

Data and Information on Women's Health in the European Union

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Data and Information on Women's Health in the European Union



Foreword



Dear Reader,

This report “Data and Information on Women’s Health in the European Union” provides a short overview concerning women’s health.

This report provides an overview of the main topics, as a necessary first step for further work. Of course, much more could be done in all the areas covered for example in the mental health area on “violence against women”, or in the lifestyle areas on smoking and alcohol.

Nevertheless, this report provides an overview of issues related to women’s health across the EU Member States also including EEA countries. It highlights gaps and special topics where research and more information are needed.

Some of the principal findings of this report are the following:

- the main causes of death in women in the EU and EEA are cardiovascular disease (CVD) and cancer,
- Women are particularly affected by mental health problems such as depression, dementia and Alzheimer’s
- there is a great need for further research into how certain diseases affect women in particular.

The women’s health report is the first step to look into gender health aspects under different angles. The next gender report will be the “First European Men’s health report” which is currently being prepared.

Let me express my hopes that this report will already provide a useful overview and help to identify areas where more action is need.

Andrzej Ryś
Director - Public Health and Risk Assessment

Contents

Summary	11
Introduction	17
Demographic and socio-economic Trends	21
Population Structure	22
Social Trends – Marital status of women across the lifespan	24
Life Expectancy	24
Healthy Life Years	25
Population Change	26
Education and Employment	29
Health Issues	33
Cardiovascular Diseases	34
Coronary heart disease (CHD)	34
Cerebrovascular disease (stroke)	34
Cancer	35
Breast Cancer	35
Cervical Cancer	36
Lung cancer	37
Colorectal Cancer (Colon and rectal cancer)	38
Infectious diseases	38
HIV/AIDS	38
Influenza	39
Syphilis (Treponema pallidum)	40
Chlamydia	40
Gonorrhoea	40

Vaccination coverage	41
Sexual and Reproductive health	42
Fertility	42
Pregnancy outcome	42
Maternal mortality	43
Abortion	43
Sexual and intimate partner violence	44
Endometriosis	45
Diabetes mellitus	46
Mental health	47
Dementia and Alzheimer's disease	47
Depression	48
Musculoskeletal Disorders	49
Rheumatoid arthritis	49
Osteoporosis and osteoporotic fracture	50
Lifestyle	53
Smoking	54
Alcohol consumption	55
Overweight, Obesity and Eating Disorders	57
Physical Activity (PA)	58
Drug and substance abuse	59
Accidents and Injuries of Women in the EU	60
Health care	65
Access to health care	66
Quality of Health care	69
Responsiveness of healthcare to specific needs of women	70

HPV vaccination	70
Health promotion of physical activity (PA) among working women	71
Conclusion	74
Recommendations	76
Glossary	80
References	81
List of abbreviations	87



The background features a dynamic, abstract composition of flowing, translucent ribbons in shades of light blue and white. These ribbons curve and swirl, creating a sense of movement and depth. The lighting is soft, highlighting the edges and folds of the material, which gives it a three-dimensional, ethereal quality. The overall aesthetic is clean, modern, and professional.

Summary

This report presents an overview of the state of women's health in the European Union. The report focuses on women aged 15 years and older in the 27 EU-Member States, as well as the EEA countries Norway, Iceland, and Liechtenstein, and occasionally Switzerland.

The report is divided into six chapters. The first chapter introduces the report and its goals and methodologies. Chapter 2 deals with changing demographic and socio-economic trends that are pertinent to women's health. Chapter 3 provides an overview of the main issues in women's health and describes different trends, risk factors, and health determinants. Supplementing this information, Chapter 4 concentrates on the main lifestyle-related determinants of diseases that affect women, such as tobacco and alcohol use. Chapter 5 provides an overview of women's access to health care, the quality of health care provided for women, and the responsiveness of different health care systems to women's needs. Finally, Chapter 6 concludes the report with a summary of key information presented in the report and recommendations for policy makers and stakeholders for the promotion of women's health across the European Community.

Demographic and socio-economic trends

Overall, there are marginally more men than women in Europe, with the proportion of women increasing in older age categories. In 2005, there were approximately 15% more women than men among those aged 65-69 and almost two times more women than men aged over 80, leading to a total of 43% more women than men aged 65 and over (EUROSTAT 2008a, 2008b).

In all European countries, life expectancy is greater for women than for men, with the largest gap between the sexes in Lithuania (11.7 years) and the smallest in Iceland (3.4) (based on 2006 data). Eurostat predictions indicate that in 2010 average life expectancy for women will range from 76.5 to 84.5 years and in 2050 it will have increased to 82 to 89.1 years (EUROSTAT 2008a).

On average European women reach higher levels of education than men. However, women are also more likely to receive lower wages: in 2006 women in the EU-27 earned on average 15% less per hour than men. Women also spend more of their time doing unpaid work than men (women average 278 minutes a day of unpaid domestic work, while men spend less than half of that time (EUROSTAT 2008b).

Health issues

Breast cancer is the most common form of incident cancer and the dominant cause of cancer-related death among women aged 0-74 across the European Union. Female mortality due to lung cancer is significantly lower than that of breast cancer, and is also lower in women than men, but has been steadily rising (Bosetti et al 2008, Boyle Lewin 2008).

Across the EU/EEA countries, men are more affected by HIV than women, with an infection ratio of 2:1. In women the predominant routes of transmission are heterosexual contact and injection drug use (ECDC 2008a).

In terms of other sexually transmitted infectious diseases, a number of European countries showed a recent increase in new chlamydia infections. This is particularly relevant to women as chlamydia is more often diagnosed in women than in men (ESSTI 2008).

The total fertility rate among the countries of the EU is very low, having declined from 2.6 in early 1960 to 1.4 in 1995-2005. Meanwhile, the mean age of women bearing children increased at

least two years in the period 1995-2006, meaning women are giving birth later and having fewer children. Southern European countries have the highest percentages of low birth weight babies (Spain, Portugal, Greece), whereas Northern countries have the lowest percentages. Abortions in adolescents and young women less than 20 years of age remain high, having increased during the period 1995-2005 (EUROSTAT 2008a).

Diabetes is a growing problem and it is estimated that between 2007 and 2025 Germany, Italy, and France will have the greatest increases in women aged 20-79 years with diabetes mellitus (DM) (IDF 2006). For women the average death rate due to DM was 12.8 and among individual countries the highest rates were observed in Cyprus (35.5), Portugal (25.3), Austria (23.4), and Malta (19.2) (EUROSTAT 2009).

The prevalence of dementia and Alzheimer's disease (AD) is higher among elderly women than among elderly men. Significant gender differences are found in the incidences of AD after the age of 85 years.

Depression is more common in women than in men (lifetime prevalence: 9.4%; 12-month prevalence: 2.8%) (European Commission 2008b). Studies reveal prevalence of suicide attempts is two times higher in women than in men (DG for Health and Consumers 2008).

Lifestyle

Smoking prevalence is lower in women than in men, however, this gap has been closing in recent years due to decreasing numbers of men smoking and increasing numbers of women smoking in certain countries. In addition, smoking-associated deaths among women are still on the rise in some Eastern European countries. Young girls are more likely to smoke than boys, particularly in Northern and Western European countries. (WHO 2009b)

Across the EU overall drug use is more common in men than in women, but the use of tranquilisers and sedative substances is more common in school-aged girls than boys in most EU-Member States (EMCDDA 2006).

The prevalence of overweight and obesity is rapidly increasing in many European countries for both sexes. The highest percentages of women with obesity were found in Austria, the UK, and Germany (IOTF 2009).

