 41 % of all cases of death in 2010 were due to diseases of the circulatory system. Malignant neoplasms caused about 24 % of all deaths. About three per cent of deaths were due to accidents, more than 25 % of which were transport accidents.

Table 2: Selected causes of death in Baden-Wuerttemberg according to ICD 10

ICD 10	Cause of death	Numbers of deaths 2010		Total
		Men	Women	
A00-B99	Infectious and parasitic diseases	809	900	1,709
B20-B24	Human immunodeficiency virus (HIV) disease	29	12	41
C00-C97	Malignant neoplasms	12,325	11,156	23,481
C16	Malignant neoplasms of stomach	608	480	1,088
C22-C24	Malignant neoplasms of liver, gallbladder, and intrahepatic bile ducts	824	554	1,378
C33-C39	Malignant neoplasms of respiratory organs and intrathoracic organs	3,032	1,417	4,449
C50	Malignant neoplasms of breast	17	2,162	2,179
C61	Malignant neoplasms of prostate	1,479		1,479
C81-C96	Malignant neoplasms of lymphoid, haematopoietic and related tissue	1,086	981	2,067
E10-E14	Diabetes mellitus	1,326	1,820	3,146
F00-G99	Mental and behavioural disorders and diseases of the nervous system	2,221	2,708	4,929
I00-I99	Diseases of the circulatory system	17,209	23,197	40,406
I21	Acute myocardial infarction	3,544	2,843	6,387
J00-J99	Diseases of the respiratory system	3,379	3,012	6,391
J10-J18	Influenza and pneumonia	757	952	1,709
K00-K93	Diseases of the digestive system	2,719	2,746	5,465
K70	Alcoholic liver disease	754	281	1,035
K71-K77, K80-K87	Diseases of the liver and other disorders of gallbladder, biliary tract and pancreas	811	644	1,455
V01-X59	Accidents	1,619	1,276	2,895
V01-V99	Transport accidents	421	150	571
W00-W13	Falls	721	760	1,481
X60-X84	Intentional self-harm	1,036	348	1,384
X85-Y09	Assault	27	31	58
A00-T98	Total number of deaths	46,666	52,141	98,807

Although infectious diseases are coded as the cause of death in only about one percent of deaths in Baden-Wuerttemberg, their age-specific distribution is still of interest for surveillance and identification of potential risk groups.

Besides several types of malignant neoplasms (stomach, liver and bile, prostate) the following specific causes of death have been selected:

- Diabetes mellitus (ICD E10-E14)
- Alcoholic liver disease (ICD K70)
- Pneumonia and influenza (ICD J10-J18)
- Intentional self-harm (ICD X60-X84)
- Diseases of the nervous system (ICD F00-G99)
- HIV-infection (ICD B20 -B24)
- Assault (ICD X85-Y09)

To enable better orientation without prior knowledge of ICD-classification, this brochure also contains an alphabetic list of these causes of death with respective page numbers (see page 1).

What is important when interpreting the age-specific mortality rates?

The figures reflect age-specific mortality rates for women (■) and men (□). The heights of the corresponding bars are proportional to the age-specific mortality rates. For all depicted age categories the “number of deaths per 100 000 inhabitants” was calculated. The scale of the vertical y-axis was chosen separately for each cause of death according to the observed mortality rates, which has to be taken into account when the figures are interpreted.

These rates can be considered as estimates for the mean risk of dying in the corresponding age group due to the specific cause of death. Estimates for older age groups are more prone to variation, due to a smaller population in these groups. The visual comparison between age groups as well as between women and men provides an impression of the risk in one age group compared to another one and of the risk in men compared to women of the same age group, respectively. The scales of the different graphs are not identical. This has to be taken into consideration when comparing mortality rates of different causes of death.

In these graphs 'cohort effects' are not identifiable. Examples of these might include differences in the mortality risk of different generations due to specific risk factors or protective influences. Women at the age of 20 to 30 years today, for example, will not have the same risk of lung cancer at the age of 70 to 80 years as women who are currently in this age group. Due to the increase in tobacco consumption among younger women in the last fifty years they will have a higher tobacco-related mortality risk than elderly women today.

Keeping this in mind, the graphs permit comparisons of gender and age for the mortality data observed in 2010. Since mortality patterns usually exhibit changes in the long run, these comparisons can be used for prevention and interpretation in the next years.

What do the age- and sex-specific risk profiles look like?

For most causes of death, the mortality increases significantly with age. This is the case for malignant neoplasms and diseases of the circulatory system. Different risk profiles are observed in the mortality caused by alcoholic liver disease, accidents, HIV-infection, suicide and assault, where younger age groups are already more or less strongly affected. Similarly, the mortality due to malignant neoplasms of lung, trachea and bronchus as well as of liver and gallbladder shows an increase of risk at younger age (particularly for men) than the mortality due to other causes.

These patterns and differences between the mortality of women and men can provide clues to avoidable risks. Thus it may be assumed that gender differences in lung cancer mortality are associated with differences in smoking habits.

Differences between men and women in the mortality due to accidents are probably explained by differences in risk behaviour and the distances driven by men and women.

There are also remarkable differences in the age-specific rates of death between men and women when comparing the mortality due to acute myocardial infarction, malignant neoplasms in total as well as for diseases of the digestive system, of the respiratory system, and of the liver. The comparison of gender-specific mortality due to intentional self-harm also exhibits higher rates for men in all age groups.

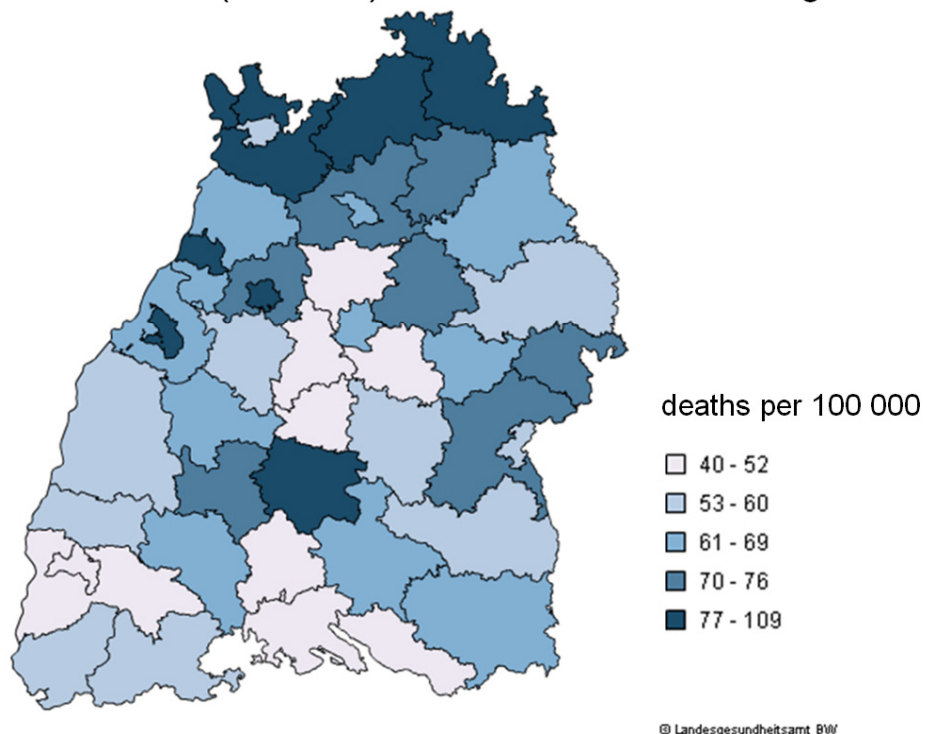
Mortality due to HIV infection, transport accidents or assault is observed more frequently among younger age groups than in the elderly.

For most of the causes of death considered in this report mortality rates for men were higher than those for women. This applies to nearly all age groups. Therefore, the reduction in smoking among teenagers as well as initiatives regarding men's health, such as the specialisation of doctors in this area or prevention programmes customised to the needs of men, are welcome. The first German report on male health focusing on mental diseases points towards gender specific characteristics. These have to be taken into account in order to improve the acceptance and success of health-related intervention programmes for men.

Among women the increase in deaths due to lung cancer requires attention, and appropriate measures to prevent avoidable loss of life.

Figure 4: Cases of death due to myocardial infarction per 100 000 inhabitants in different administrative units (Stadt- / Landkreise) of Baden-Wuerttemberg 2010
Sources: Health atlas of Baden-Wuerttemberg, Baden-Wuerttemberg State Statistical Office

Mortality due to myocardial infarction per 100 000 persons in administrative units („Kreise“) of Baden-Wuerttemberg 2010



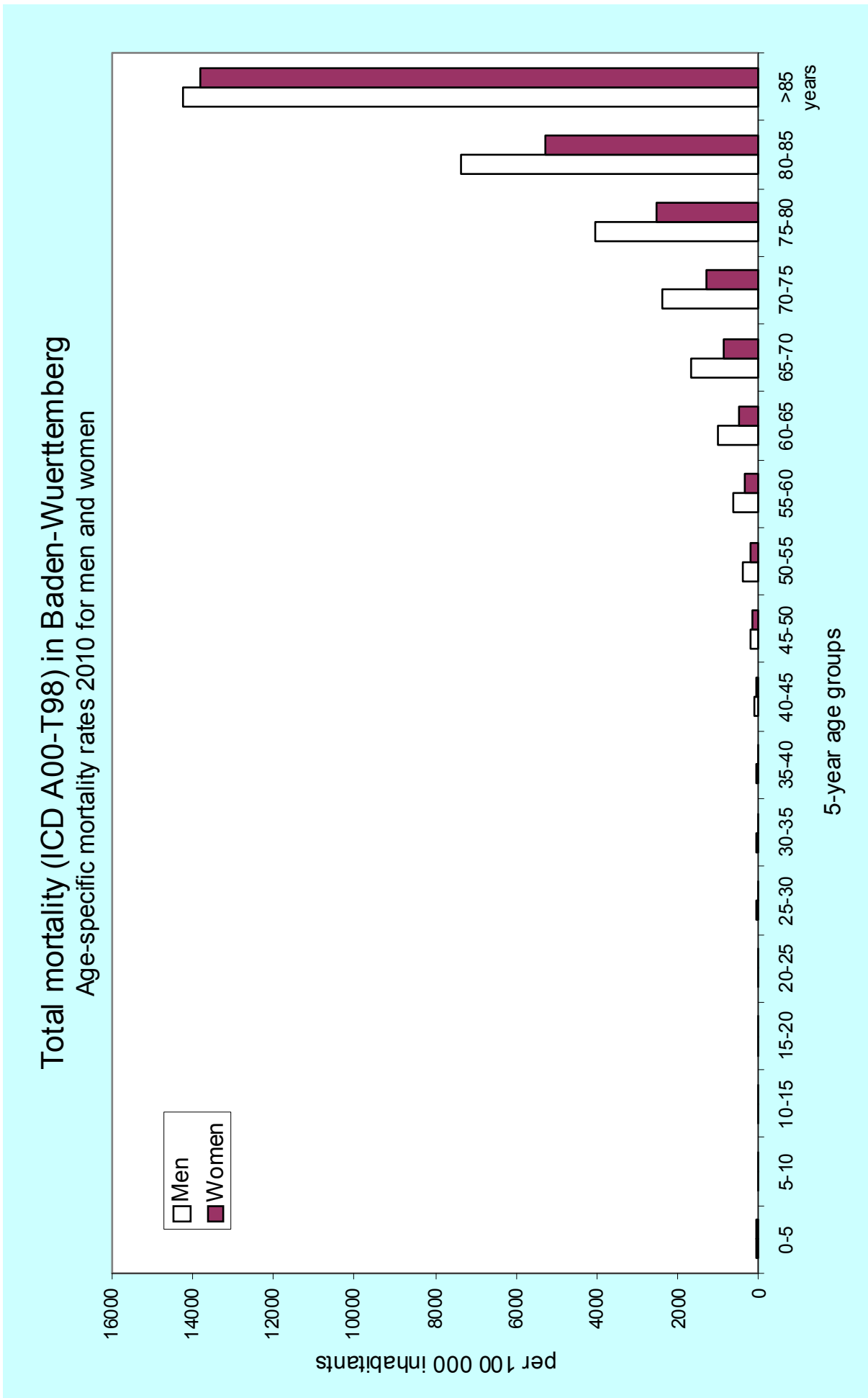
In Baden-Wuerttemberg, life expectancy for both genders is above the German average. In the period 2009/2011 life expectancies for newborn males and females in Baden-Wuerttemberg were 79.2 and 83.6 years, respectively. The corresponding figures for Germany in this period were 77.3 years for newborn males and 82.5 years for newborn females.

