



Federal Health Reporting

Health in Germany

Summary



ROBERT KOCH INSTITUTE
Federal Statistical Office

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Health Status

Over the past years the health of the German population has further improved. Between 1990 and 2002/2004, life expectancy at birth has increased in all age and gender groups. Among women, it has increased by 2.8 years to roughly 81.6 years since 1990 and among men by 3.8 years to roughly 76 years. Thus the gender difference has decreased by almost one year from 6.5 to 5.6 years (Figure 1).

The increase in life expectancy was significantly higher in the new German states than in the old ones. Thus the process of health equalisation between eastern and western Germany has further continued. In the meantime life expectancy for women is almost equal with over 81 years in the new and the old states. Nevertheless, the difference between the federal states with the highest and the lowest life expectancy is 2.2 years for women and 3.6 years for men.

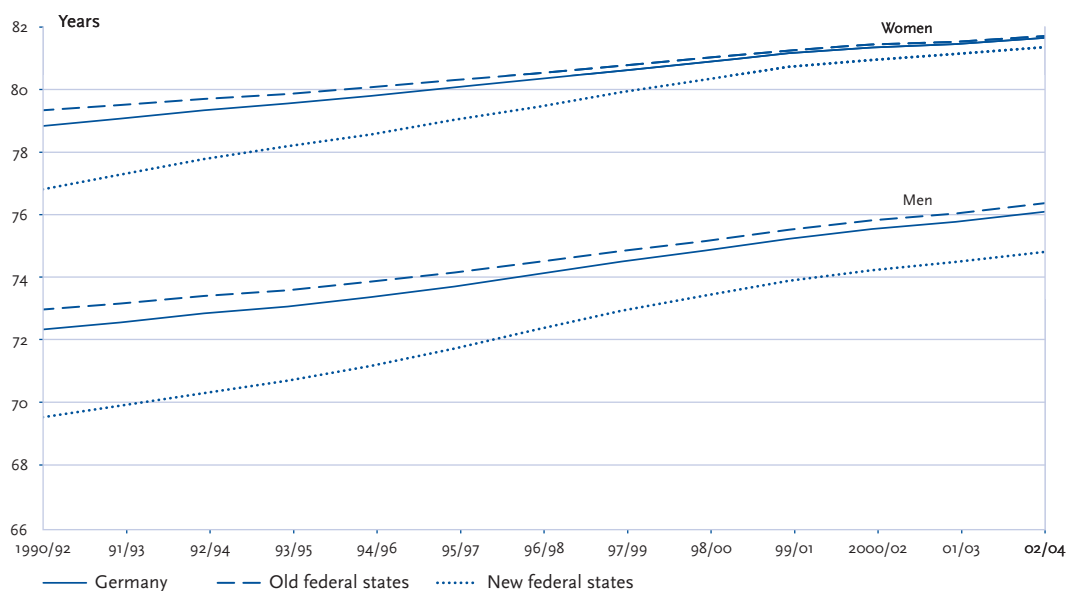


Figure 1: Life expectancy at birth. Source: mortality statistic, Federal Statistics Office, continuation of the population status. See: *Gesundheit in Deutschland*, page 14

There is also a favourable trend regarding the self-assessed health status and the satisfaction with one's personal health among the population. Three quarters of all women and men over 18 rate their own health status as "very good" or "good". There is an increasing trend of persons perceiving their health status as "very good" since the middle of the 1990s.

The disease spectrum is shifting. For decades, two types of diseases have dominated the disease spectrum: cardio-vascular diseases and cancer. However, significant shifts have emerged in the meantime. Cardio-vascular diseases, although at a high level, are becoming less significant. While they are still among the most widespread causes of death, their fraction of the overall mortality rate has declined. While overall mortality has reduced by 25.3 percent among women and 29.4 percent among men from 1990 to 2004, the cardio-vascular mortality rate declined by 33.1 percent for women and 38.2 percent for men respectively. In addition, a smaller proportion of the working population becomes unable to work or has to retire early compared to ten years ago. Despite this, cardio-vascular diseases are causing the highest treatment costs, which is above all due to so-called coronary heart disease as well as strokes. Diseases of the cardio-vascular system are favoured by cigarette smoking, overweight, lack of exercise as well as high blood pressure, lipopathy and diabetes. These risk factors, which can be mainly attributed to personal lifestyle, are among the most frequent diagnoses recorded by general practitioners and internists. They are also

the focus of many preventive measures, e.g. primary prevention programs offered by the statutory health insurances.

Mental and neurodegenerative diseases are playing an ever-increasing role. Mental diseases, which are prevalent among the general population and especially among women according to data collected in the Federal Health Survey 1998, play an increasing role both with respect to incapacity to work as well as early retirement. 15 percent of all women and eight percent of all men undergo a depressive phase within the course of a year. The dreaded consequence of depression is suicide. 15 percent of patients suffering from severe depression die as a result of suicide.

Anxiety disorders are very common as well. Within the course of one year, every fifth woman and almost every tenth man experiences an anxiety disorder. This often leads to severe restrictions in everyday life. Apparently, only a proportion of those individuals affected is diagnosed properly and receive adequate treatment.

Dementia disorders will also become more prominent in the next decades. According to current estimates, their number will double from the current approx. one million cases by the year

2050. Caring for people suffering from dementia places high demands on the health care system and the attending relatives, mainly women.

Muscular and skeletal disorders cause substantial costs. Muscular and skeletal disorders are among the most frequent and costly diseases in Germany. With respect to treatment costs, they take third place among all disorders in Germany. In addition, they result in extensive consequential costs to the economy. Muscular and skeletal disorders are responsible for the most days of work incapacity and the second most frequent cause of health-related early retirement.