Data on specific eating disorders, such as bulimia nervosa, are rare. However, the generally accepted prevalence rate of bulimia nervosa is about 1% among young women (Hoek 2006).

Health care

Reliable and comparable data on access to health care across the EU-27 Member States is limited. The most comprehensive available data comes from the 2007 Eurobarometer Survey Health and Long-Term Care in the European Union, which is a public opinion survey and sufficient only to suggest potential trends. Based on those women interviewed for the survey, the majority of European women report having easy access to health care. Approximately 88% of women felt that it was easy to access a family doctor or general practitioner. However, the survey suggests that access to health services varies widely within and across Europe (DG Employment, Social Affairs and Equal Opportunities 2007).

Current data on health care utilization in Europe tends to make no distinction between sexes. Gendered data on healthcare expenditures is lacking and data on health care costs and health insurance coverage for women is weak.

Comparable data on screening volume and health promotion programme participation is limited. As of 2007, in a review of the EU-27, breast cancer screening was available at the population level in eleven countries (IARC 2008a).

Conclusions and Recommendations

There is persistent evidence that sex and gender differences are not only relevant for reproductive health issues, but also for the prevalence of diseases, risk factors, and health care among women. It is essential to acknowledge that differences in health between women and men are due to interactions between environmental, behavioural, and biological factors. It is important to keep in mind that this report is not intended to cover all facets of the health status of women in the EU. The subject areas addressed are limited by their relevance to women's health, the availability of reliable and topical data for all or most EU-27 Member States and the EEA, and the availability of data in a sex-specific format, which is not the case for many fields. In light of this, the main recommendation of this report is to implement standardised gendered data collection and to improve data quality in areas where current data is either non-existent or non-sex-specific, including access to health care, health care expenditures and costs, specific eating disorders, pain and migraine, alcohol use, smoking habits, and abuse and misuse of legal medications.

“Life on the planet is born of woman”
Adrienne Rich



The background of the slide is an abstract, flowing blue design. It features a large, dark blue, glossy, curved shape on the right side that resembles a liquid stream or a ribbon. This shape flows from the top right towards the bottom right. The rest of the background is a lighter, pale blue with soft, wavy patterns that create a sense of movement and depth.

Introduction

Women's health' encompasses more than pregnancy and reproductive health. In many parts of the world a woman's reproductive years comprise less than half of her life. Weisman's definition (1998) of 'women's health' addresses the complexity of the field, highlighting that

- health is a product of cultural, social, and psychological factors, as well as biology;
- it is important to consider and emphasize a lifespan and multiple role perspective;
- the individual and society have to promote health and prevent disease in order to fulfil the concept of health beyond the absence of disease.

Based on this understanding of women's health, the exclusive focus adopted by this report on women and their corresponding health issues and needs is necessary to adequately address the topic. There are diseases which are unique, more prevalent, or more serious in women and for some diseases risk factors and interventions are different for women and men. Changes in diseases over time and across the lifespan also differ between women and men. Furthermore, women's health is significantly associated with differences in gender equality in social, educational, cultural, and economic status (Schmitt 2008). In light of these sex-dependent factors, there is much to be gained by approaching women's health as its own important field.

This report presents an overview of the state of women's health in the European Union and addresses both the differences between men and women and the differences among women living in different Member States. It examines the main patterns of mortality and morbidity and the health risk factors at different stages of women's lives and reports on the current situation and recent trends in European women's health. It also provides information about the influence of demographic trends and socio-economic factors on women's health.

The report is divided into five chapters: demographic and socio-economic trends; women's health issues; lifestyle; health care; and conclusion and recommendations for future research in the field of EU women's health.

Each chapter is subdivided into separate sections addressing specific issues in women's health which are oriented around the health indicators developed by the European Community Health Indicators project (ECHI) (Kilpeläinen et al. 2008).

The focus is on women aged 15 years and older in the 27 EU-Member States, as well as Norway, Iceland, and Liechtenstein, as shown in Table 1.

The main sources used in the preparation of the report include:

- the Statistical Office of the European Communities (EUROSTAT 2009),
- the Organisation for Economic Co-Operation and Development (OECD),
- the World Health Organization (WHO) databases: European Health For All Database (HFA), European mortality database (MDB), Alcohol control database, Tobacco control database,
- various reports and publications from organisations working on specific women's health issues,
- literature searches in academic publications available through the PubMed database.

Table 1: Member States of the EU

Member States of the EU (EU-27)	
Austria	Luxembourg
Belgium	Malta
Bulgaria	Netherlands
Cyprus	Poland
Czech Republic	Portugal
Denmark	Romania
Estonia	Slovakia
Finland	Slovenia
France	Spain
Germany	Sweden
Greece	United Kingdom
Hungary	
Ireland	Additional Countries
Italy	Norway
Latvia	Iceland
Lithuania	Liechtenstein



The background features abstract, flowing green lines that resemble liquid or smoke, creating a sense of movement and depth. The lines are layered and translucent, with varying shades of green from light to dark. The overall composition is clean and modern.

Demographic and Socio-economic Trends

Between 1960 and 2007 the population in the current EU-27 countries expanded from 403 million people to around 495 million people (EUROSTAT 2008a). Factors that influence population change, such as life expectancy, fertility and mortality rates, and net migration are currently undergoing significant change, as are other socio-demographic behaviours such as marriage rates. In addition, the socio-economic status of women is changing. More women are employed and reaching higher levels of educational attainment, which has resulted in greater female autonomy. There are still significant gender gaps in fields of employment and education and in time spent doing unpaid work (such as household chores, childcare, and care of elderly and sick family members). These trends are significant for women’s health.

Population Structure

Size

In 2006 the population of the combined EU-27 Member States was 494,049,094—including 252,956,162 women (EUROSTAT 2009). Germany had the largest absolute female population (42,055,887), followed by France (32,489,038), the UK (30,914,956), and Italy (30,318,835) (EUROSTAT 2009).

Sex Ratio

There are marginally more women than men in Europe (104.9 women for every 100 men in the EU-27 in 2007), but the sex ratio varies by age group, as shown in figure 1. Among live births in 2005 in EU-25 countries, 51.3% were boys, while 48.7% were girls (EUROSTAT 2008b). Men outnumber women until the age of 45, after which the proportion of women relative to men increases in each successive age category. In 2005, there were approximately 15% more women than men among those aged 65-69 and almost two times more women than men aged over 80, leading to a total of 43% more women than men aged 65 and over (EUROSTAT 2008a; EUROSTAT 2008b).