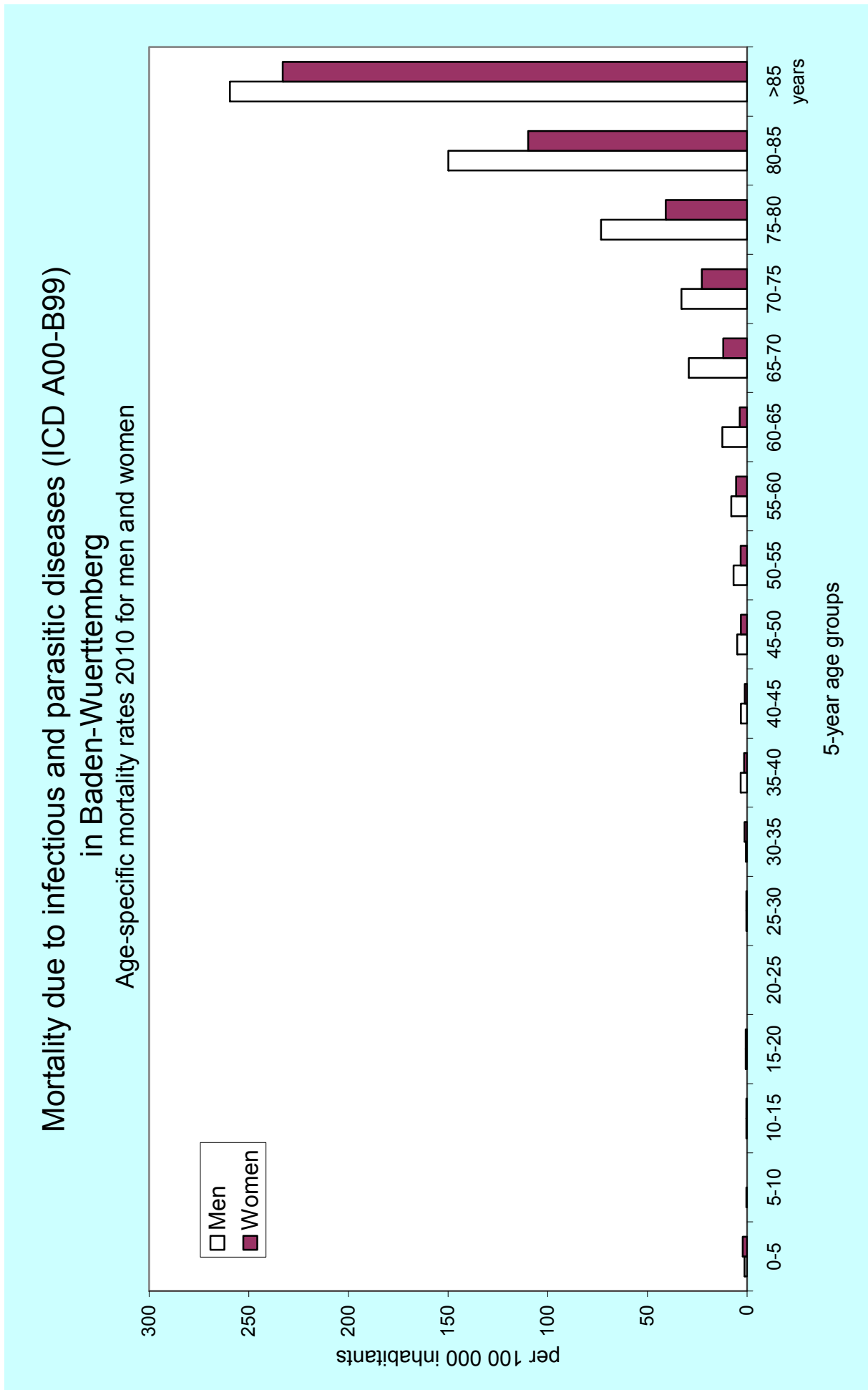
However, regional differences in mortality due to different causes of death can also be found in Baden-Wuerttemberg. Figure 4 shows a map taken from the health atlas of Baden-Wuerttemberg, which displays the mortality due to myocardial infarction in different administrative units (*Stadt- und Landkreise*). This mortality appears to be higher in the North than in the South of Baden-Wuerttemberg. There are various possible reasons for this pattern, ranging from differences in health care provision, different lifestyle habits and risk factors to differences in the handling of death certificates.

Hence the establishment of regional priorities for prevention and health promotion is one of the aims of local health conferences which are held in cooperation with many different participants. The health atlas for Baden-Wuerttemberg and this brochure support these efforts by providing the corresponding data needed for decision making.

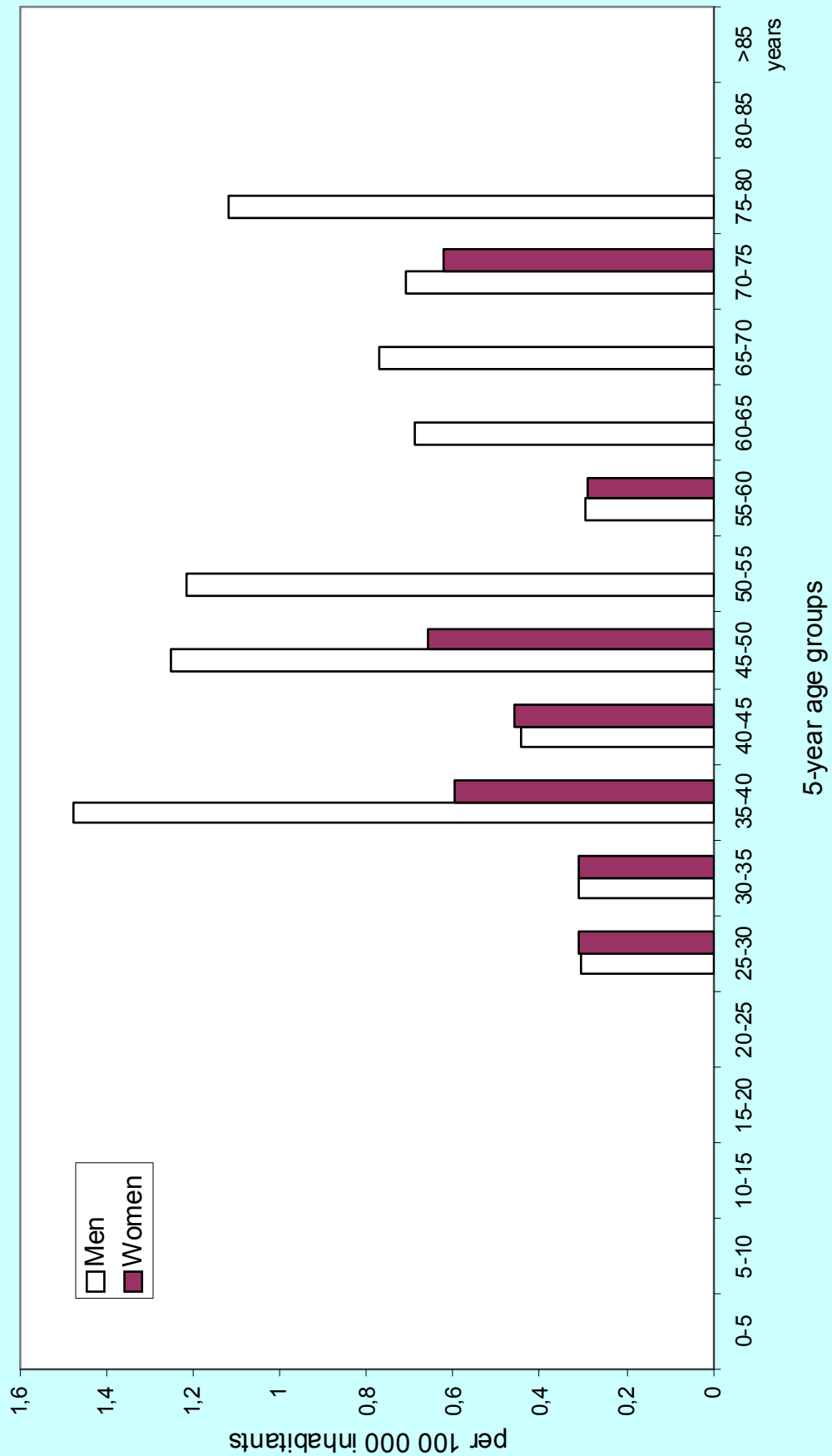
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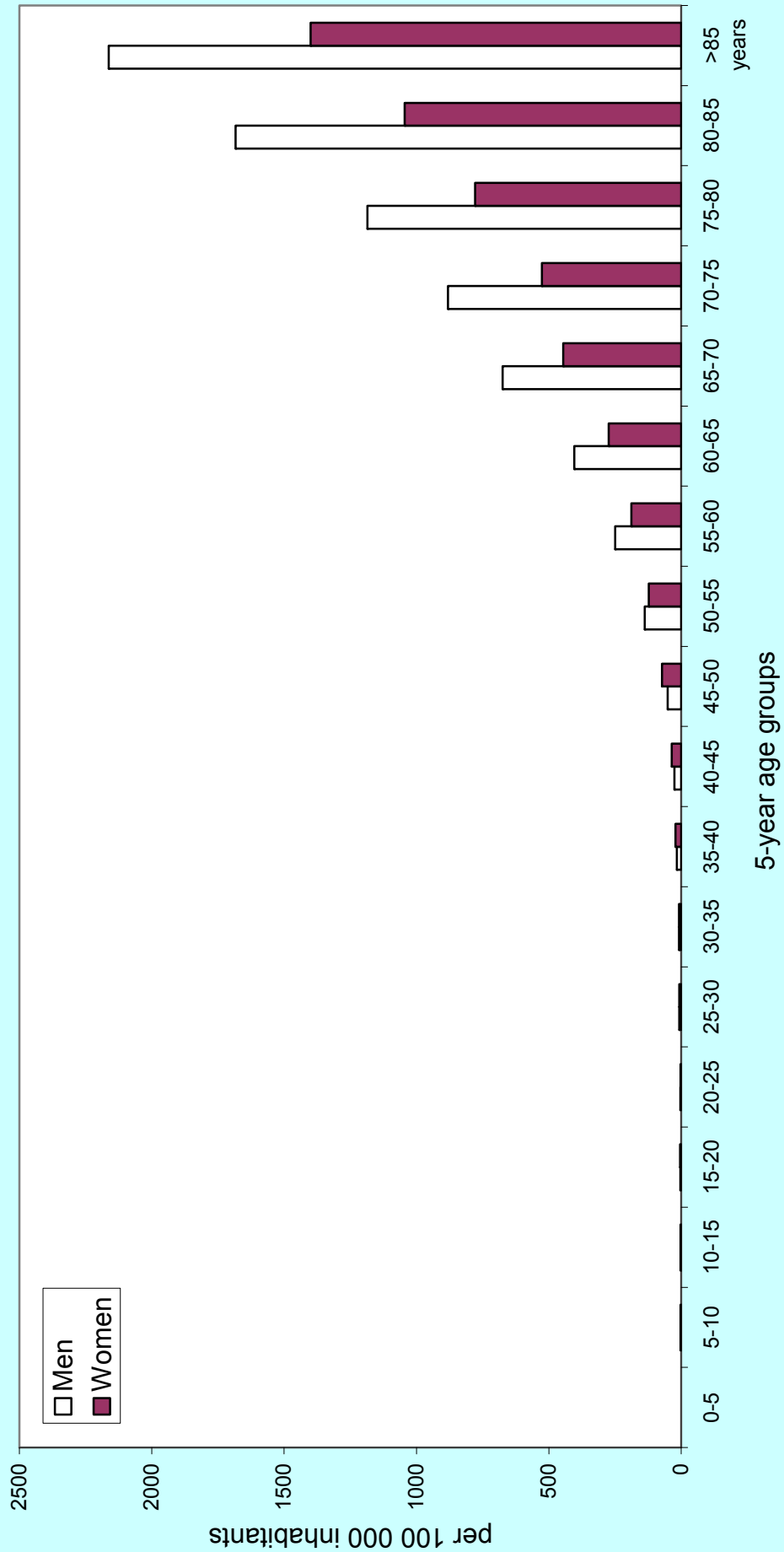




Mortality due to HIV disease (ICD B20-B24) in Baden-Wuerttemberg
 Age-specific mortality rates 2010 for men and women