22 percent of all women and 15 percent of all men in Germany suffer from chronic back pain. So far, there are no reliable figures regarding the frequency of osteoporosis and osteoarthritis in Germany. The fact is, however, that both of these are very common diseases. 7.6 percent of the women and 4.9 percent of the men aged between 50 and 79 years suffer from at least one vertebrae fracture caused by osteoporosis. X-ray images show detritions of the joints in 20 to 40 percent of the population. These detritions may lead to osteoarthritis in some of the affected persons causing pain and restricting motor activity.

The changes in the disease spectrum are reflected in disease consequences. Since the middle of the 1990s, the number of employee sick days has declined steadily and is now almost on the same level in the old and the new German states. On average, each employee enrolled in statutory sickness funds is absent from work due to illness 14 days per year. The most frequent reason for sick leave is respiratory disease. However, the main part of days on which employees are incapacitated to work can be attributed to muscular and skeletal disorders, often associated with long periods of incapacity. Despite the altogether declining status of employee's illness, psychological and behavioural disorders have gained in importance over the past years.

The most prominent causes for early retirement among women and men are muscular, skeletal and connective tissue disorders, cardiovascular diseases as well as psychological disorders. While cardiovascular diseases have declined for years now and muscular, skeletal and connective tissue disorders are also declining as the cause of early retirement, the trend for psychological disorders shows exactly the opposite trend. Since 2003, they are the main reason for sickness-related early retirement (Figure 2 and 3).

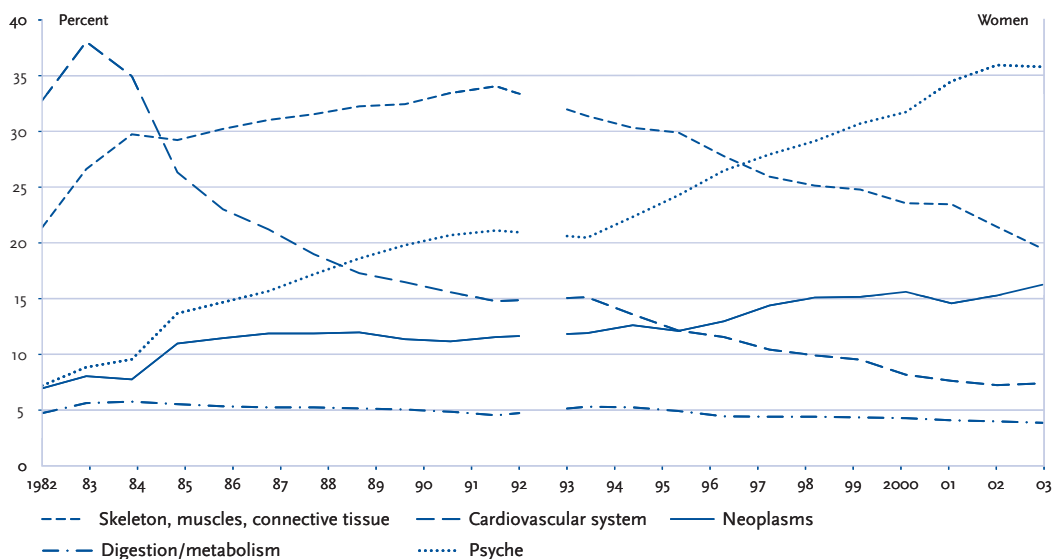


Figure 2: Proportions of new pensioners classified into select main diagnoses groups among women (until 1992: old federal states; from 1993: all of Germany). Source: VDR statistic new pensioners, Verband Deutscher Rentenversicherungsträger (VDR). See: Gesundheit in Deutschland, page 60

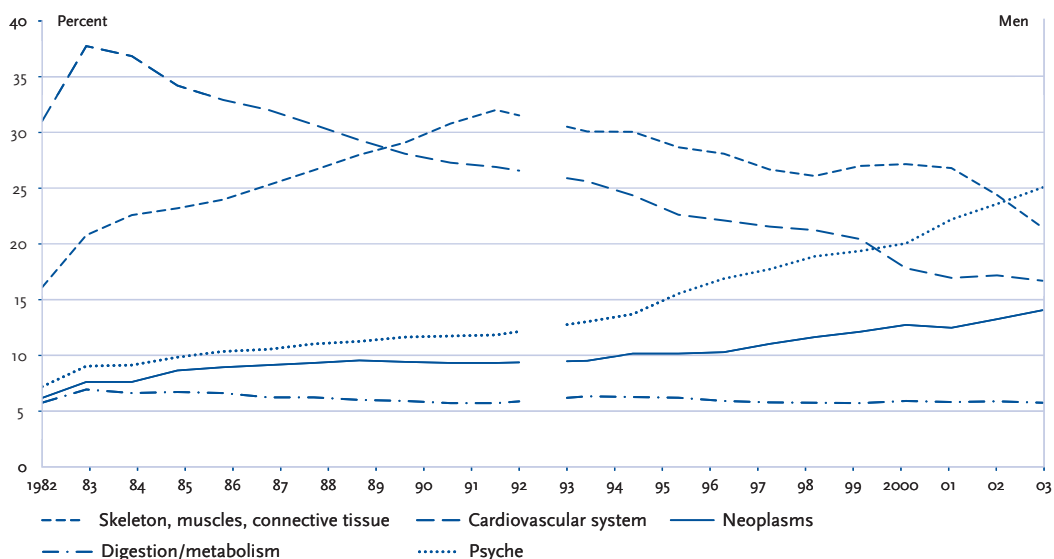


Figure 3: Proportions of new pensioners classified into select main diagnoses groups among men (until 1992: old federal states; from 1993: all of Germany). Source: VDR statistic new pensioners, Verband Deutscher Rentenversicherungsträger (VDR). See: Gesundheit in Deutschland, page 60

The cancer mortality rate is declining. Besides cardiovascular diseases, cancer is the second most frequent cause of death among men and women in Germany. A lot of potential lifetime is lost because the affected persons often die before reaching the age of 70. Among men, this is predominantly due to lung cancer, among women to breast cancer. In old age, prostate cancer dominates among men and colon cancer among both sexes.