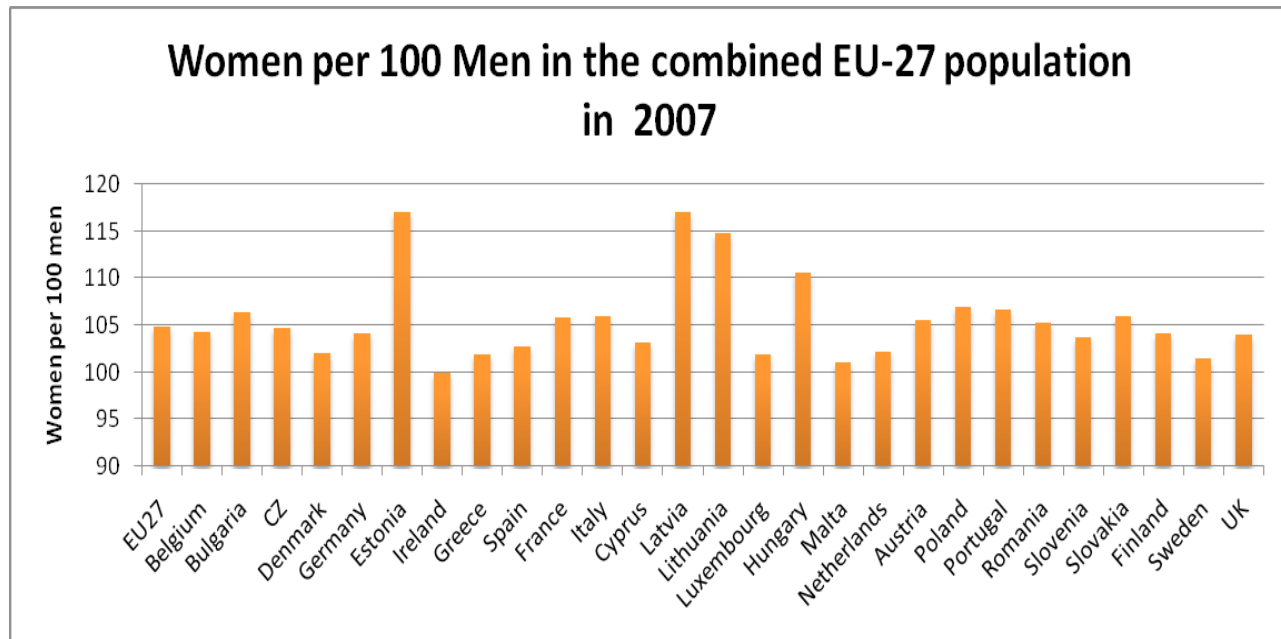


Fig. 1: Women per 100 men in the combined EU-27 population in 2007. (EUROSTAT 2009)

Age Categories

Decreasing fertility and increasing life expectancy have led to overall population ageing. In 1990, 19% of the EU-25 population was under 15 and 14% was 65 or over—by 2005 those numbers had

changed to 16% and 17% respectively (EUROSTAT 2008b). By 2007, 16.9% of the total population in the combined EU-27 Member States was over 65 years old — ranging from 10.9% in Ireland to 19.9% in Italy (EUROSTAT 2009).

Eurostat predicts a continued demographic shift towards greater percentages of the European population in older age categories. This shift is expected to have significant consequences, including impacting the school-age population, family structures, labour force participation, health care, social protection and social security issues, government finances, and economic competitiveness. As women already comprise larger percentages of the age categories expected to increase in size, elderly women are an increasingly important demographic group (EUROSTAT 2008a).

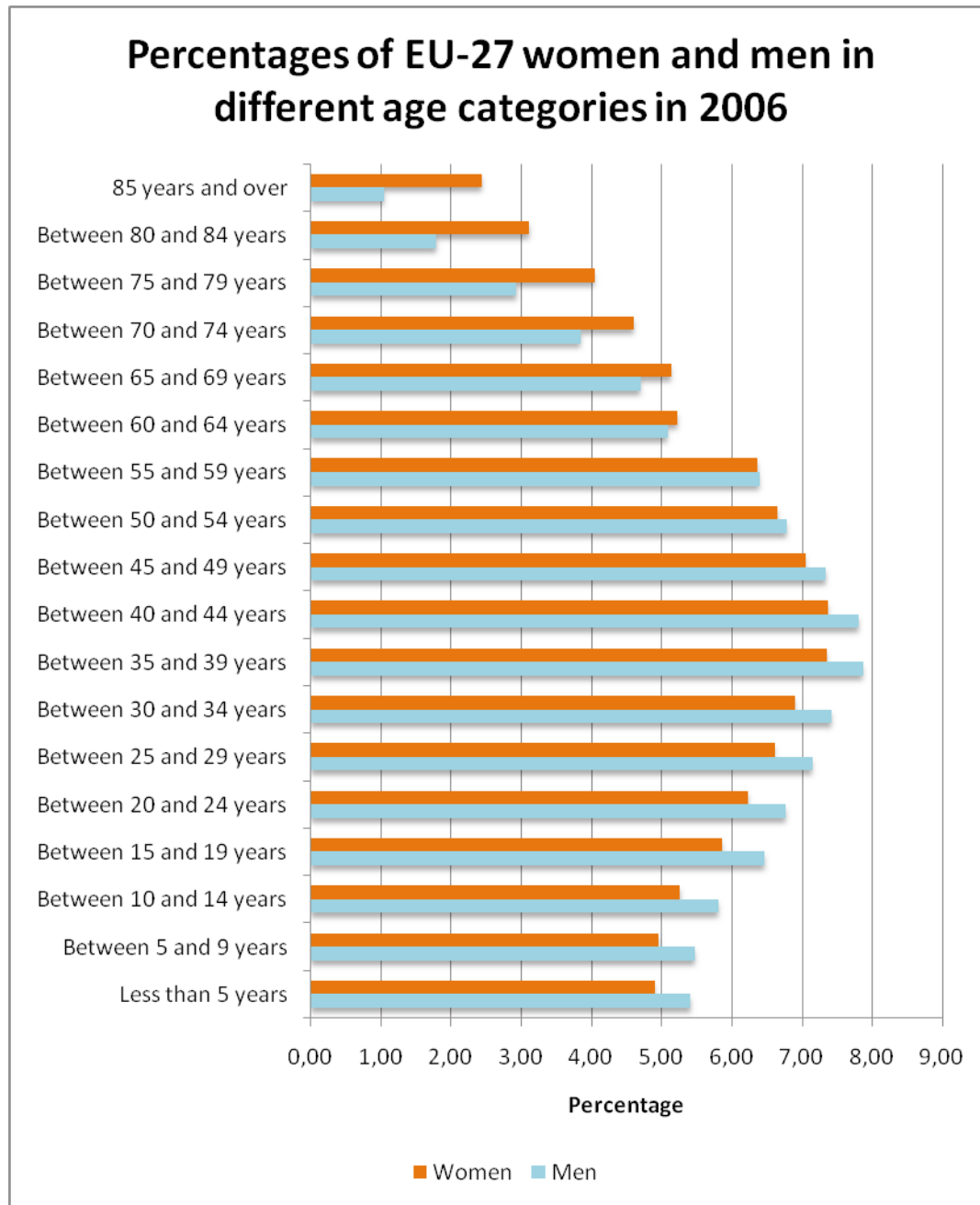


Fig. 2: Percentages of EU-27 women and men in different age categories in 2006. (EUROSTAT 2009)

Social Trends – Marital status of women across the lifespan

The age at which women first marry has increased in the EU in recent years, a result of more time spent in education and increased priority being placed on the establishment of a professional career before marriage. Average age at first marriage is similar across Europe and overall, women still marry slightly younger than men (EU average in 2003 was 29.8 for men, 27.4 for women). However, the age difference is small across most of the EU. The largest gap in age at first marriage, based on data from 2003, occurs in Greece (3.8 years) (EUROSTAT 2008b). There has also been a trend toward an overall reduction in the number of marriages and an increase in the number of divorces in Europe (EUROSTAT 2008a).

Life Expectancy

Life expectancy is the average number of years that an individual is expected to live if mortality patterns remain unchanged for the duration of his or her lifespan (WHO 2008). Life expectancy at birth is greater today than it was in 1995 for women from all parts of Europe, a result of better living conditions and health care and greater awareness of health issues (EUROSTAT 2008a). The greatest increases since 1995 have been observed in Estonia (4.3 years) and other Eastern European countries, as well as in Ireland (3.8 years) (EUROSTAT 2009).

For female children born in 2006, life expectancy ranges from 76.2 years in Romania to 84.4 years in France and Spain. Life expectancy at birth is relatively low for Bulgarian women and high for women from Sweden, Liechtenstein, and Finland.

For women aged 65 in 2005, life expectancy was highest in France (22.6 additional years of life) and lowest in Bulgaria (16.3 additional years) (EUROSTAT 2009).