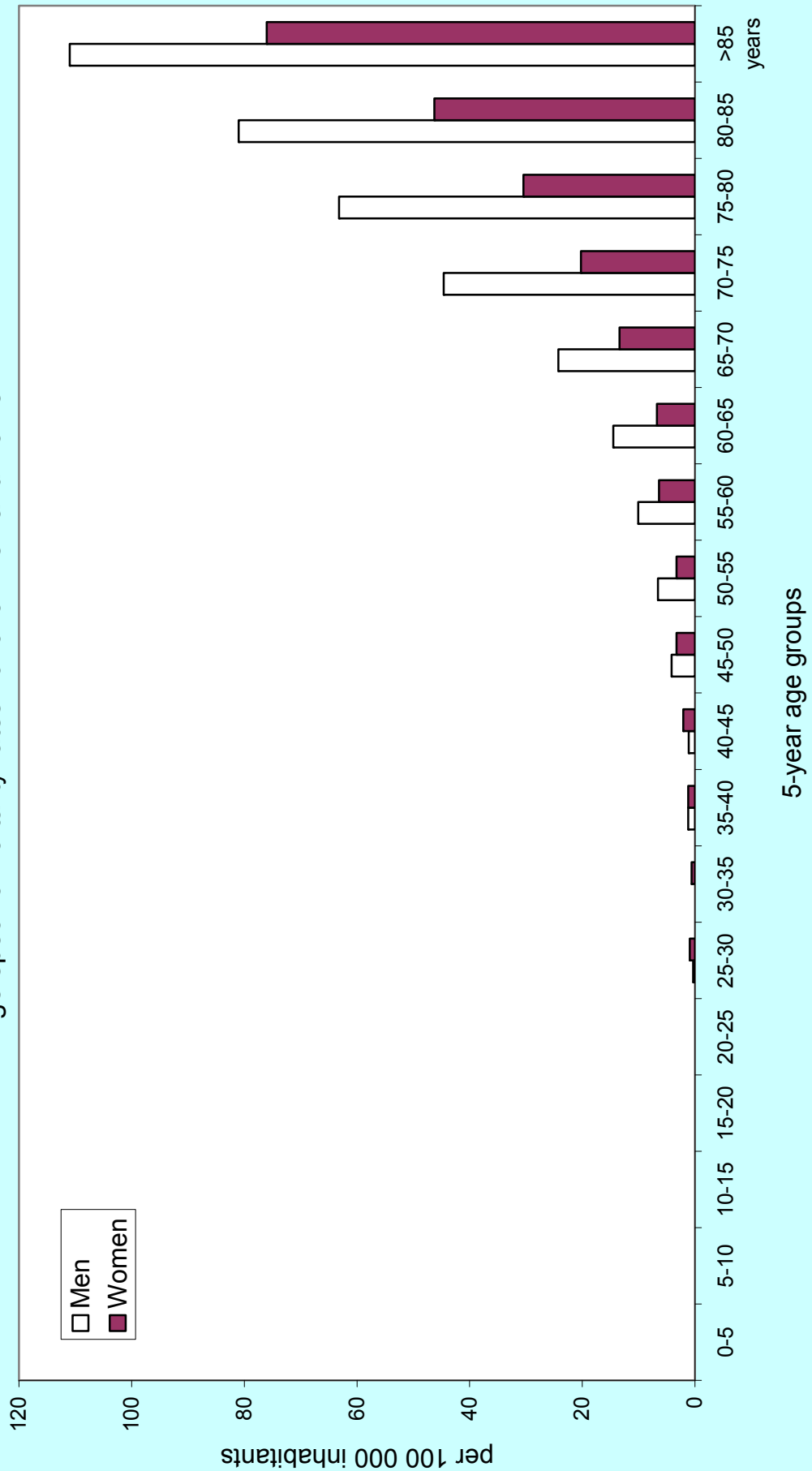


Mortality due to malignant neoplasms (ICD C00-C97)
in Baden-Wuerttemberg
Age-specific mortality rates 2010 for men and women