There are different trends among the various types of cancer. Since 1990, the rate of lung cancer has declined among men while it has risen among women below the age of 50. This is mainly attributed to the increasing rate of cigarette smoking among women. Cigarette smoking is the most important risk factor for lung cancer.

Bowel cancer is the second most frequent type of cancer among men and women. In the second half of the 1990s, the incidence rates remained largely unchanged among both sexes, while the mortality rate among women has declined since the beginning of the 1980s and among men since the beginning of the 1990s. The bowel cancer risk depends among other things on individual eating habits. Early detection of bowel cancer is part of the statutory preventive examination program.

The fatality rate for breast cancer among women has declined since the 1990s, while the incidence rate has increased. The breast cancer mortality rate shall be reduced further with the introduction of quality-controlled, nationwide mammography screening programs.

In the coming decades, the incidence of cancer could rise substantially even if the individual disease risk remains unchanged. This is due to an increasing proportion of elderly people in the population and cancer incidence rates increase with old age (Figure 4).

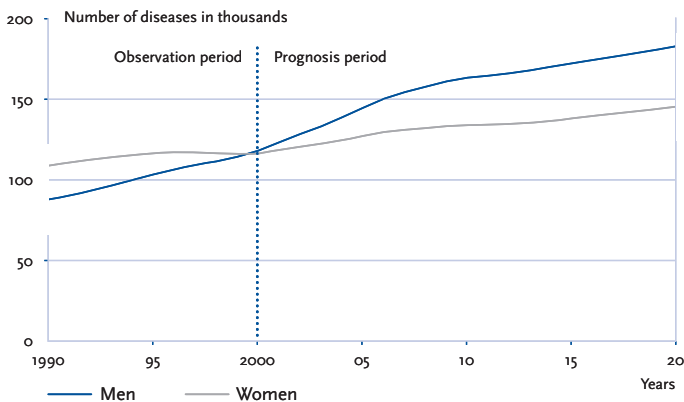


Figure 4: Estimated number of new cancer incidences per year among people above 65 years of age in Germany if the cancer risk estimated in 2000 remains unchanged (ICD-10: C00 – C97 without C44). Source: General cancer documentation (data basis: [68] variant 1). See: Gesundheit in Deutschland, page 40

A positive trend is emerging with respect to oral and dental diseases. The denture of children and youth has never been so healthy in Germany. The number of teeth affected by tooth decay declined in the past decade. With 1.2 affected teeth on average among 12-year old children, it is below the stipulations of the WHO of 2.0. Among adults on the other hand, caries of the dental root surface is becoming more significant with increasing age. Likewise periodontitis is on the rise with increasing age.

Infectious diseases gain in importance again. Meanwhile, infectious diseases, which have been declining overall during the past decades, are on the rise again. This is closely related to increased tourism, political changes, for example in Eastern Europe, increasingly hazardous behaviour and the emergence of resistant pathogenic germs. This also led to an increase in difficult to treat tuberculosis bacteria in the past years. The use of condoms is also declining, which might give rise to new HIV infections.

The biggest challenge for the health care system is the increasing age of the population. Not only cancers but also diseases like diabetes, osteoporosis, strokes and dementia increase with increasing age. The demographic change therefore also puts the altogether positive health trends in the past years into a new perspective. People in Germany can expect to live a long – and mostly healthy – life. But at the same time, more and more old-aged people with chronic diseases will require good treatment and care in the future.

Living Conditions and Risk Factors

Poverty risk factors have increased alongside the rising general standard of living. The social situation and the education level, the individual lifestyle as well as environmental factors decisively influence the health and life expectancy of people in Germany. Unemployment and life circumstances with a high risk of poverty, a low health awareness, air pollution and noise as well as tobacco and alcohol consumption play just as much a role in this respect as disadvantageous nutritional habits and a lack of physical activity, overweight, high blood pressure and disorders of the lipometabolism. In view of difficult economic conditions and sustained high unemployment rates, inequality and poverty risks have increased. Especially unemployed persons and welfare recipients, single mothers and children growing up under the threat of poverty are subject to unfavourable health prospects.

Many chronic diseases occur more frequently in the population with a low socioeconomic status (SES). Strokes, back pain, chronic bronchitis and vertigo are more common among men with a low SES compared to those with a high SES. Among women an increased occurrence of heart attacks and diabetes mellitus can be observed in the lower classes. That applies also to the psychological health situation which is worse in the population group with a low SES.

Environmental pollution has declined. Due to numerous statutory directives, a substantial reduction in environmental pollution has been achieved. Nevertheless, the limit values for particulate matter (PM10) in effect since 2005 cannot be adhered to in many major German cities. Indoors, the impact of passive smoking on the health of children continues to be a major concern. Furthermore, a part of the German population suffers from constant exposure to noise, which may promote cardiovascular diseases, for example. Despite significant advances in accident prevention in the past decades, accidents are still the major cause of death among 18 to 25-year olds (Figure 5).