In all European countries, life expectancy for women is greater than that for men. The greatest gap between the sexes, based on 2006 data, occurs in Lithuania (11.7 years) and the smallest gap is in Iceland (3.4), as shown in figure 3. However, the gap between life expectancies has been closing in recent decades, potentially due to increased similarities in lifestyles between the sexes (e.g. increased smoking among women), and this trend is likely to continue, with the greatest gains for males in the newest EU-Member States (EUROSTAT 2008a). Eurostat predictions indicate that in 2010 life expectancy will range from 65.8 years (in Latvia) to 79.1 years (in Sweden) for men and from 76.5 years (in Romania) to 84.5 years (in Spain) for women; in 2050 it is projected to range from 74.3 years (in Latvia) to 83.6 years (in Italy) for men and 82 years (in Romania) to 89.1 years (in Spain) for women (EUROSTAT 2008a).

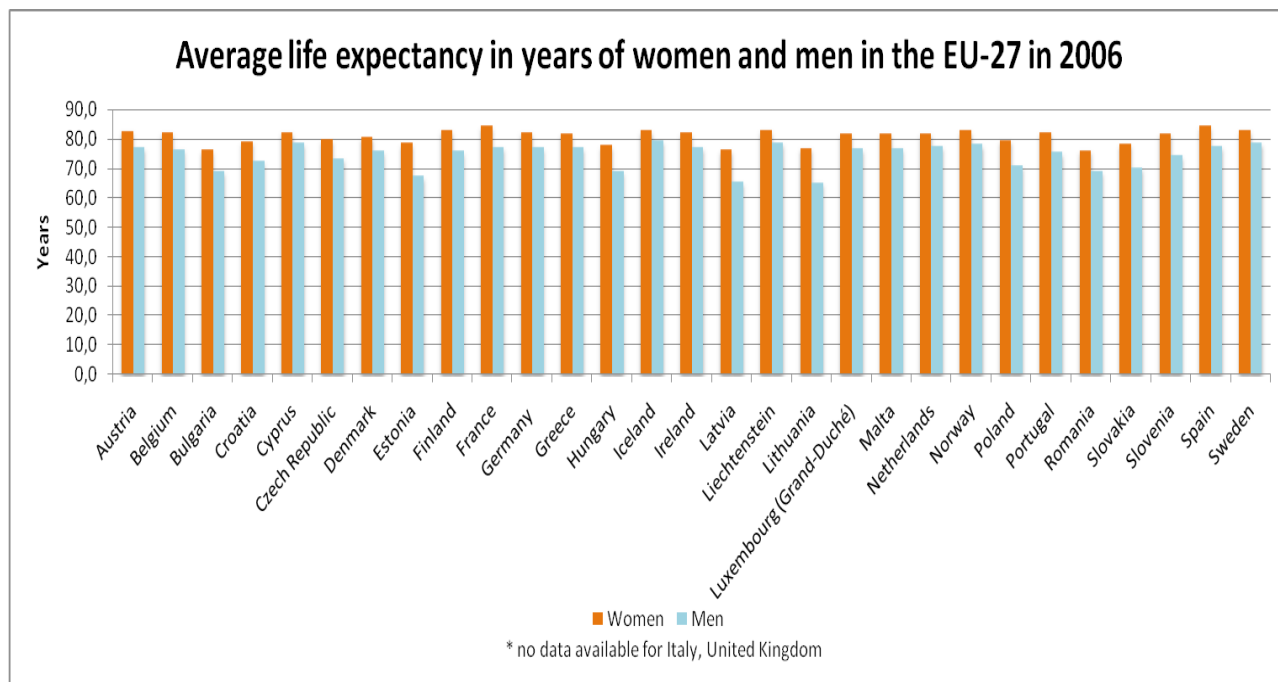


Fig. 3: Average life expectancy in years of women and men in the EU-27 in 2006. (EUROSTAT 2009)

Healthy Life Years

With more women living longer lives the quality of the additional years becomes a central question. Healthy life years (HLYs), also referred to as disability-free life expectancy, is the number of remaining years of life that a person of a specific age is expected to live without any moderate or severe health problems or acquired disabilities (EUROSTAT 2008a). The indicator is meant to complement life expectancy data and provides information on the quality of years lived rather than the quantity. HLYs also provide information on the structural and financial burdens the health care system faces as women age.

Overall, across Europe, women are expected to live a slightly smaller proportion of their years in good health than men (75.4% versus 80.7%) (EUROSTAT 2009). In the EU-25 in 2006, men were on average expected to have 61.6 HLYs, while women were expected to have 62.1 HLYs, as shown in figure 4 (EUROSTAT 2009). Combined with their longer average life expectancy, this means women experience more years of disability than men.

For women in the EU in 2006, HLYs expected at birth ranged from 52.1 in Latvia to 69.2 in Malta, with women in Slovakia, Finland, and Estonia expected to have fewer than 55 HLYs and women in Denmark, Greece, Ireland, Iceland, Italy, Sweden, and the UK expected to have more than 65 HLYs (EUROSTAT 2009).

Among women 65 and over in 2006, women from Denmark had the largest number of expected HLYs remaining (14.1) while Slovakian women had the smallest (3.8) (EUROSTAT 2009).

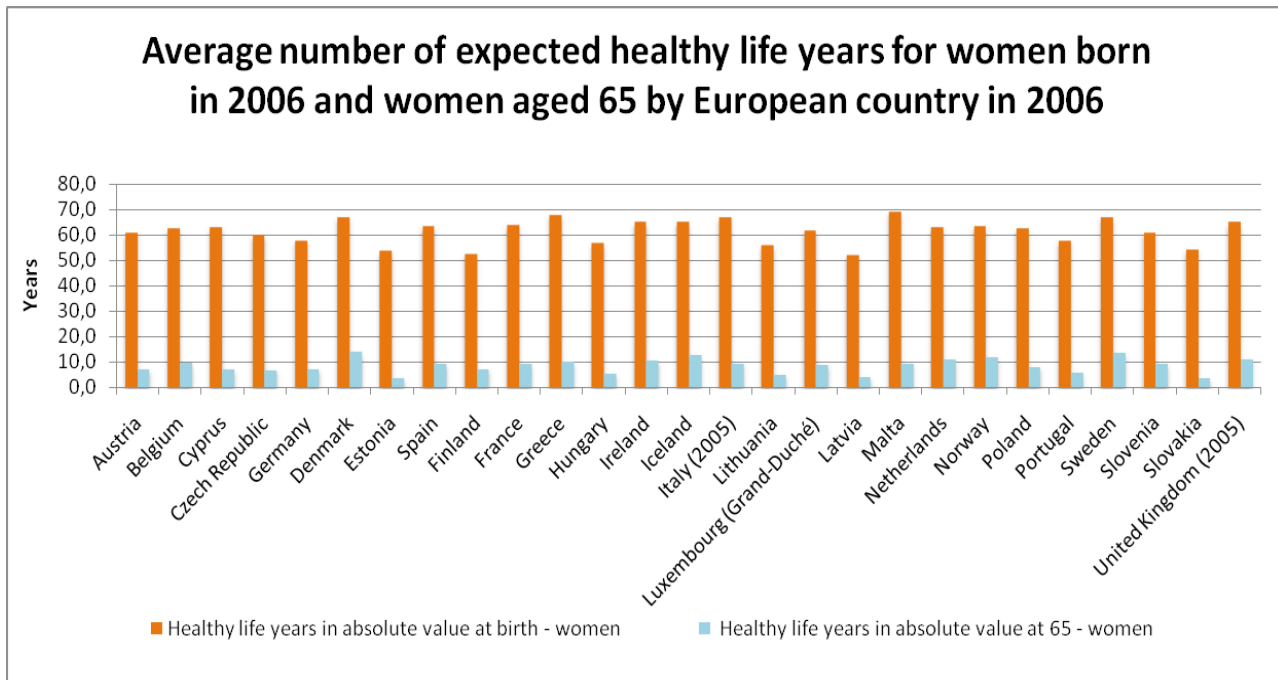


Fig. 4: Average number of expected healthy life years for women born in 2006 and women aged 65 by European country in 2006. (EUROSTAT 2009)

Population Change

Birth rate

There were 5,281,625 live births in the EU-27 in 2007. In Europe the greatest number of live births occurred in France (819,605), the UK (772,245), and Germany (684,862) and the smallest number occurred in Liechtenstein (351), Malta (3,871), and Iceland (4,560), as shown in figure 5 (EUROSTAT 2009). In 2005 the birth rate — or live births per 1,000 population — was 10.4 in the EU-27, ranging from 8.31 in Germany to 14.78 in Ireland (WHO 2009h).