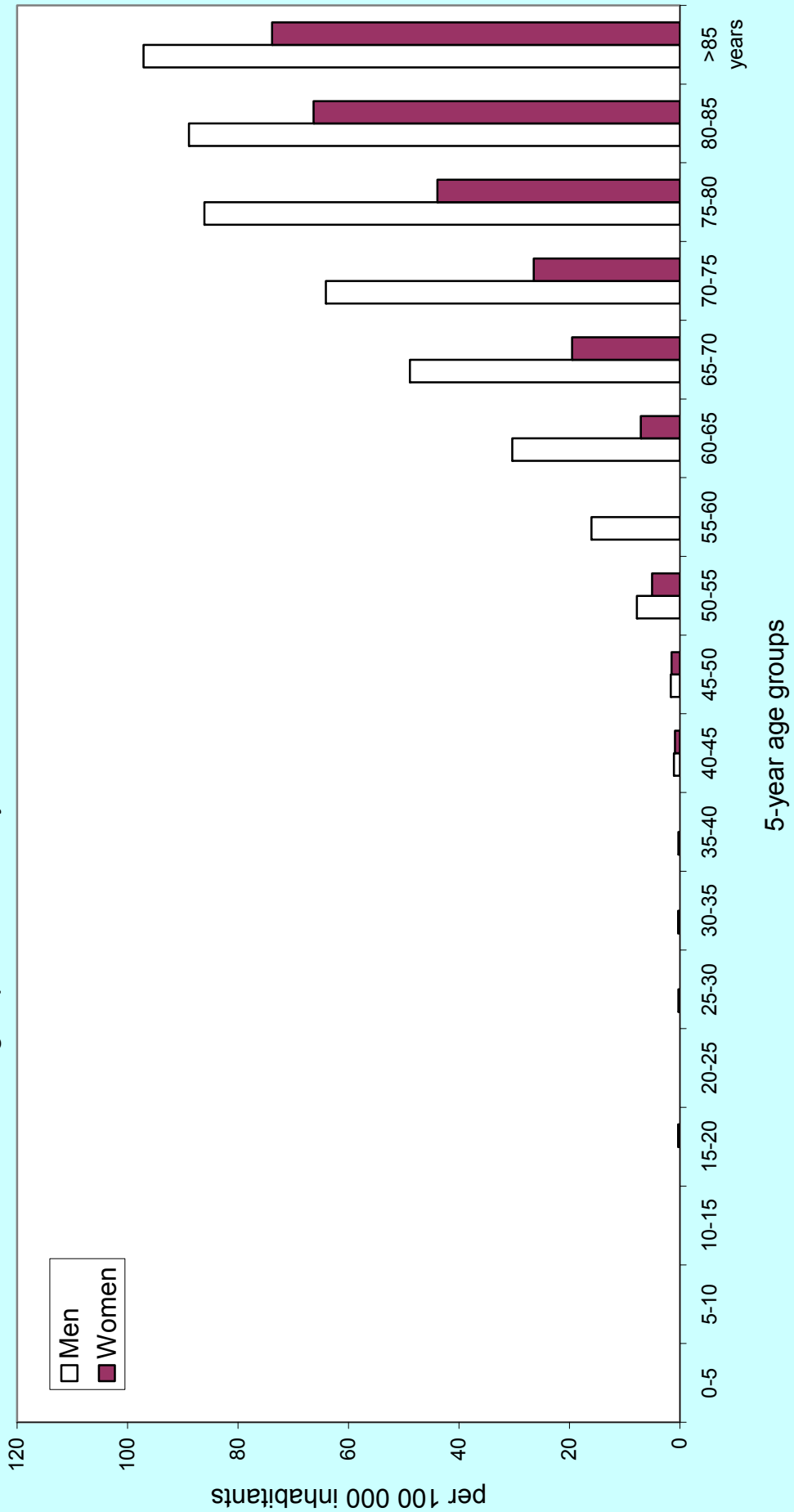


Mortality due to malignant neoplasms of stomach (ICD C16)
in Baden-Wuerttemberg

Age-specific mortality rates 2010 for men and women

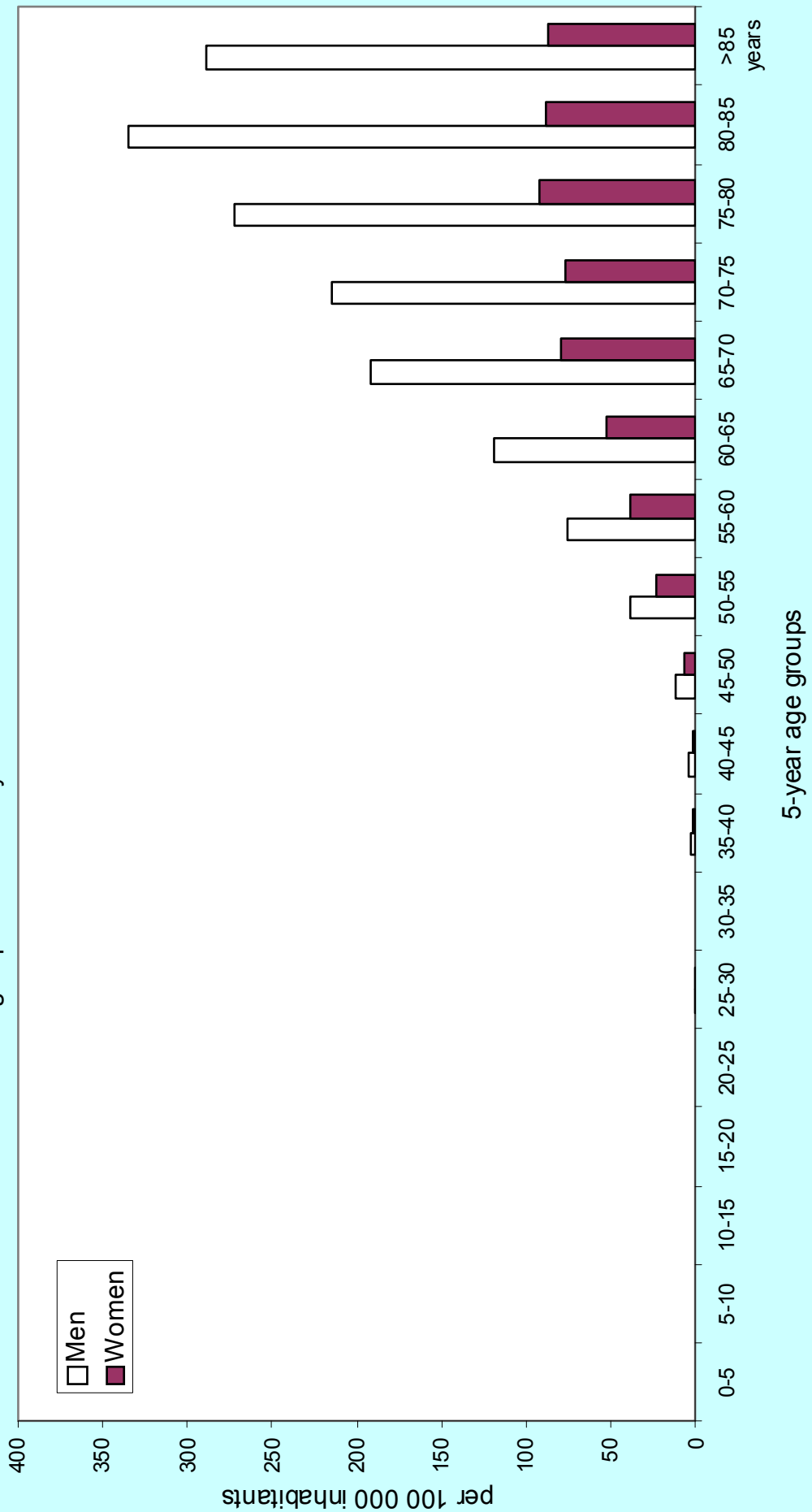


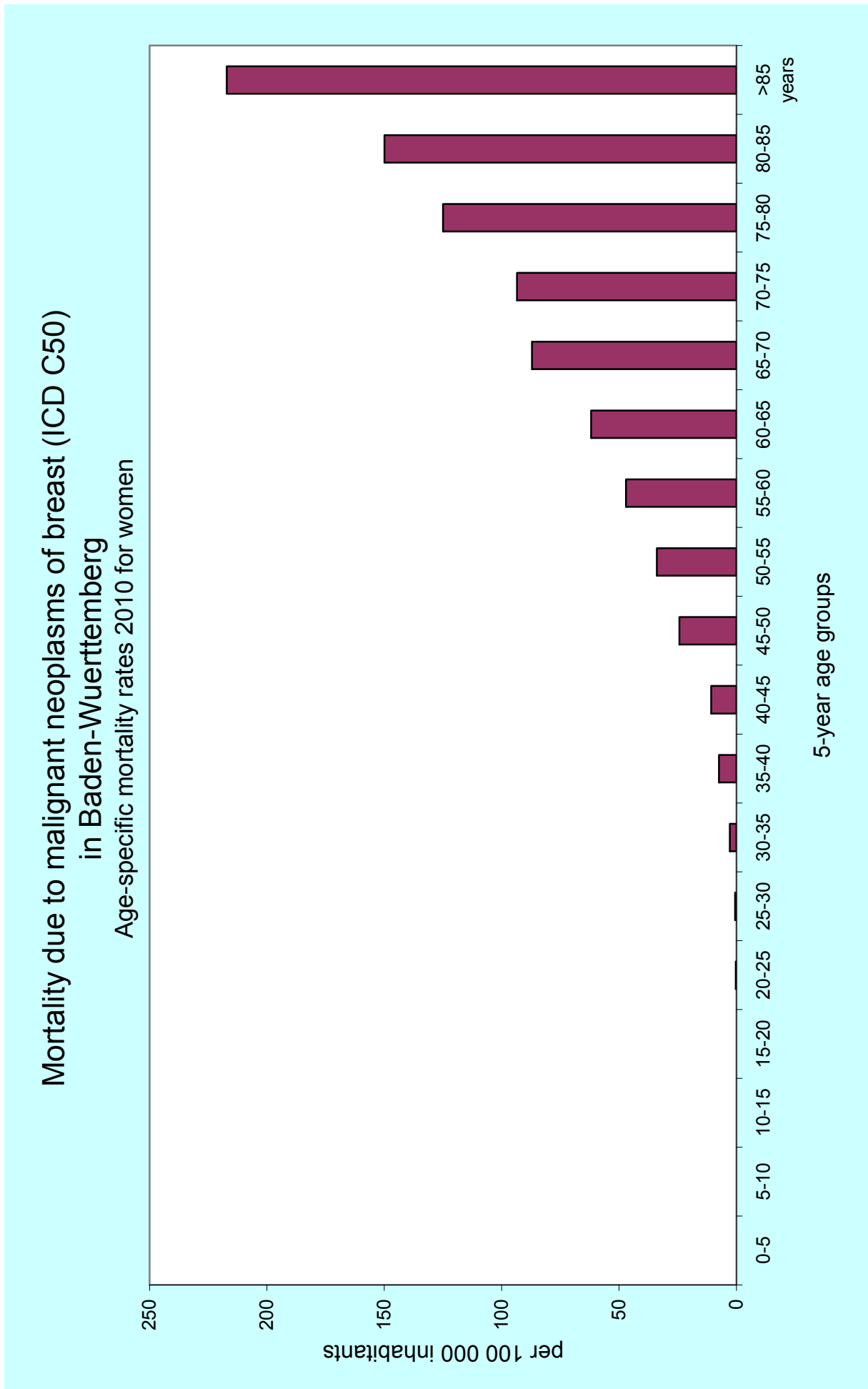
Mortality due to malignant neoplasms of liver, gallbladder and intrahepatic bile ducts (ICD C22-C24) in Baden-Wuerttemberg
 Age-specific mortality rates 2010 for men and women



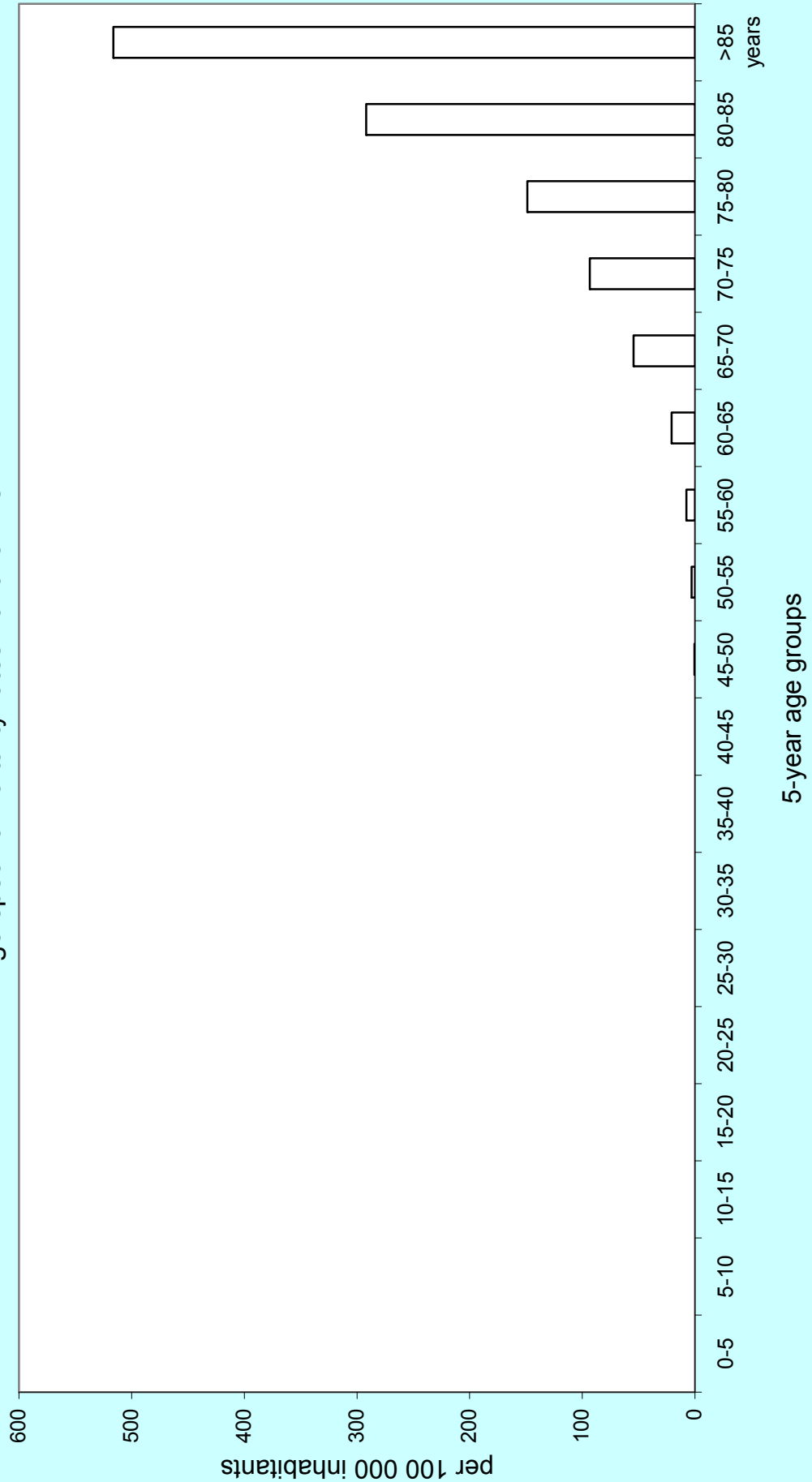
**Mortality due to malignant neoplasms of respiratory and intrathoracic organs
(ICD C30-C39) in Baden-Wuerttemberg**