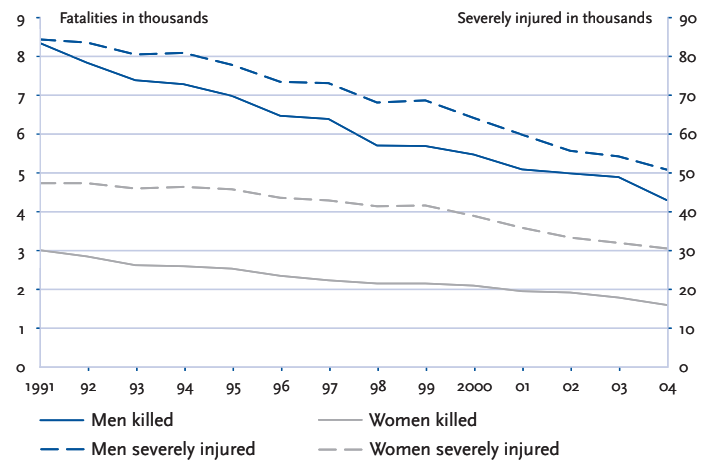


Figure 5: Women and men killed or severely injured in road accidents (1991–2004). Source: Official traffic accident statistic 2005. See: *Gesundheit in Deutschland*, page 94

The eating habits of the German population have improved in some ways. People in Germany consume more fruit and vegetables, more high-fibre and high-carbohydrate foods and more non-alcoholic beverages than at the end of the 1980s. On average, women have slightly healthier eating habits than men. However, the consumption of convenience food, fast food and nutritional supplements has also increased. While the nutrition of the Germans ensures a sufficient supply of most vitamins and minerals, there is an undersupply of vitamin E, vitamin D, folic acid, iodine and calcium among certain population groups.

There are still pronounced deficiencies with respect to physical activity. Although we can observe an increase in the activity level among parts of the population since the 1990s, many people do not get enough exercise in their everyday life. Among other things, this can be attributed to sedentary work (“desk jobs”) and changed recreational activities with pronounced use of mass media. In 1998, only 13 percent of all adults exercised for half an hour at least three days a week, which is the recommended minimum amount of exercise regarded as health promoting. Younger people have an altogether higher activity level than older people. According to data collected in a telephone health survey in 2003, 41.7 percent of the interviewed men and 33.2 percent of the women stated that they exercised two or more hours a week (Figure 6). Women and men with a low SES are less active compared to those with a medium or high SES (Figure 7).

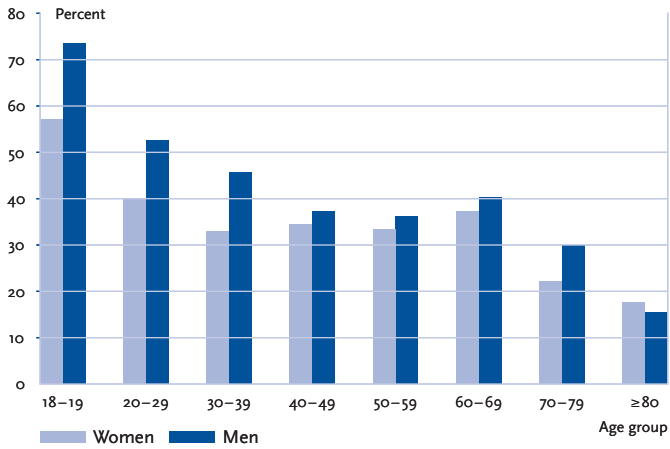


Figure 6: Proportion of women and men in different age groups exercising two hours and more each week. Source: Telephone health survey 2003 [78]. See: Gesundheit in Deutschland, page 104

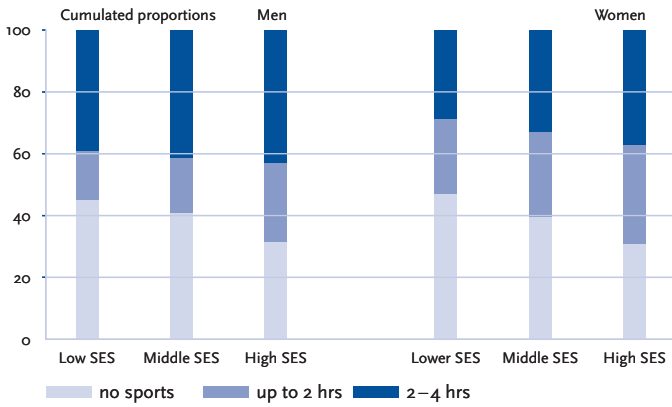


Figure 7: Extent of the weekly sports activity according to socioeconomic status (SES). Source: Telephone health survey 2003 [82]. See: Gesundheit in Deutschland, page 104

Every third adult in Germany smokes. Cigarette smoking is still among the most significant risk factors for health in Germany. Although the prevalence of cigarette smoking amongst men has decreased slightly over the past years, cigarette consumption among women is on the rise. As a result, the smoking behaviour is starting to equalise amongst the sexes.

Passive smoking is as prevalent as ever. New surveys show that almost every second child in Germany is exposed to second-hand smoke at home. Almost every fourth non-smoking adult in Germany lives in a household with at least one smoker. However, only every sixth person states that people actually smoke in their household. The proportion of non-smoker households among 25 to 69-year olds has hardly changed in the past decade and remains at around 50 percent.

Each sixth woman and every third man drinks too much alcohol. Alcohol consumption also plays a major role. One third of the men and almost a sixth of all women consume alcoholic beverages in quantities that are already associated with an increased health risk. The situation is especially problematic among young people amongst whom the number of binge drinkers is increasing.

Half of all women and approximately two thirds of the men are overweight or obese. Overweight and obesity are widespread in Germany and increase with advancing age. Just like in many other countries, overweight and obese people are more frequently encountered among the socially deprived population groups (Figure 8). The number of overweight and adipose people has increased over the past two decades (Figure 9).