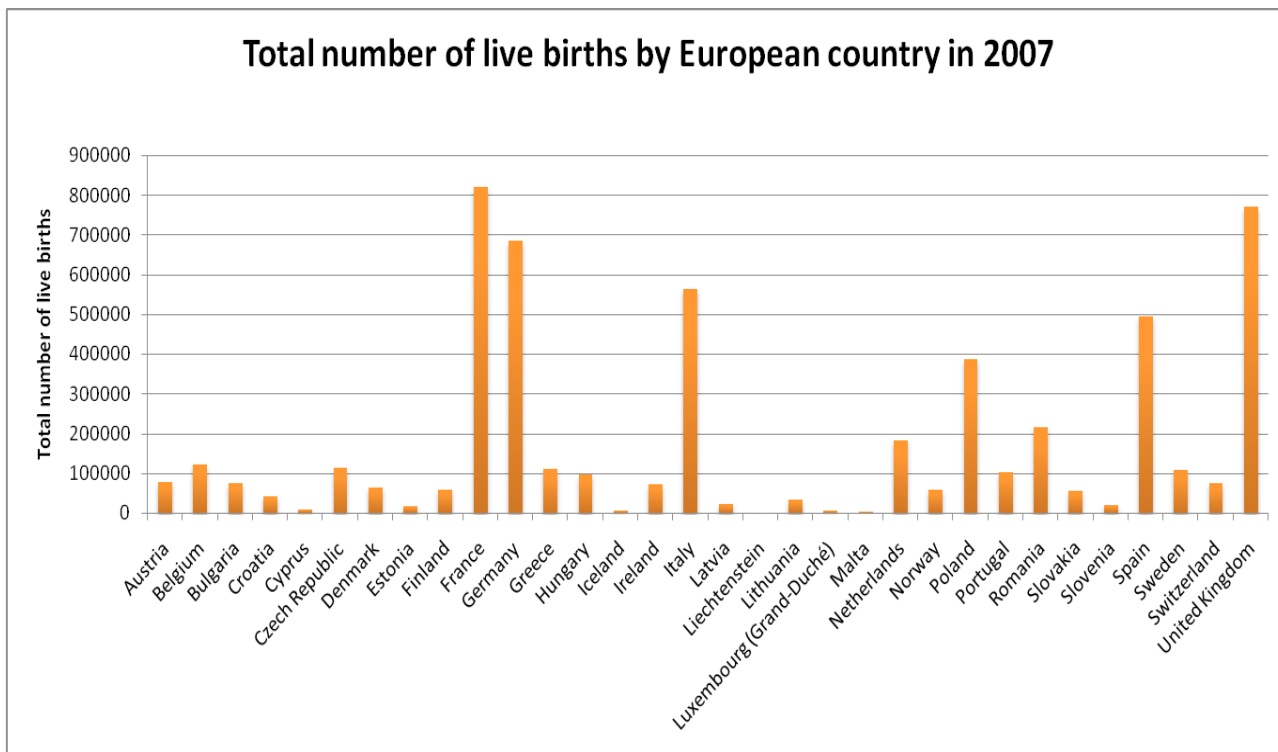


Fig. 5: Total number of live births by European country in 2007. (EUROSTAT 2009)

Mortality

Standardised death rate (SDR) per 100,000 is significantly higher in European men than in women. In 2006, the SDR in the EU-27 was 503.6 for women and 827.4 for men (data unavailable for Belgium, Denmark, Iceland, and the UK). SDR was also higher among men than women in all individual countries for which data was available, ranging from 391.7 in Spain to 808.5 in Bulgaria. The discrepancy between male and female SDR is greatest in Lithuania, where an average of 835.9 more men than women die per 100,000 individuals. SDR is also higher among Eastern European countries and newer EU-Member States (EUROSTAT 2009).

Mortality rate varies in the different age categories. For infants 0 to 1 year old, mortality is higher among males. In 2004, female infant mortality was 3.9 (per 1,000 live births) while male infant mortality was 4.8 (EUROSTAT 2008b). Mortality for girls aged 1-4 was around 20/100,000 and for girls aged 5-14 it was around 11/100,000 (based on 2005 data).

Mortality increases after age 15 for both sexes, but female mortality increases less quickly than male mortality. Mortality among women aged 15 to 19 was 22/100,000, while male mortality was 54/100,000 (2005 data). In the early 20s, male mortality is almost triple female mortality.

After that, crude female mortality (based on 100,000 female inhabitants in the EU-27) was 46 for women 30-34, 117.6 for women 40-44, 317.8 for women 50-54, 685.5 for women 60-64, 1,890.9 for women 70-74, and 16,235.1 for women above 85 years (EUROSTAT 2008b; EUROSTAT 2009).

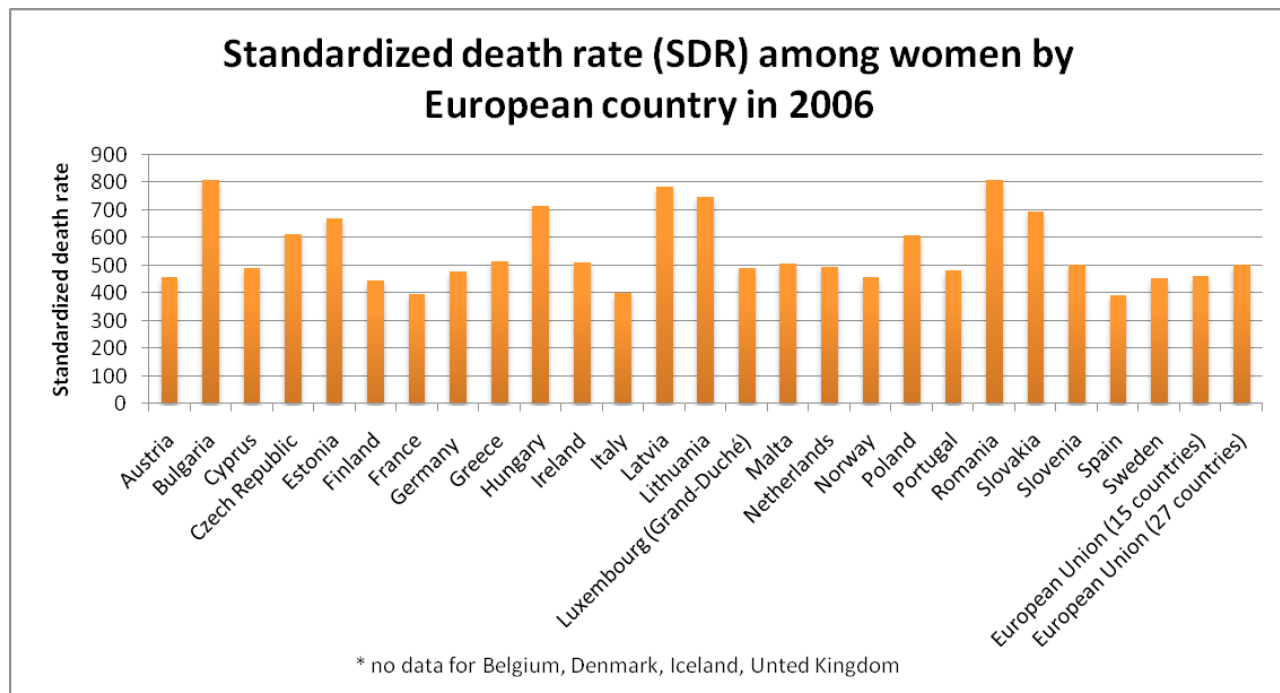


Fig. 6: Standardised death rate (SDR) among women by European country in 2006. (EUROSTAT 2009)