Age-specific mortality rates 2010 for men and women



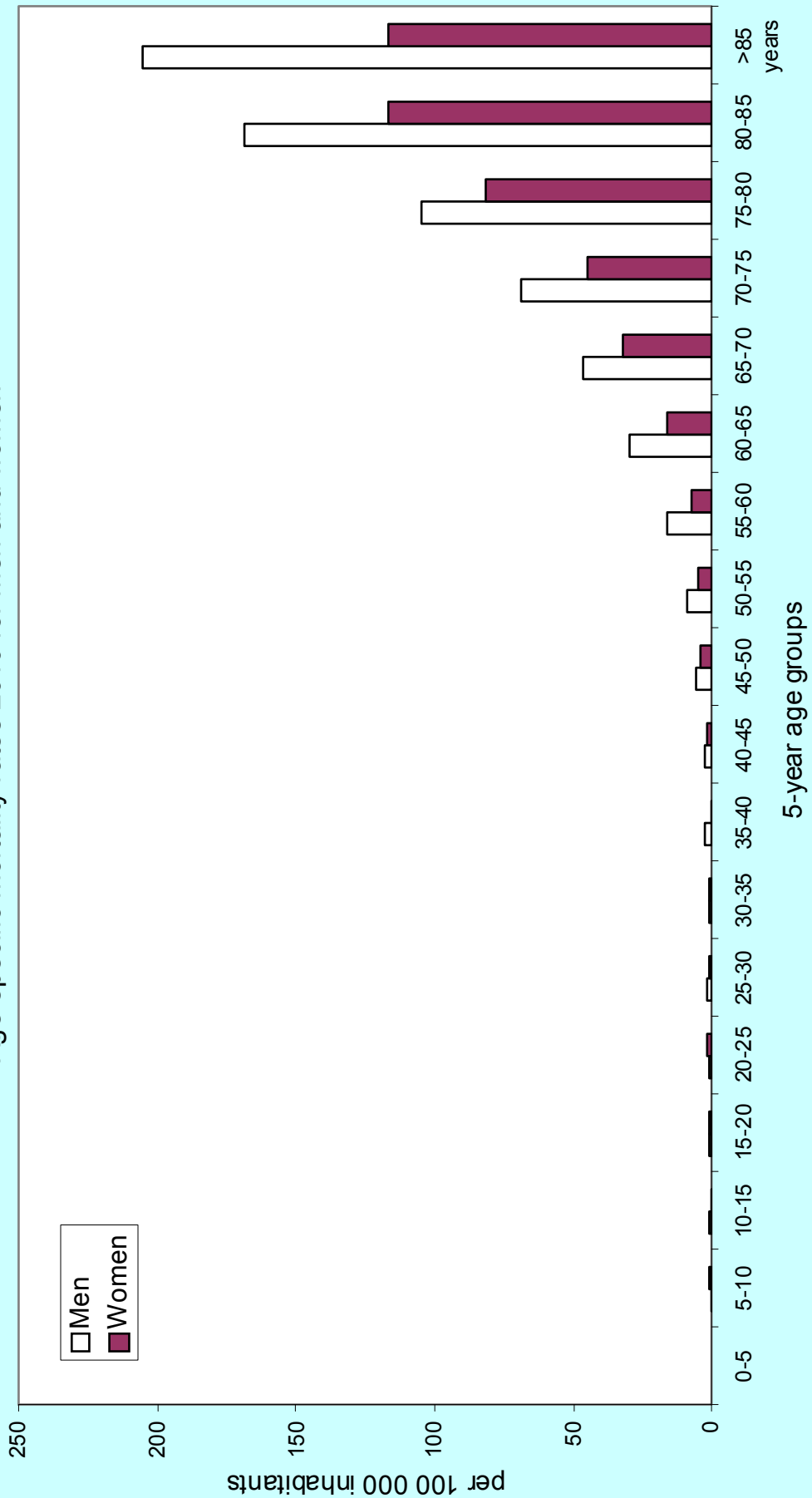


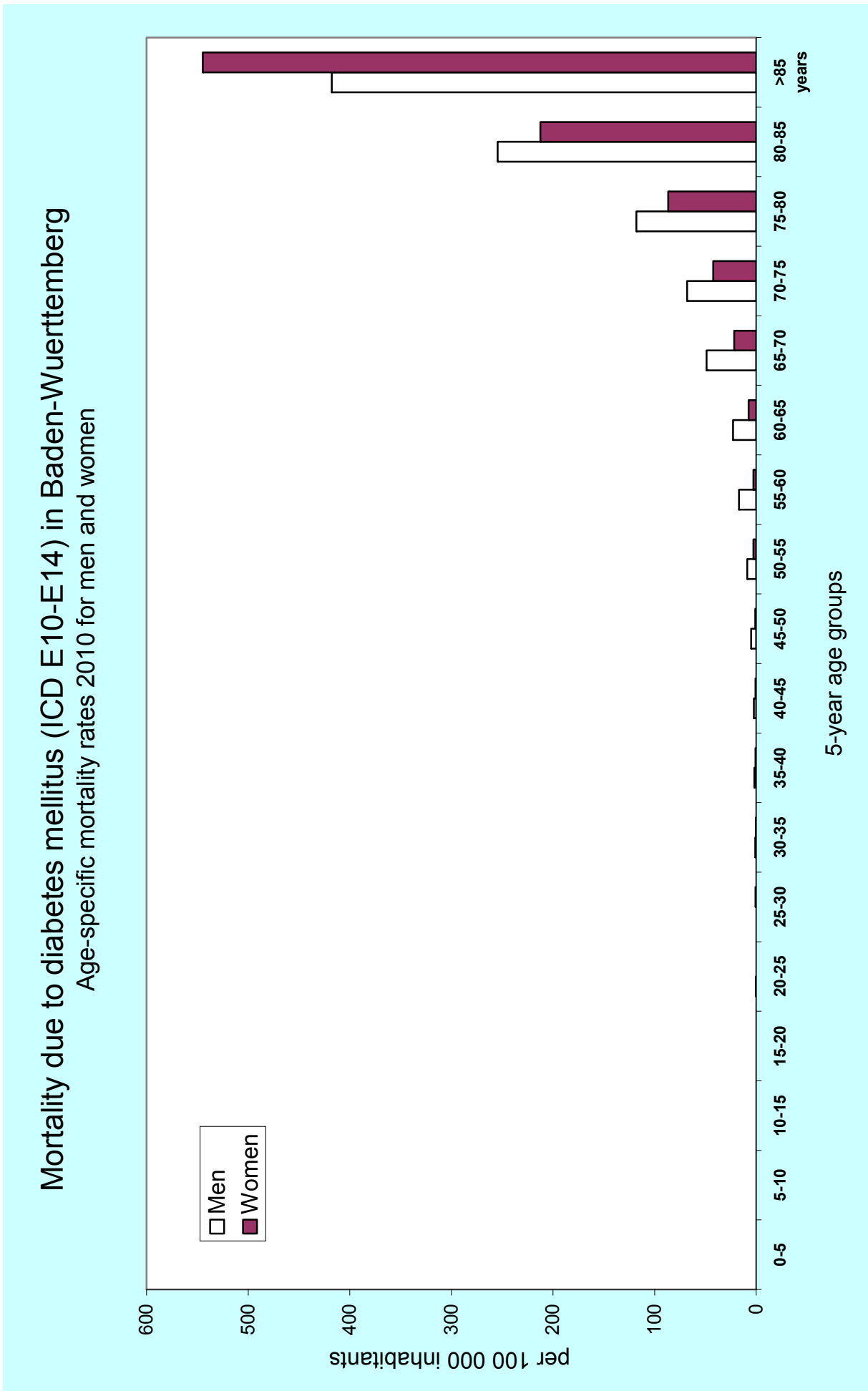
Mortality due to malignant neoplasms of prostate (ICD C61)
in Baden-Wuerttemberg
Age-specific mortality rates 2010 for men

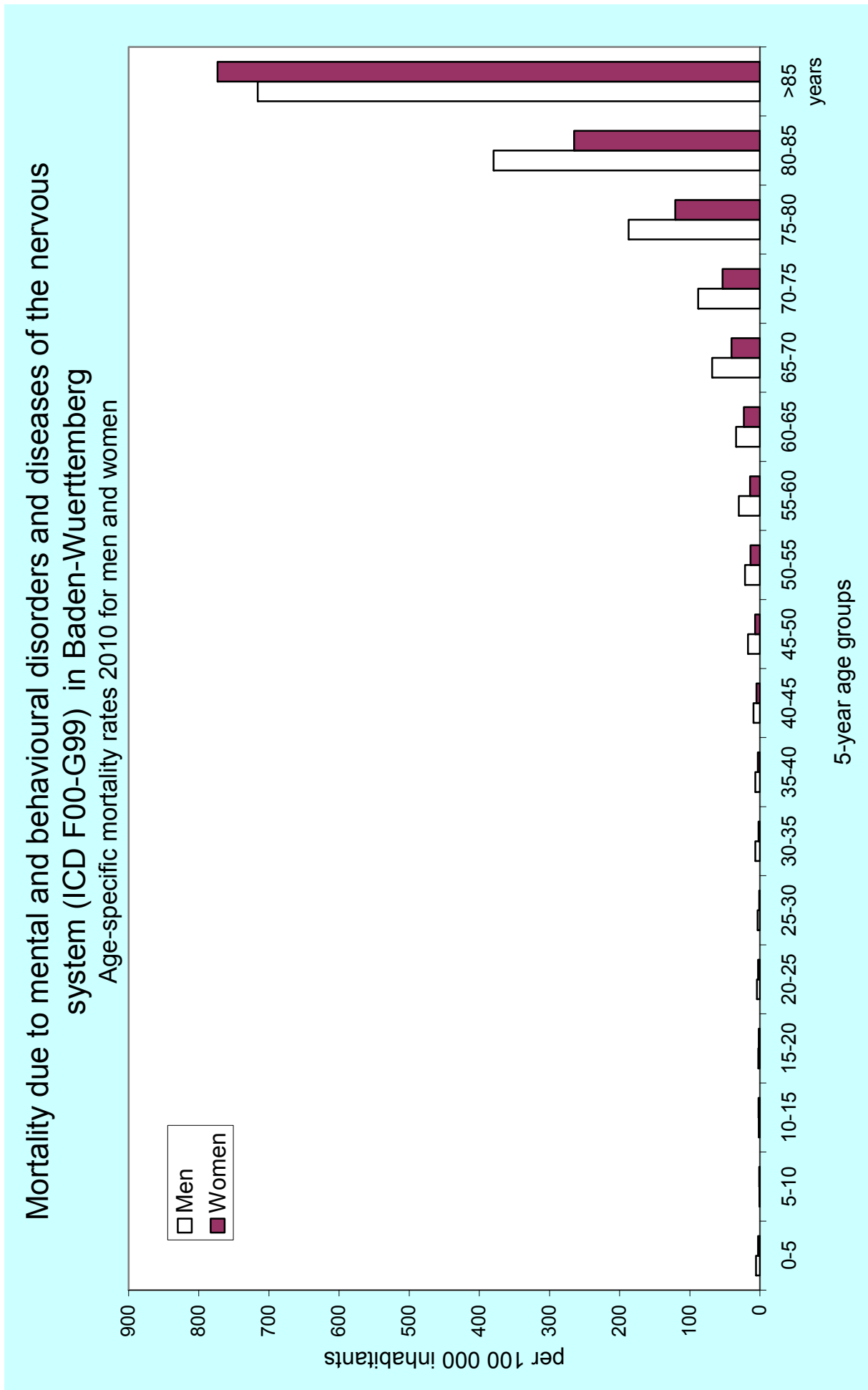


Mortality due to malignant neoplasms of lymphoid, haematopoietic and related tissue (ICD C81-C96) in Baden-Wuerttemberg

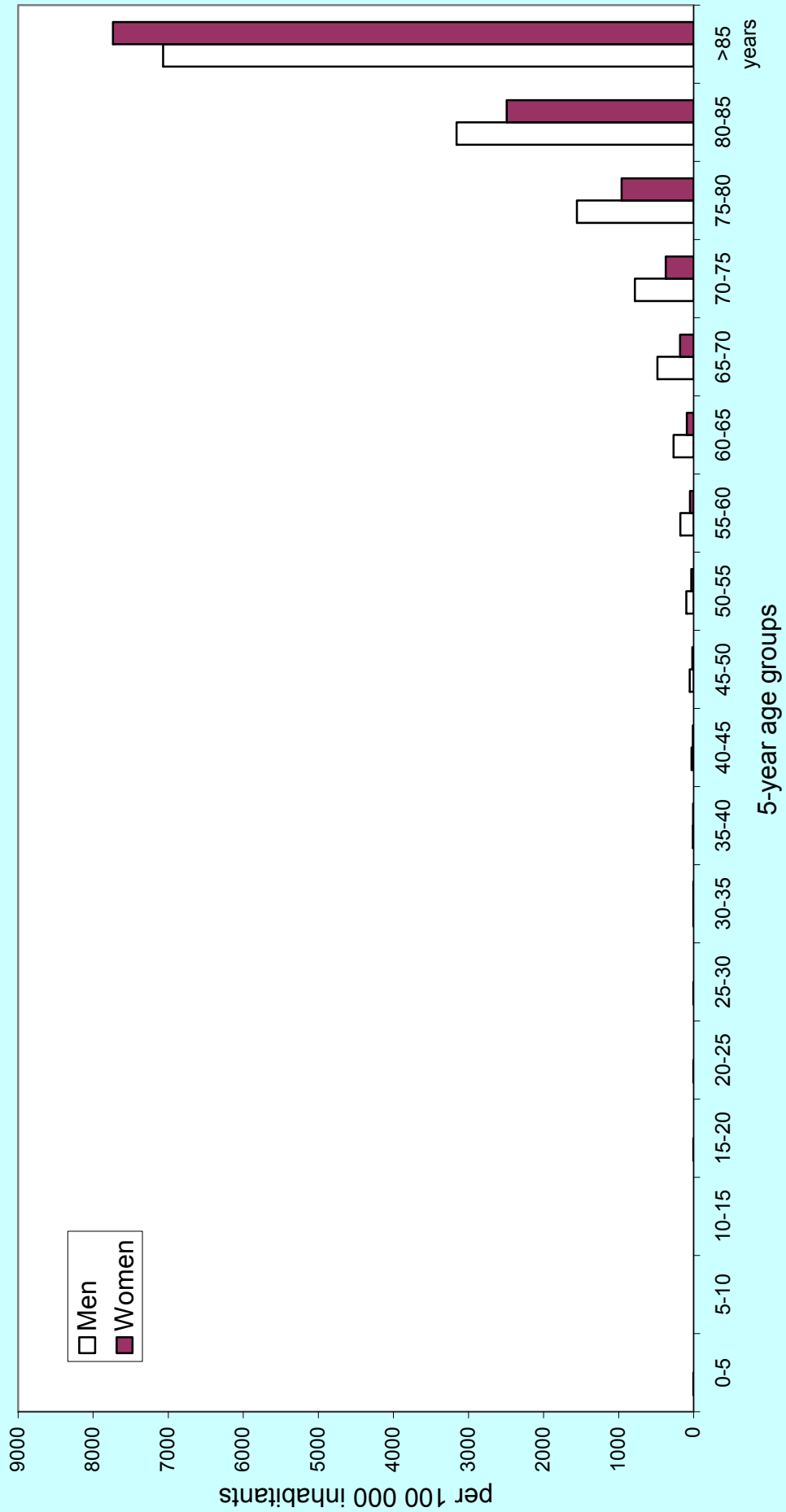
Age-specific mortality rates 2010 for men and women



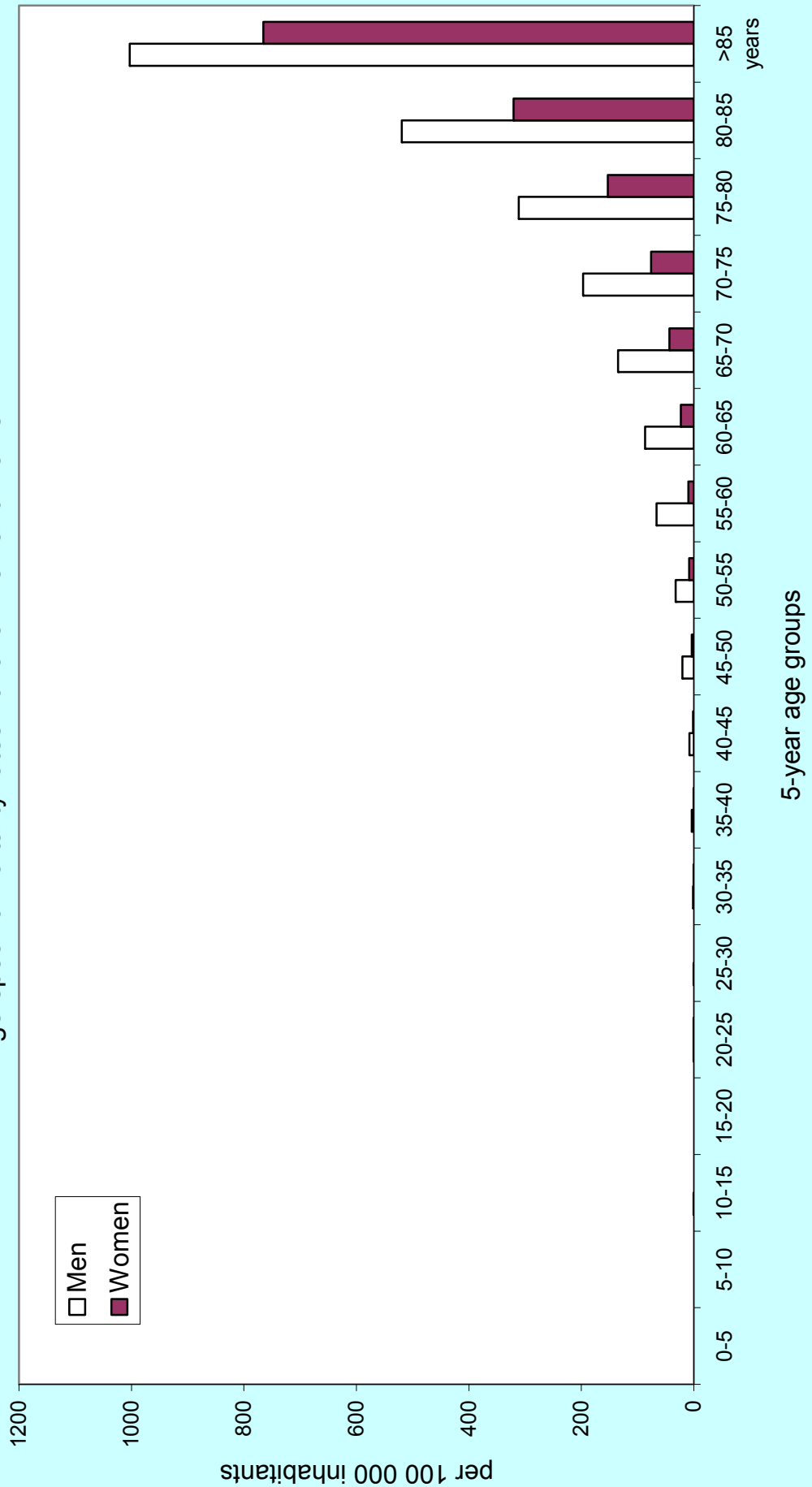




Mortality due to diseases of the circulatory system (ICD I00-I99)
 in Baden-Wuerttemberg
 Age-specific mortality rates 2010 for men and women