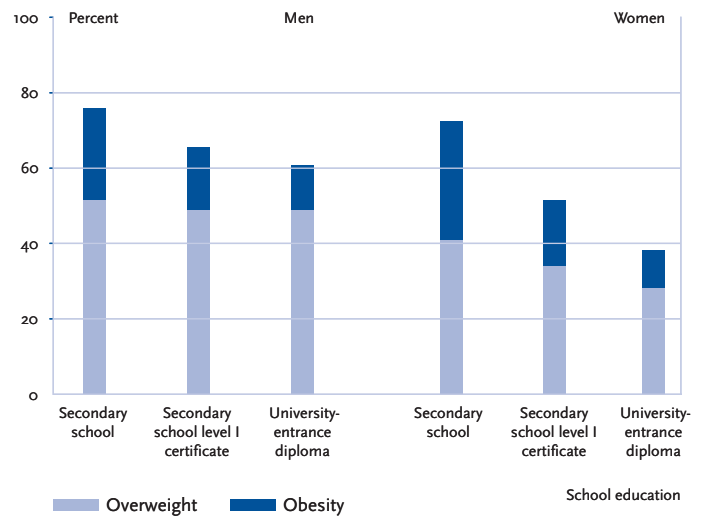


Figure 9: Distribution of excess weight and obesity according to school education and age. Source: Telephone health survey 2003 [124]. See: Gesundheit in Deutschland, page 114

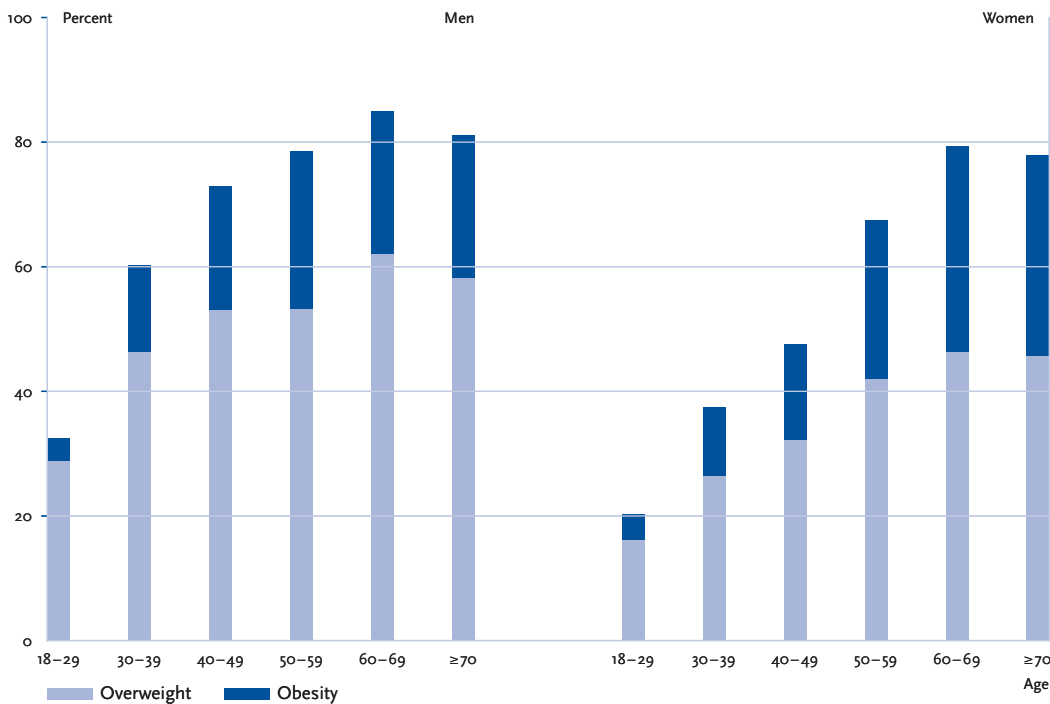


Figure 8: Distribution of overweight and obesity according to age and gender. Source: Telephone health survey 2003 [124]. See: Gesundheit in Deutschland, page 112

Use of Preventive Measures

Since the 1990s, a growing number of people in Germany make use of the existing prevention offers. The rate of people participating in vaccination programs as well as in preventive health and early cancer diagnosis programmes is increasing. The usage of primary prevention offers as well as individual dental prophylaxis has increased considerably since these programs were included in the service catalogues of the statutory health insurances (Figure 10).

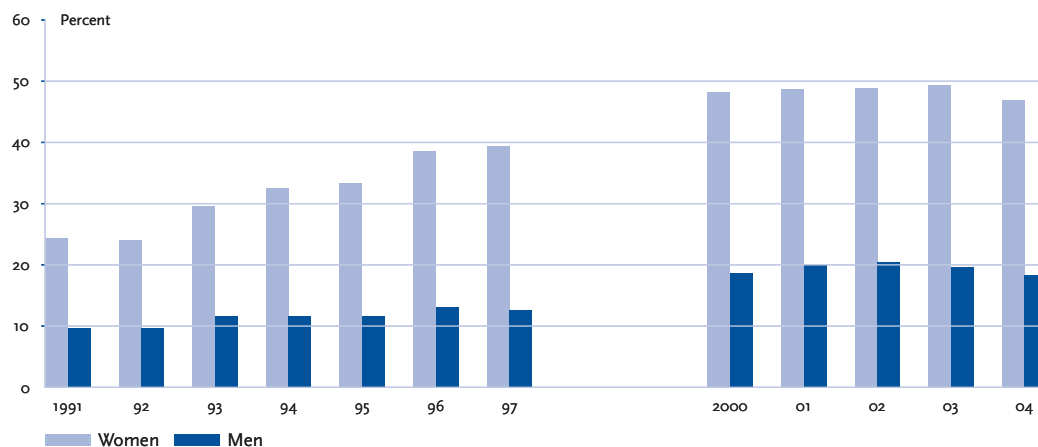


Figure 10: Participation in early cancer recognition examinations since 1991. Source: Zentralinstitut für die Kassenärztliche Versorgung in der Bundesrepublik Deutschland. See: Gesundheit in Deutschland, page 134