Leading causes of death differ across the lifespan. Based on data from 2001 to 2003, for the age group 0 to 19, the leading causes of death among women were conditions originating in the perinatal period and external causes (injury and poisoning); for women aged 20 to 44 they were cancers and external causes (injury and poisoning); for women aged 45-64, malignant neoplasms (cancer) and diseases of the circulatory system; and among those women 65 and over, diseases of the circulatory system (Niederlander 2006).

Overall, of 100,000 women of all ages in the EU-27 in 2005, 213.7 died of diseases of the circulatory system, 135.5 of malignant neoplasms, 35.5 from diseases of the respiratory system, 22.3 from external causes (injury and poisoning), 15.4 from diseases of the nervous system and sensory organs, 12.8 from diabetes, 8.2 from chronic liver disease, 4.8 from suicide and intentional self-harm, 1.0 from alcohol abuse, 0.7 from homicide or assault, 0.5 from AIDS, and 0.2 from drug dependence (please see figure 7) (EUROSTAT 2009).

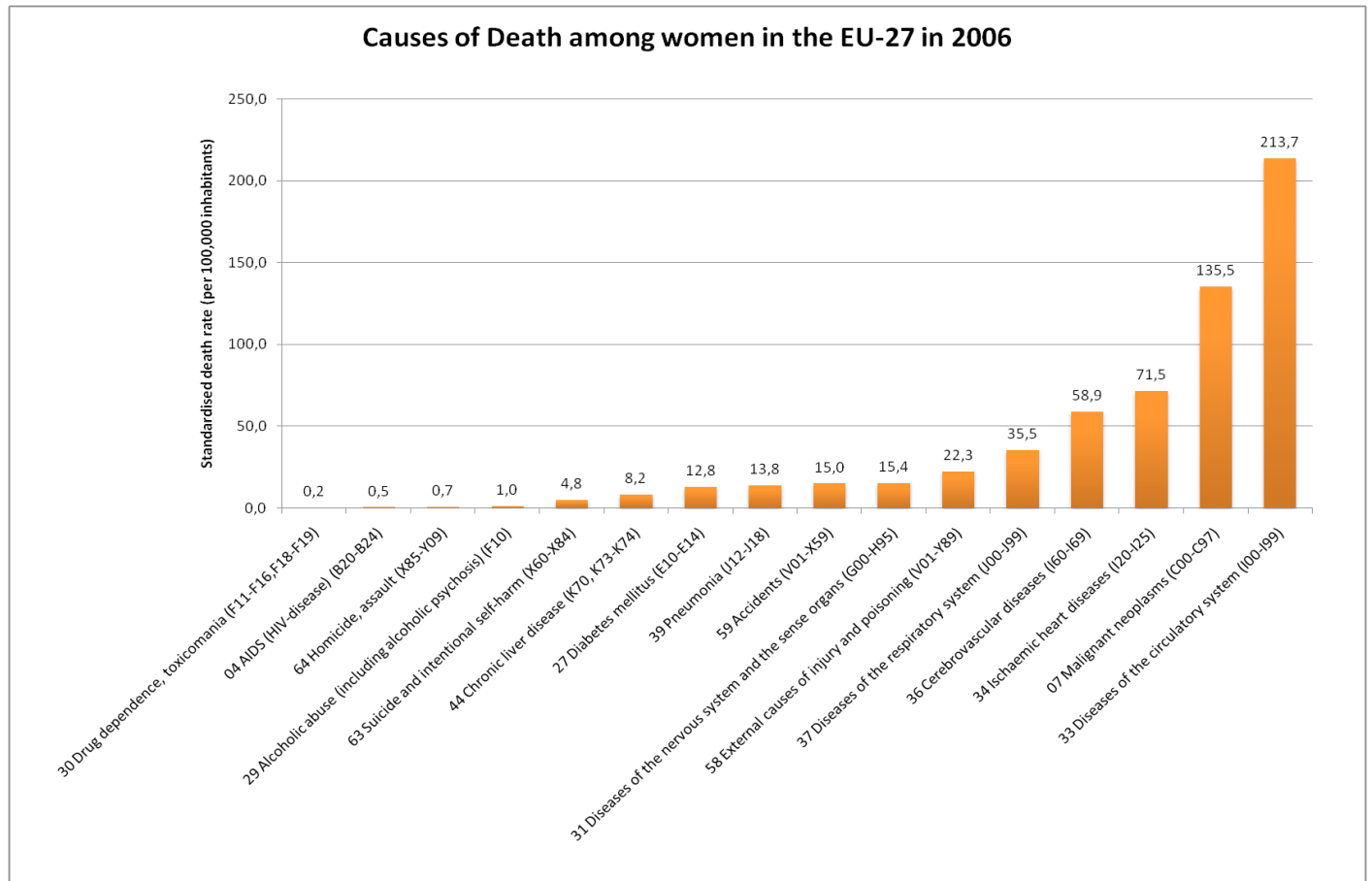


Fig. 7: Causes of death among women in the EU-27 in 2006. (EUROSTAT 2009)

Migration

Based on 2005 data, net migration is positive for almost all states in the EU (excluding the Netherlands, Poland, Lithuania, Romania, and Latvia) and overall immigration into the EU has been increasing. Between 2001 and 2005, 1.15 to 2.03 million immigrants entered EU-27 countries each year and immigration is now the main driver of demographic growth in the majority of EU countries. Women immigrants are therefore a growing subpopulation. In 2004, 324,574 female immigrants entered Germany, 310,240 entered Spain, and 257,477 entered the UK (EUROSTAT 2008a, 2009; data unavailable for some countries).

Education and Employment

On average, European women reach higher levels of educational attainment than European men. Of men and women aged 18-24, a much larger proportion of men leave school with at most a lower secondary education and are not in further education or training (17.2% of men versus 13.2% of women in the EU-27 in 2007) (EUROSTAT 2009). Slightly more women than men in the EU-27 complete upper secondary education (EUROSTAT 2008a) and in all European countries except Liechtenstein, more women than men graduated from tertiary education programs in 2005 (please see figure 8). In 2006, 55.1% of students enrolled in tertiary education in the EU-27 were women (EUROSTAT 2009).

However, the proportion of women in tertiary education programs varies significantly across disciplines. Among 2005 tertiary education graduates, women accounted for only 37.2% of students studying science, mathematics, and computing and only 24.4% of students studying engineering, manufacturing, and construction (EUROSTAT 2009).