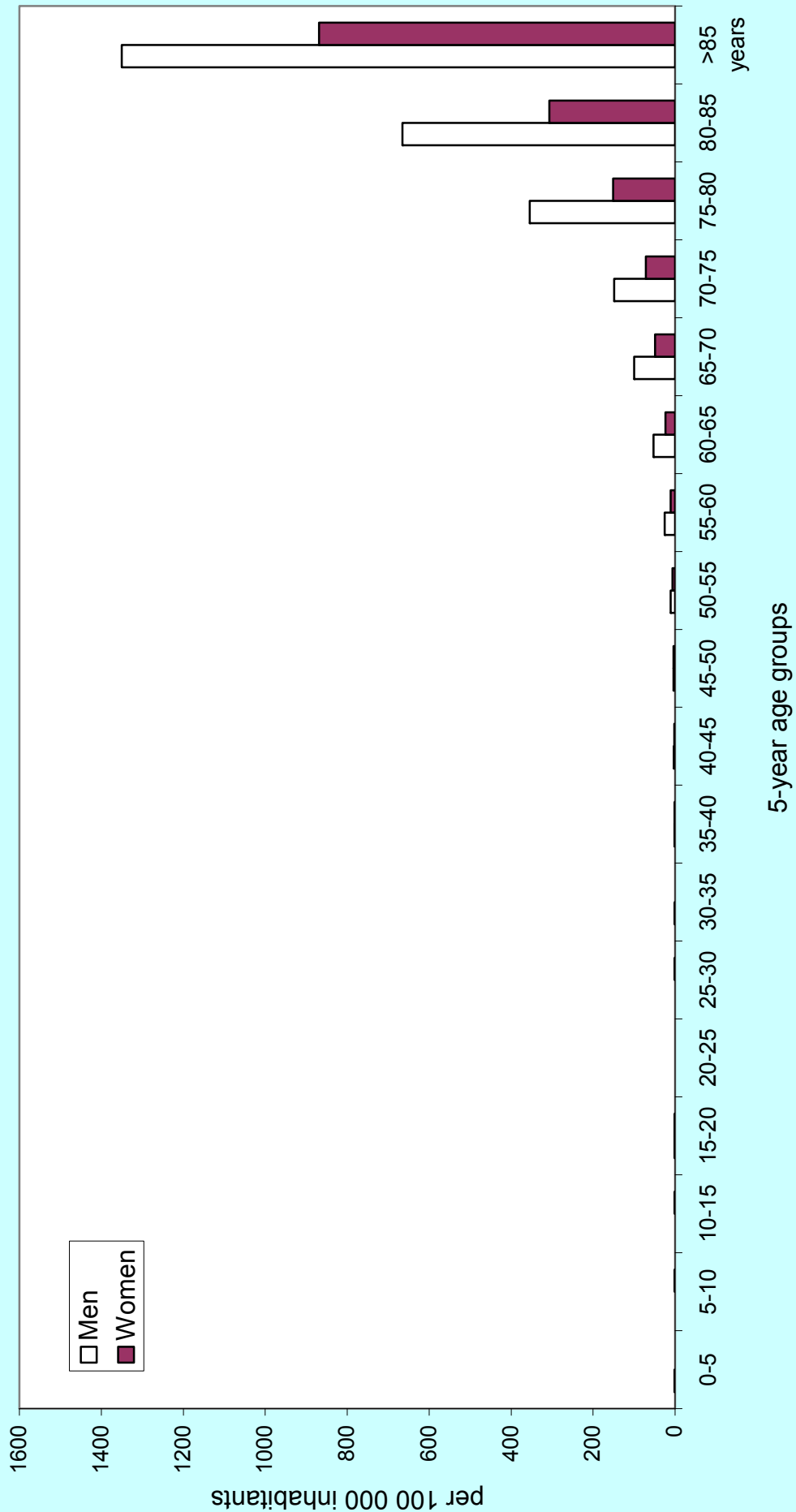


Mortality due to acute myocardial infarction (ICD I21)
in Baden-Wuerttemberg
Age-specific mortality rates 2010 for men and women



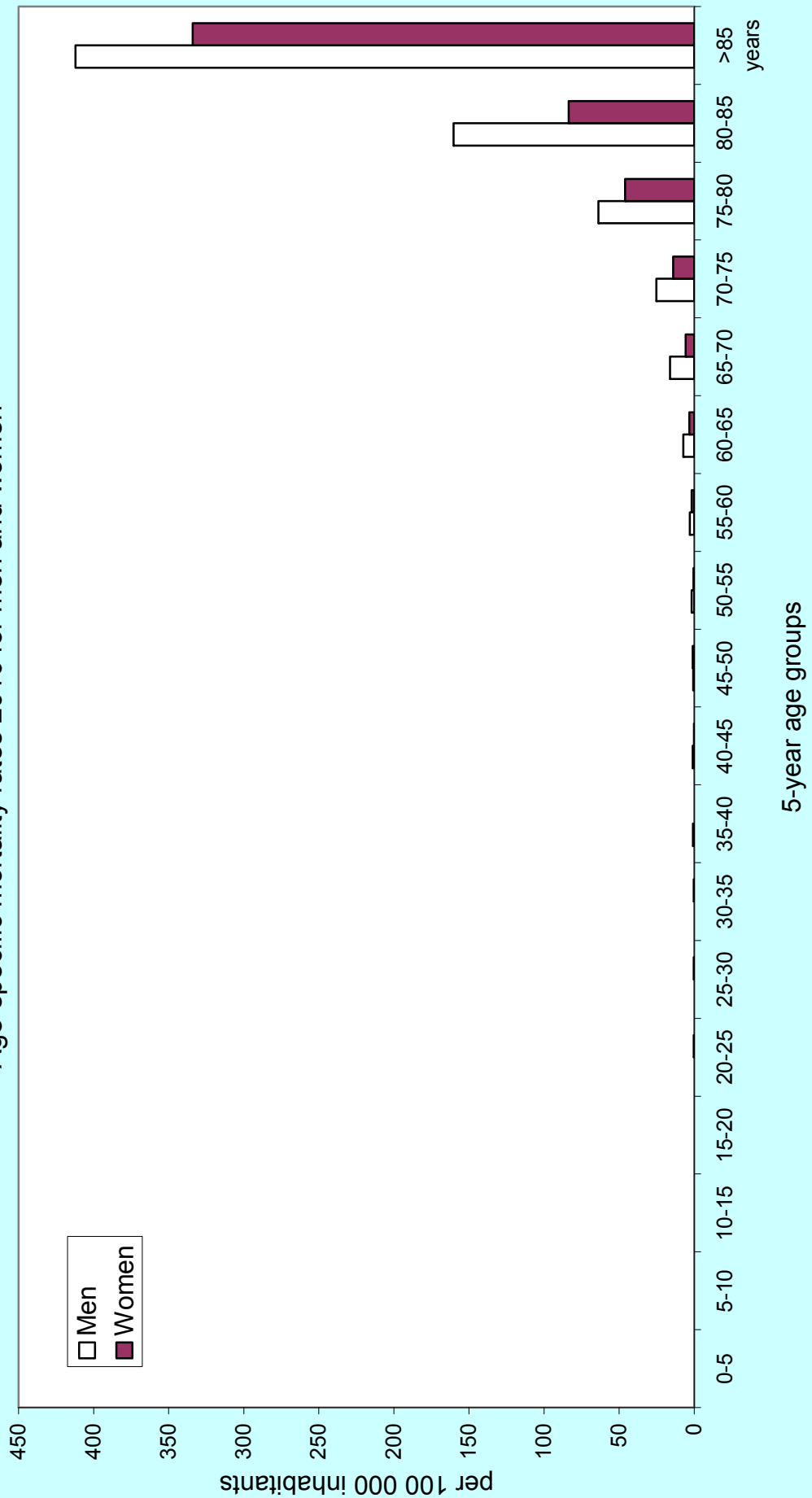
Mortality due to diseases of the respiratory system (ICD J00-J99) in Baden-Wuerttemberg

Age-specific mortality rates 2010 for men and women



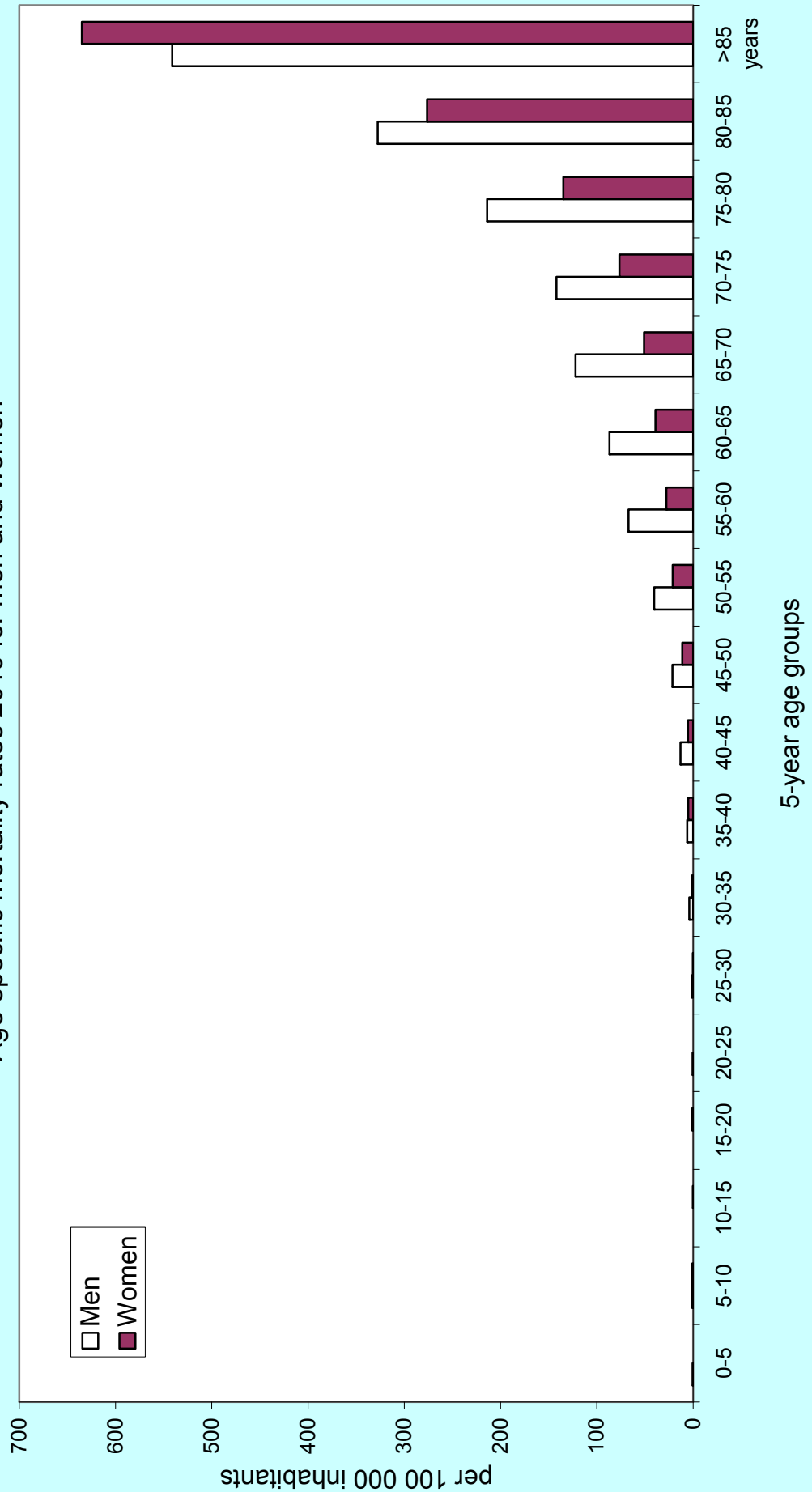
Mortality due to influenza and pneumonia (ICD J10-J18) in Baden-Wuerttemberg