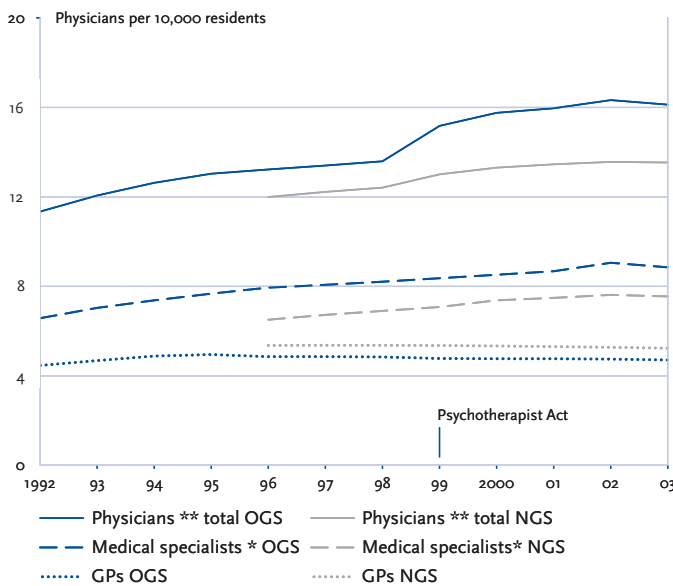
At the same time, only a fraction of the population is reached by the present offers. Men are generally less interested in prevention and health promotion than women. Men particularly make use of preventive measures when these are not tied to any additional effort and can be performed at the workplace or during a regular doctor's visit.

Offers and Use of Health Care Services

During the period from 1992 to 2004, ambulant health care was affected by numerous law amendments. In the past years, structural health care changes besides the introduction of the practice fee were at the centre of discussion. This centred on changed co-payment and the reduction of expenses in the pharmaceutical sector, for example the promotion of GP-oriented and integrated care, the further development of structured treatment programs or the introduction of bonus models and new possibilities for the form of contract between health insurance companies and service providers. In the sector of inpatient health care, the conversion to a flat-fee model ("DRG") dominated the discussion in the past five years.

The number of specialised physicians has grown steadily. The health care services offered by medical specialists have generally increased in the ambulant sector, while the number of GPs remained largely constant (Figure 11). As a consequence of the introduction of a practice fee in 2004 patients less frequently consult medical specialists directly and are now more often referred by their GP. It cannot yet be estimated whether this trend will continue.

The number of medical and non-medical psychotherapists has also increased, especially in the old federal states. This is related to the Psychotherapists Act, in effect since 1999, which included non-medical psychotherapists in the statutory health care system.



** Physicians (as of 1999 including psychological psychotherapists)
 * Medical specialists excluding GPs and psychotherapists
 OGS = old German states; NGS = new German states

Figure 11: Physicians and medical specialists in free practices per 10,000 residents acc. to specialist discipline and region. Source: KBV, See: Gesundheit in Deutschland, page 148

Volume of sales of pharmaceuticals has increased continuously between 1992 and 2003. This increase is mainly due to changes in the prices and types of the prescribed pharmaceuticals. On the other hand, the number of medications and the prescription volume for daily doses has only changed slightly (Figure 12).

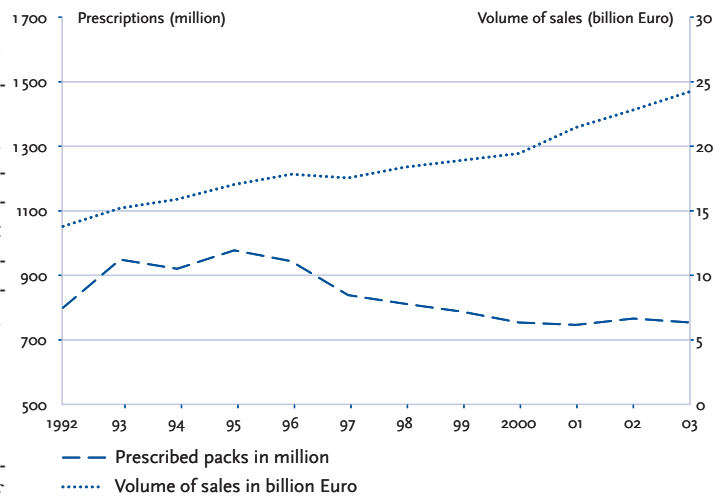


Figure 12: Development of drug prescriptions and turnover, total market of the statutory health insurance, prescription with ready-made drugs. Source: Drug index of the statutory health insurance, scientific institute of the AOK; (Federal Statistics Office, IS-GBE). See: Gesundheit in Deutschland, page 150

The number of clinics and hospital beds declined. Since the beginning of the 1990s, the number of clinics and hospital beds has declined. This is due to hospital closures as well as mergers between clinics. The reasons for the concentration process are changes to the general statutory conditions aiming at performance-oriented hospital financing. At the same time, the number of treatment cases and the proportion of older patients have increased while the average length of stay has decreased. This poses great challenges for the hospitals and their staff.

Not all disciplines were affected to the same extent by the general reduction of hospital beds (Figure 13). For example, the capacity requirement in the fields of paediatrics and psychiatry has declined substantially. Some departments were shut down to maintain the productivity of the respective clinic. In plastic surgery and neurosurgery, however, as well as in psychotherapeutic medicine, capacities were expanded. Overall, the density of hospital beds in Germany is still higher than in other western industrialised countries.