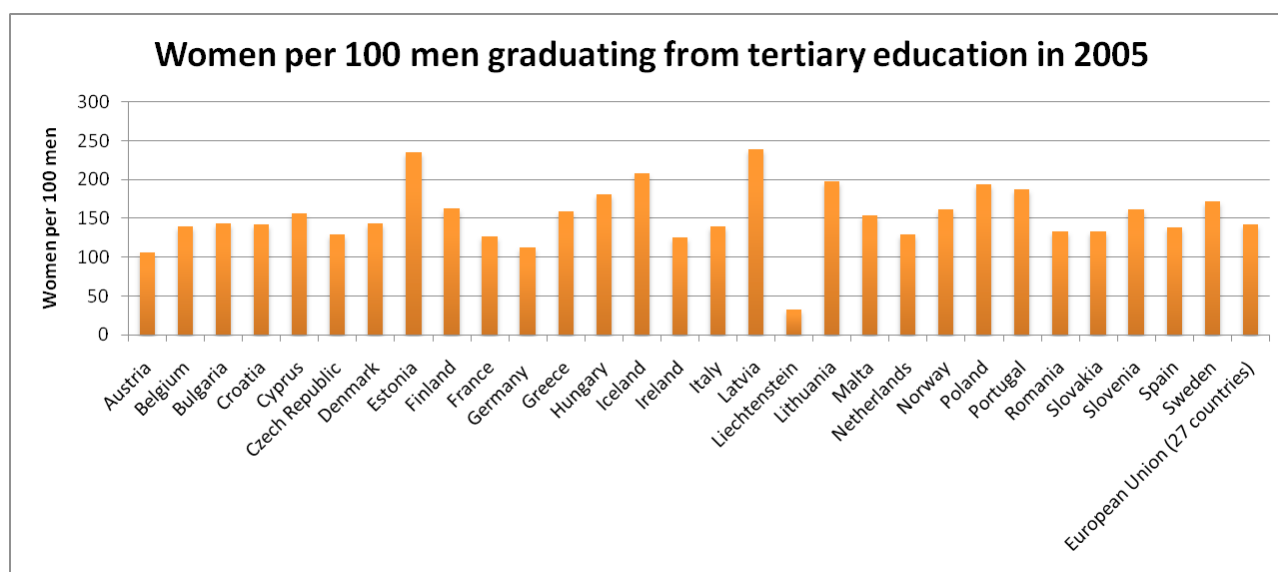


Fig. 8: Women per 100 men graduating from tertiary education by European country in 2005. (EUROSTAT 2009)

More women than men also participate in lifelong education and training — 10.4% of female participants aged 25 to 64 in the 2006 EU Labour Force Survey had received some form of education or training in the four weeks preceding the survey, while only 8.8% of men had (EUROSTAT 2008b).

Employment Trends

Female employment increased by 9.8% between 2000 and 2007 (in that time male employment grew by 4.3%) — reaching 58.3% among women aged 15 to 64 in the EU-27 (male employment was 72.5%). The highest rates of female employment were found in Iceland (80.8%), Norway (74.0%), Denmark (73.2%), Sweden (71.8%), and the Netherlands (69.6%). The lowest rates were recorded in Greece (47.9%), Italy (46.6%), and Malta (36.9%) (European Commission 2008a).

Considering different age categories, employment was highest among women 25-54 (71% of this age group was employed), followed by women aged 55-64 (36%), and women aged 15-24 (34.2%) (European Commission 2008a). However, it is projected that population ageing will lead to a change in the European workforce. In the last few decades Europe has had a large proportion of the population in the working age category (15 to 64), but as these individuals age the proportion of older individuals in the EU will grow and the proportion of individuals of working age supporting them will shrink (EUROSTAT 2008a).

Parenthood appears to have a significant affect on employment among women: in 2006 women aged 20-49 with children under 12 in EU-27 Member States had a 62.4% employment rate — while women without children had a 76% employment rate. Men with children did not experience the drop in employment and were in fact more likely to be employed than men without children: 91.4% of men 20-49 with children under 12 were employed, while only 80.8% without children were (European Commission 2008d).

Women are employed part time much more frequently than men in all European countries. In 2007, 31.2% of all employed women in the EU were working part-time, whereas only 7.7% of employed men were part-time workers. Based on 2007 data, part-time work is predominant in the Netherlands, where 75% of employed women work part-time. Percentages of employed women engaging in part-time work in 2007 also exceeded 40% in Sweden, Austria, Belgium, the UK, and Germany. However, part-time employment is also relatively low in Bulgaria (only 2.1% of employed women worked part-time in 2007), Slovakia, Hungary, the Czech Republic, and Latvia (European Commission 2008a). Women are more likely than men to work on a fixed-term contract (15.2% of women vs. 13.95% of men work on fixed-term contracts) and are less often self-employed (12.2% vs. 19.1%) (European Commission 2008a). Women are also more likely to receive lower wages: in 2006 women in the EU-27 earned on average 15% less per hour than men (European Commission 2008d).

Women are concentrated in relatively few work sectors in Europe—in 2005 61% of women in the EU-25 worked in health care and social work, retailing, education, public administration, business activities, and hotels and restaurants (EUROSTAT 2008b). In total, 81.8% of employed women in 2007 worked in the services sector while only 58.4% of men did (European Commission 2008a).

Unemployment

The unemployment rate among women aged 15 and over is higher than that of men in the EU-27 (7.8% compared to 6.6% in 2007) and is particularly problematic in Spain (10.9%) and Slovakia (12.7%); long-term unemployment is also more common among women in the vast majority of Member States (3.3% of the female labour force in 2007 as opposed to 2.8% of the male labour force) and is high in Greece (7%) and Slovakia (9.3%) (European Commission 2008a). In addition, women aged 18-59 are far more likely than men to live in households in which no one is employed (EUROSTAT 2008b).

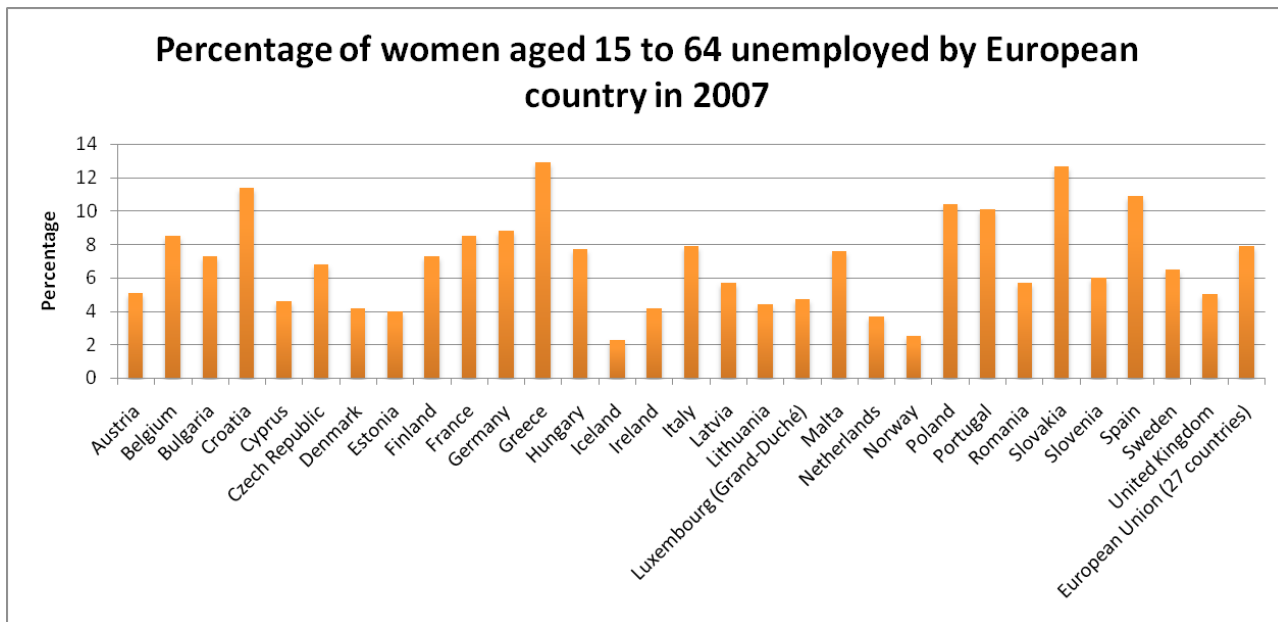


Fig. 9: Percentage of women aged 15 to 64 unemployed by European country in 2007. (EUROSTAT 2009)