Age-specific mortality rates 2010 for men and women

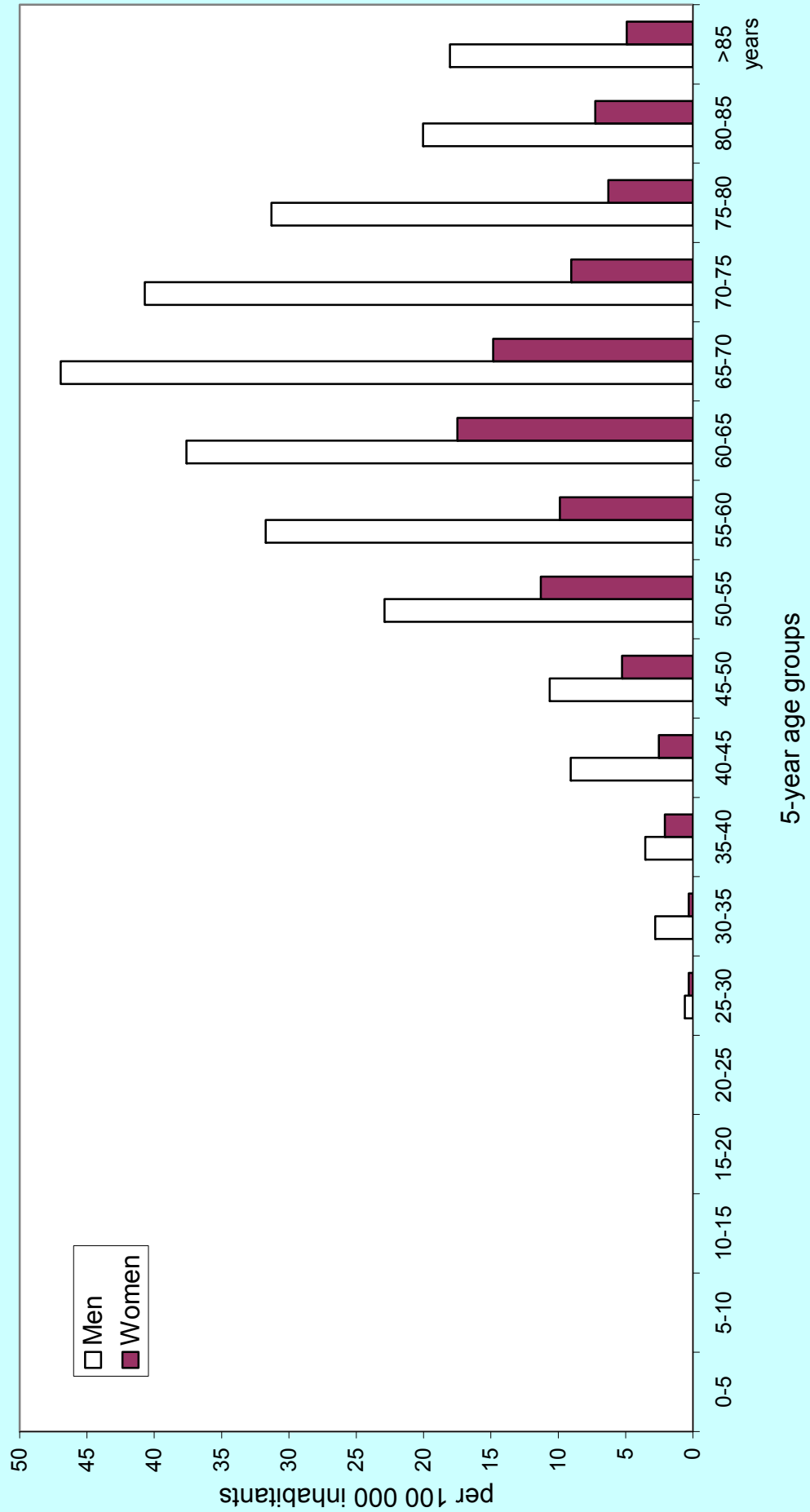


Mortality due to diseases of the digestive system (ICD K00-K93)
in Baden-Wuerttemberg

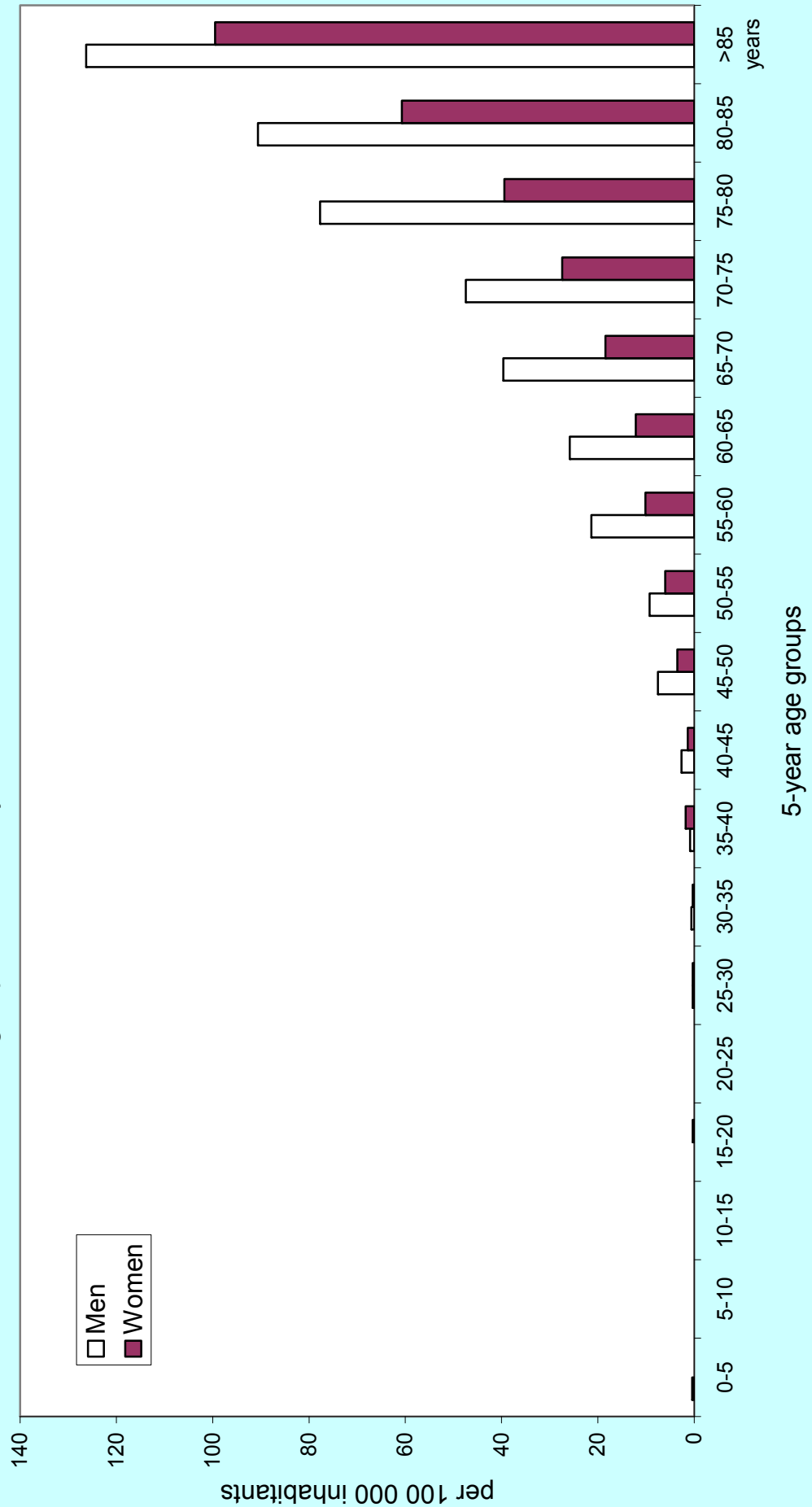
Age-specific mortality rates 2010 for men and women



Mortality due to alcoholic liver disease (ICD K70) in Baden-Wuerttemberg
 Age-specific mortality rates 2010 for men and women

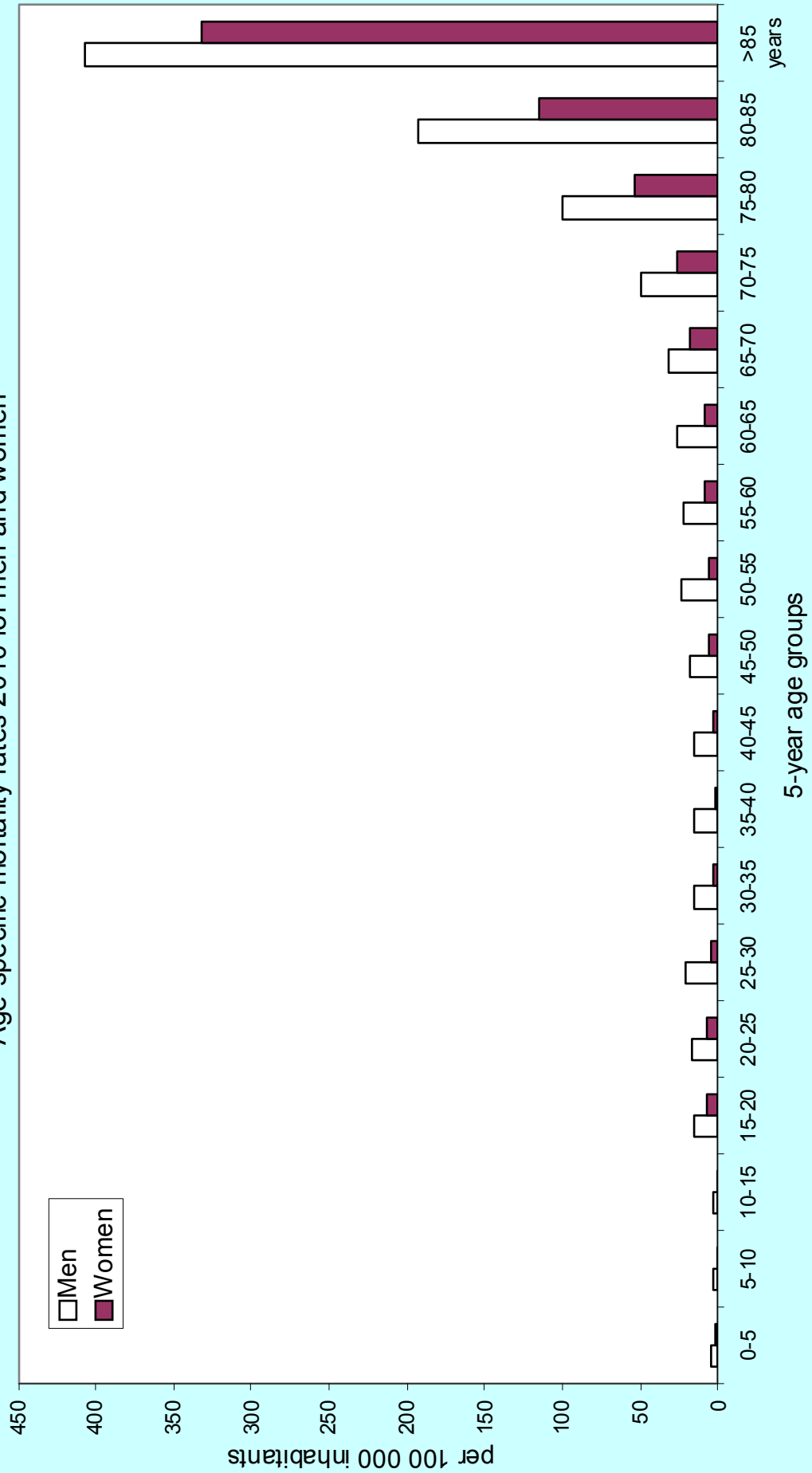


Mortality due to diseases of liver and disorders of gallbladder, biliary tract and pancreas (ICD K71-K77, K80-K87) in Baden-Wuerttemberg
 Age-specific mortality rates 2010 for men and women