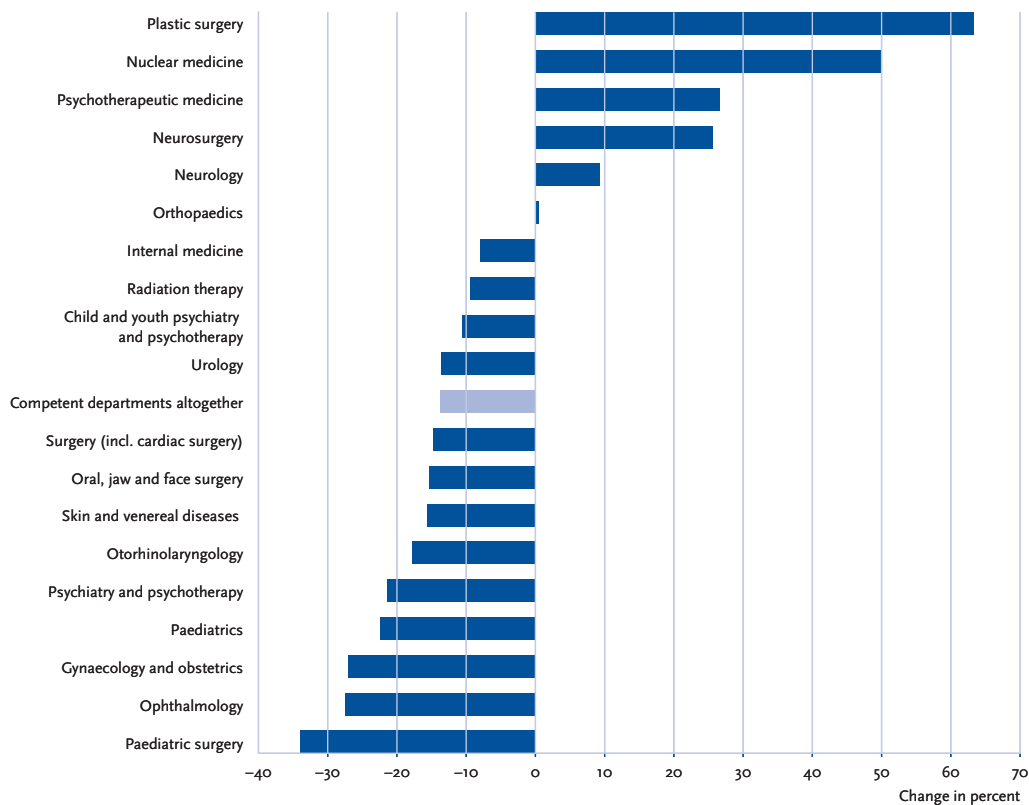


Figure 13: Change in the number of beds acc. to competent departments from 1993 until 2003. Source: Hospital statistic (Federal Statistics Office, IS-GBE). See: Gesundheit in Deutschland, page 162

The number of nursing homes has risen considerably. Between 2001 and 2003 alone, their number increased by 6.3 percent to roughly 9,700. From 1999 to 2003, the number of nursing home beds increased by 10.5 percent to roughly 713,000. Despite this, only one third of all persons in need of care live in nursing homes. Two thirds live at home and are cared for by relatives or ambulant nursing services.

The formerly strict separation between outpatient and inpatient care is dwindling. Since the Health Structure Act came into force in 1993, hospitals are also allowed to perform ambulant surgery. The fact that rehabilitation measures are mainly performed in the course of inpatient treatment has historical reasons in Germany and is partially anchored in social law. However, there is now an increasing offer of ambulant and part-inpatient rehabilitation possibilities available.

Health Expenditure

Health expenditure in Germany has risen continuously in the years from 1993 to 2003 (Figure 14). This development is due to different factors. In particular, the gradual introduction of a compulsory long-term care insurance since 1995, which is also included in health expenditure calculation, has significantly expanded both the scope of services and the number of employees in the health care system. Besides these changes in the scope of services the increase in health care expenditure can be attributed to price developments and improved quality of the rendered health care services. Most notably, medical-technical progress leads to a continuous rise in spending. However, the disproportionate increase in expenditure in different service sectors - for example in the pharmaceutical supply sector- can also be attributed to a lack of profitability incentives.

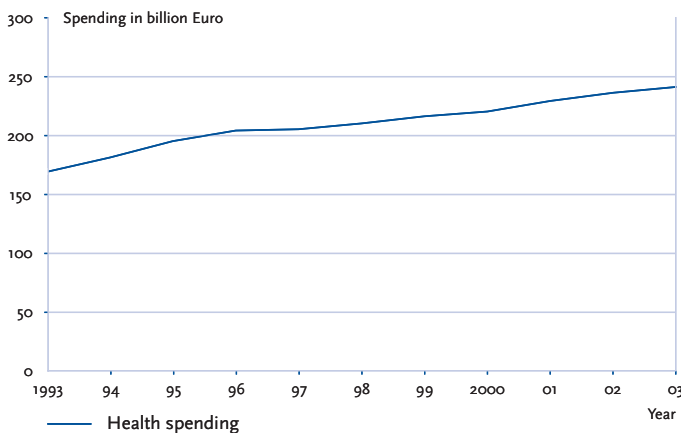


Figure 14: Development of health expenditure in Germany (nominal). Source: Federal Statistics Office, 2005. See: *Gesundheit in Deutschland*, page 186

The per capita health spending grew more slowly than the European average. The amount of health spending as a proportion of the gross national product is an important economic parameter, also in international comparison. Health spending in Germany accounts for 11.1 percent of the gross national product, a percentage that is only exceeded by Switzerland in the European comparison (Figure 15). This can be attributed to Germany's general economic development, which was less favourable than in other countries. However, in the past years the rise in expenses was moderate compared to other countries. Per capita health spending also grew slower than the European average and indicates higher efficiency gains in the German health care system compared to the other countries. In the overall assessment, it has to be considered that Germany provides comprehensive medical care for the entire population without long waiting times and with an extensive offered range of services.