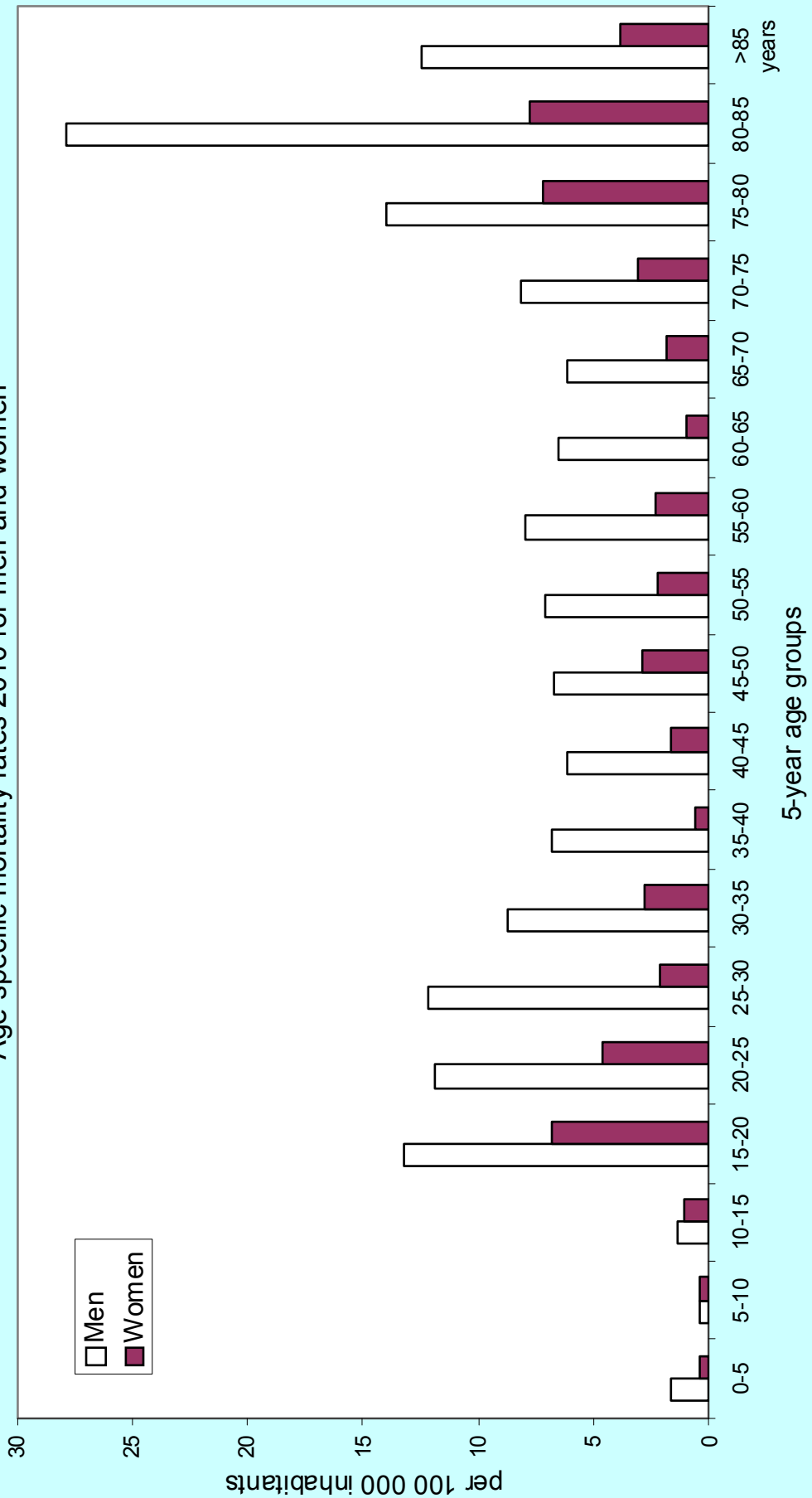


Mortality due to accidents (ICD V01-X59)
in Baden-Wuerttemberg

Age-specific mortality rates 2010 for men and women

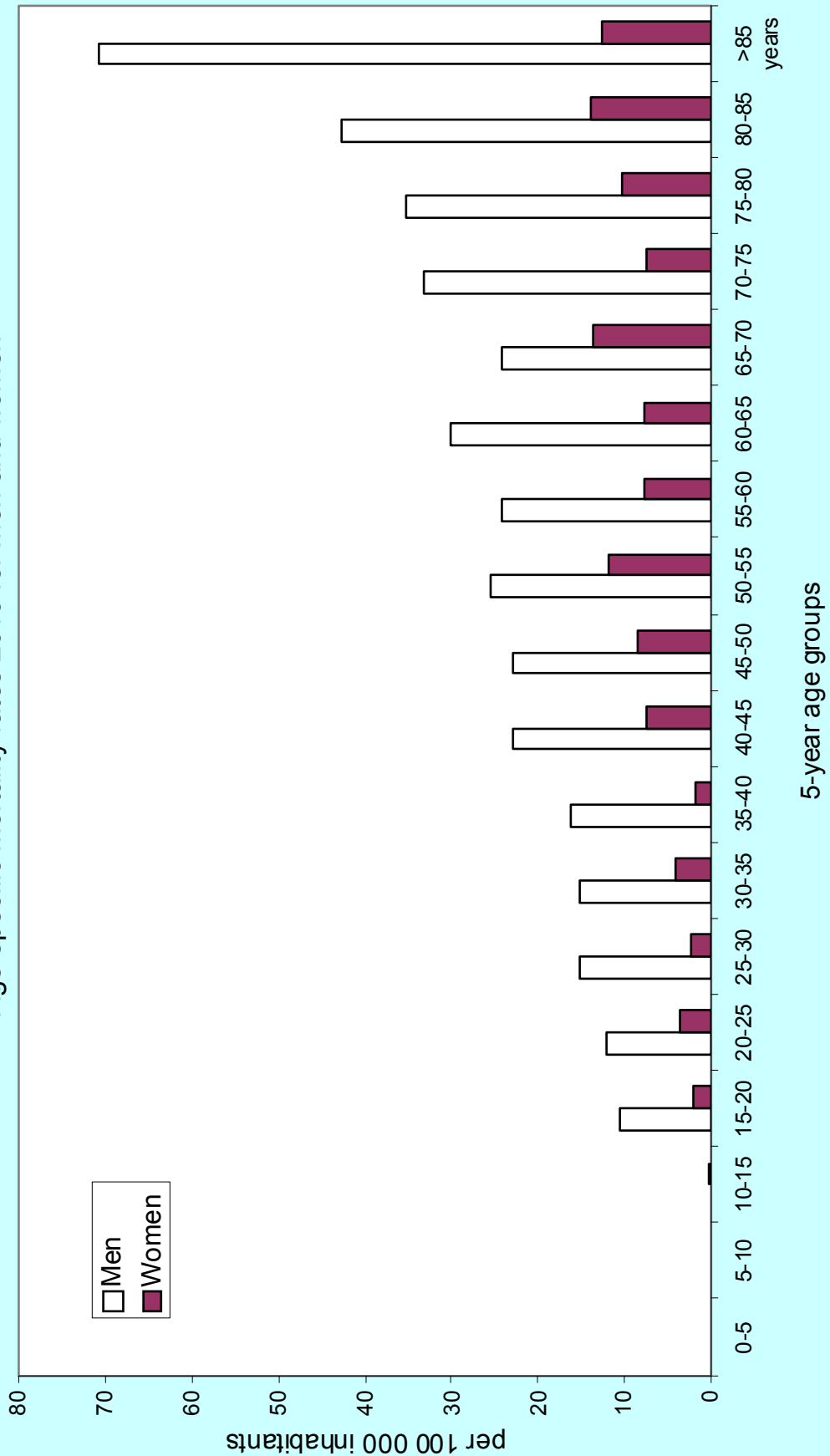


**Mortality due to transport accidents (ICD V01-V99)
in Baden-Wuerttemberg**
Age-specific mortality rates 2010 for men and women

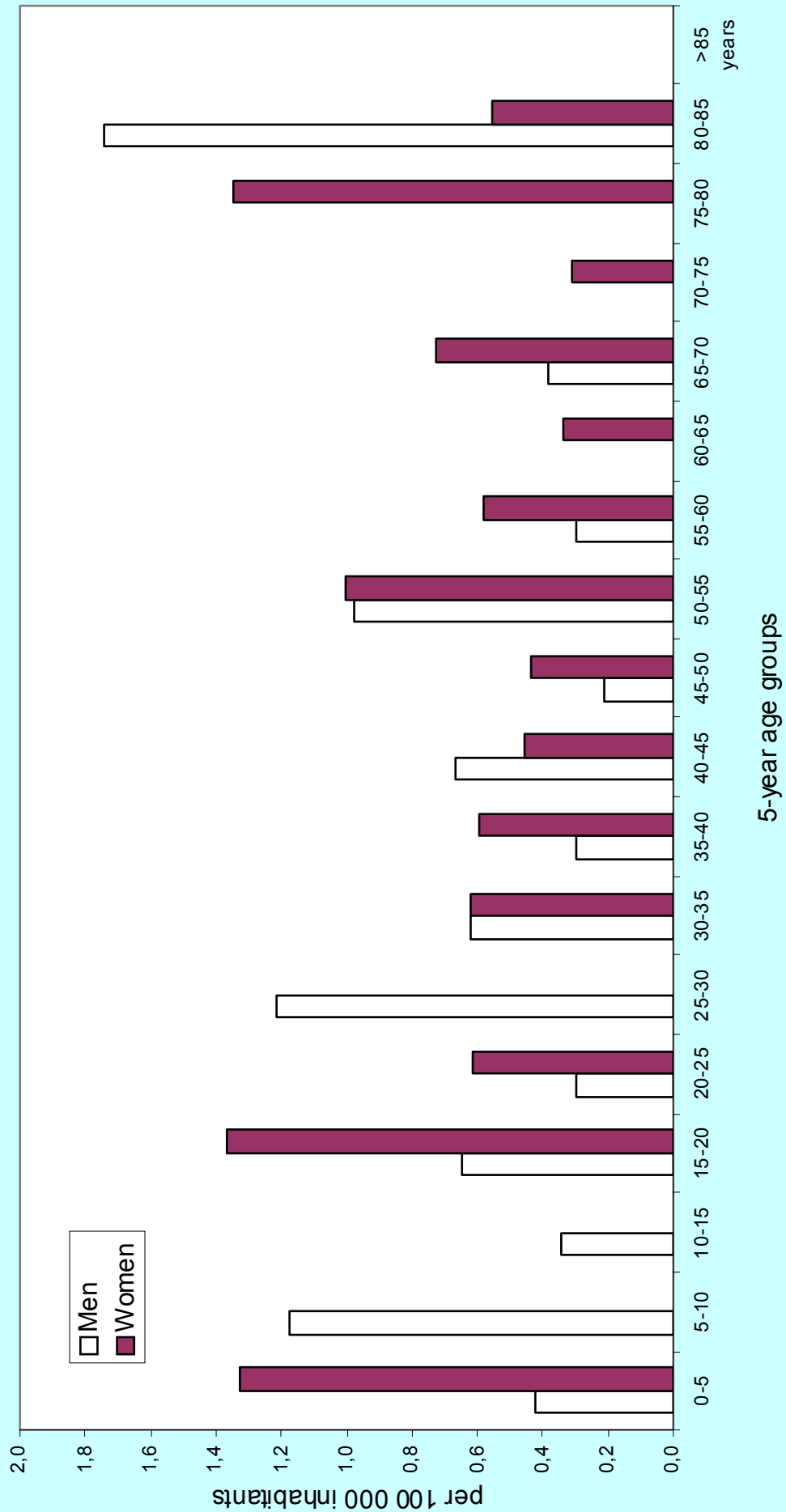


Mortality due to intentional self-harm (ICD X60-X84)
in Baden-Wuerttemberg

Age-specific mortality rates 2010 for men and women



Mortality due to assault (ICD X85- Y09) in Baden-Wuerttemberg
 Age-specific mortality rates 2010 for men and women



Mortality due to falls (ICD W00-W19) in Baden-Wuerttemberg Age-specific mortality rates 2010 for men and women