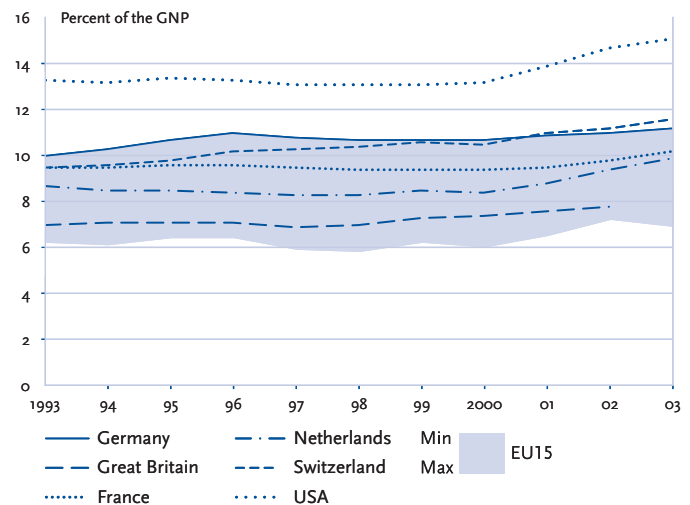


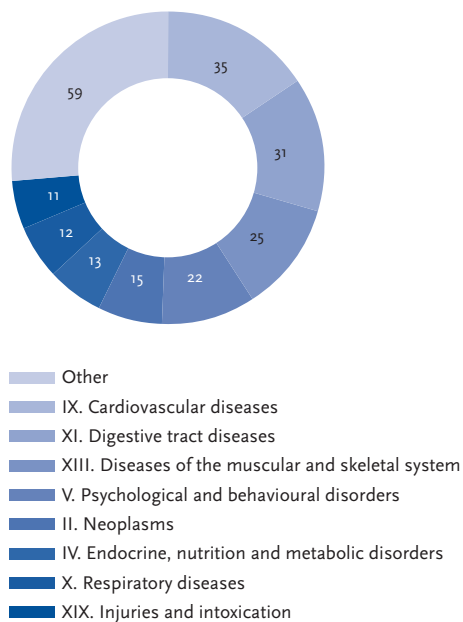
Figure 15: Development of health expenditure (in percent of the GNP). Source: OECD Health Data 2005. See: *Gesundheit in Deutschland*, page 197

Every ninth employee works in the health care system. Health expenses are often unilaterally regarded as cost factors. It is often disregarded that new and expensive therapies and technologies go hand in hand with increased life expectancy and quality of life among the population. The great importance of the health care system as a labour market has to be stressed. In Germany, almost every ninth employee works in the health care system – 4.2 million people altogether. In comparison, only roughly every 50th person works in the automobile industry. The demand for human resources in the health care system is expected to continue to grow in the future, last but not least due to the growing number of elderly people in need of medical treatment or care.

In Germany, the statutory health insurance still bears the majority of health expenses. Additional cost carriers are social long-term care insurance, statutory retirement insurance, statutory accident insurance, private health insurance companies, the employees, public funds, as well as private households and other non-profit organisations.

Around half of the total costs are allocated to medical as well as nursing and therapeutic services. More than one quarter is spent on so-called goods, meaning pharmaceuticals, remedies and therapeutic aids as well as dental prostheses. Although the expenses for preventive measures have risen by around 4 billion Euro in the years from 1993 to 2003, its share of roughly 5 percent of the total spending has hardly increased. The fraction taken up by administrative costs of roughly 5.5 percent has also only risen slightly since 1993 despite the overall increase in expenses. The spending for goods in the health care system, among them pharmaceuticals, medical aids, dental prostheses and other medical supplies took up a larger proportion of costs in 2003 with roughly 64 billion Euro than the respective spending on medical services (around 62 billion Euro) and on care and therapeutic services (around 55 billion Euro). This situation was still reversed back in 1993 and shows a clear shift in the scope of the service activities.

Cardiovascular diseases are causing the most costs. The classification of diseases according to their costs shows that cardiovascular diseases take up the largest proportion of the overall costs (Figure 16). This is followed by diseases of the digestive tract, especially with respect to the high expenses for dental services and dental prostheses. In third place are expenses related to disorders of the muscular and skeletal system as well as connective tissue disorders. Altogether, the health care costs vary considerably depending on age and gender.



Note: The Roman numerals represent the numbering of the disease classes by the ICD-10

Figure 16: Disease-related costs 2002 in billion Euro acc. to select diseases classes. Source: Federal Statistics Office, 2004. See: *Gesundheit in Deutschland*, page 194

The per capita spending increases more slowly in Germany than in other countries. The rise in health care spending is not a German phenomenon and can also be observed in all other western industrial nations. When comparing the per capita spending, Germany is above the international average, similar to Switzerland and the Netherlands. All these countries attribute great importance to securing the health of their populations.

Measures

Prevention and health promotion will be further expanded.

According to the coalition agreement of November 2005, prevention and health promotion are to become an independent pillar of the health care system as ensured by a prevention act. Diseases and their consequences are to be prevented, thereby increasing life expectancy and the quality of life of the population.

Quality assurance measures are gaining in importance.

Quality assurance measures have become more important since the beginning of the 1990s. Hospitals and medical practices were obligated to introduce internal quality management by social law. Since 2005, hospitals additionally have to publish quality reports every two years, which contain data about their service spectrum, the qualification of the personnel, the number of treated patients, type and quantity of surgical procedures as well as the quality of the result.

Evaluation of the benefits of pharmaceuticals and medical procedures.

The evaluation of the benefits of pharmaceuticals as well as research, portrayal and assessment of the current level of medical knowledge regarding diagnostic and therapeutic procedures are the central task of the newly founded “Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen” (Institute for Quality and Efficiency in the Health Care System). This information forms the basis for the decisions of the Joint Federal Committee for the design and further development of the scope of services. The information is also made available to patients and interested citizens in comprehensible form.

Guidelines are to improve treatment. Systematically developed treatment guidelines, which define action scopes in therapeutic decisions and serve to improve the treatment results, play an increasing role in quality assurance.

Active patient participation is also gaining in importance. Patient organisations and independent consulting offices are important actors. There are also plans to regulate the participation of those involved by law. The aim of these efforts is to incorporate patient demands and at the same time increase the transparency and profitability in the health care system. A patient commissioner has been appointed for this purpose.

Patient access to verified information. Informed patients need reliable information which is provided by a series of institutes.

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Summary

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