Unpaid work

Women spend more of their time doing unpaid work than men, including household chores, childcare, care of elderly and sick family members, and voluntary work. Comparing data collected in 14 countries through national time use surveys conducted in the period 1999 to 2004, women aged 25 to 44 spent almost triple the time men did on childcare per day (60 vs. 22 minutes). Women 15-24 also spent 60 minutes more per day preparing food, washing dishes, and cleaning the house and women 25-44 spent an average of 162 minutes more per day these tasks. The difference is particularly pronounced in Italy (over five hours of unpaid work per day for women; 1 hour 13 minutes for men) (EUROSTAT 2008b). Women are also the majority of all carers (60% to 80%) (Grammenos 2005). Therefore, despite lesser time spent in paid employment, women spend more hours working than men, if paid and unpaid work are combined (EUROSTAT 2008b).

Women's increased employment and the higher educational levels attained are important factors in their increasing autonomy and lead to greater equality between men and women in society.



The background features a dynamic, abstract composition of flowing, translucent waves in shades of lime green and pale yellow. The waves originate from the top right and curve downwards and to the left, creating a sense of movement and depth. The overall aesthetic is clean, modern, and organic.

Health Issues

Cardiovascular Diseases

Diseases of the heart and circulatory system (called cardiovascular diseases or CVD) are a main cause of mortality as well as disability and morbidity among women in Europe. CVD is caused by disorders of the heart and blood vessels and includes coronary heart disease (heart attacks) and cerebrovascular disease (stroke) (WHO 2009c).

Each year CVD causes over 2 million deaths in EU-Member States and approximately half of all deaths in the EU (42% total: 45% of deaths in women and 38% of deaths in men) (European heart network 2009).

Coronary heart disease (CHD)

Coronary heart disease is the single most common cause of death in Europe, resulting in 741,000 million deaths in EU-Member States each year. Over one in seven women (15%) and over one in six men (16%) die from the disease (European heart network 2009).

In the period 1995-2004, a decrease in deaths due to CHD (SDR per 100,000 adults aged 0 to 64 years) was observed in both men and women in EU-Member States (from 60 to 40 among men and from 15 to 9 among women) (European heart network 2009).

In 2004, mortality rate from CHD (deaths per 100,000) among women was greater in Central and Eastern Europe than in Northern, Southern, and Western Europe, and was particularly high in Lithuania (27/100,000), Romania, Hungary (28/100,000), and Latvia (34/100,000).

Cerebrovascular disease (stroke)

Another major disease of the circulatory system is cerebrovascular disease (stroke). Stroke is defined by the WHO as the interruption of the blood supply to the brain, usually because a blood vessel bursts or because of blockage by a clot. This cuts off the supply of oxygen and nutrients to the brain, causing damage to the brain tissue (WHO 2009c).

Stroke is the second most common cause of death in Europe and is responsible for 508,000 deaths in the European Union each year. Over one in eight women (12%) and one in ten men (9%) die from this disease.

Death rates from stroke among both sexes are higher in Central and Eastern Europe than in Northern and Western Europe (European heart network 2009).

Mortality from stroke for women under 65 (SDR per 100,000) decreased from 11.75 to 7.38 in the 27-EU Member States between 1995 and 2005.

In 2005, among women less than 65 years of age, the highest death rates were observed in Eastern European countries as illustrated in table 2 (WHO 2009a).

Table 2: Standardised death rates (SDR) from stroke, women aged 0-64 years in Eastern European countries in 2005. (WHO 2009a)

Eastern European countries	Standardised death rates (0-64), women, stroke per 100,000 in 2005
Estonia	16.09/100,000
Lithuania	16.31/100,000
Latvia	25.17/100,000
Romania	31.25/100,000

Because death rate increases with age, stroke mortality is highest among elderly women. In 2005 the death rate from stroke for women over 65 varied from highs of 1,276.55/100,000 in Latvia and 874.43/100,000 in Lithuania to lows of 218.44/100,000 in France and 297/100,000 in Iceland (WHO 2009a).

There are a number of known risk factors for cardiovascular diseases in women. Some of these factors, including ageing, genetic disposition, and hormonal change, are unmodifiable, but factors such as obesity, hypertension, tobacco use, physical inactivity, and increased levels of blood cholesterol may be influenced through lifestyle changes (Rich-Edwards 1995; European heart network 2009). Hypertension is one of the most important risk factors for CVD.

Cancer

Cancer remains an important public health problem in Europe. In 2004 in the EU-25 Member States there were over 2 million estimated incidence cases of cancer (2,060,400 incident cancer cases among individuals aged 0-74) and over one million cancer deaths (1,161,300 cases). The most common incident forms of cancer among women were

- breast cancer (275,100 cases; 29% of all incidence cases among women),
- colorectal cancer (129,000 cases; 13.7%),
- cancer of the uterus (81,500 cases; 8.6%), and
- lung cancer (62,000 cases; 6.5%) (Boyle, Ferly 2005).
-

Breast cancer was the major cause of cancer-related death among women aged 0-74 in the 25-EU Member-States (n=88,400 deaths, 17.4%), followed by colorectal cancer (n=67,000, 13.2%), and then lung cancer (n=55,900 deaths, 11%) (Boyle, Ferly 2005).

However, a recent downward trend in mortality rates in almost all forms of cancer has been observed in both sexes in the EU-27 Member States. From 1982 to 1992 the total cancer mortality in men was stable; it then declined by 13% from 1992 (185.5/100,000) to 2002 (162.3/100,000).

In women, the death rate declined by 2% from 1982 to 1992 and by 8% from 1992 to 2002 (to 95.8/100,000) (Bosetti et al. 2008).

Breast Cancer

The incidence of breast cancer is still rising in most EU-Member States, although this may be a result of increased detection through screening programmes. Figure 10 details breast cancer incidence in 2005 among the EU-27 (plus Norway and Iceland; data unavailable for Liechtenstein) (WHO 2009h).

Mortality from breast cancer has shown a declining trend in the EU-27 in the last few years: SDR (per 100,000) in middle-aged women (35-64 years) decreased from 40.58/100,000 to 33.84/100,000 (-17%) in the period 1982-2002 (Bosetti et al. 2008).

Survival rates have improved because of early detection and more effective therapies. In the period 1988-1999, in 16 European countries (Austria, the Czech Republic, Denmark, Finland, France, Germany, Iceland, Italy, the Netherlands, Norway, Poland, UK, Slovenia, Spain, and Sweden) the five-year relative survival in women with breast cancer increased from 74% to 83%. Survival was heterogeneous between countries, ranging from 73% in Poland to 85% in Sweden in the period 1997 -1999.

The countries with the poorest initial survival rates show the greatest improvements in survival, being in general lower in Eastern Europe (Poland, Czech Republic) and higher in the northern region of Europe, especially in Sweden, Finland, and Iceland (Verdeccia et al. 2007; Verdeccia et al. 2009).

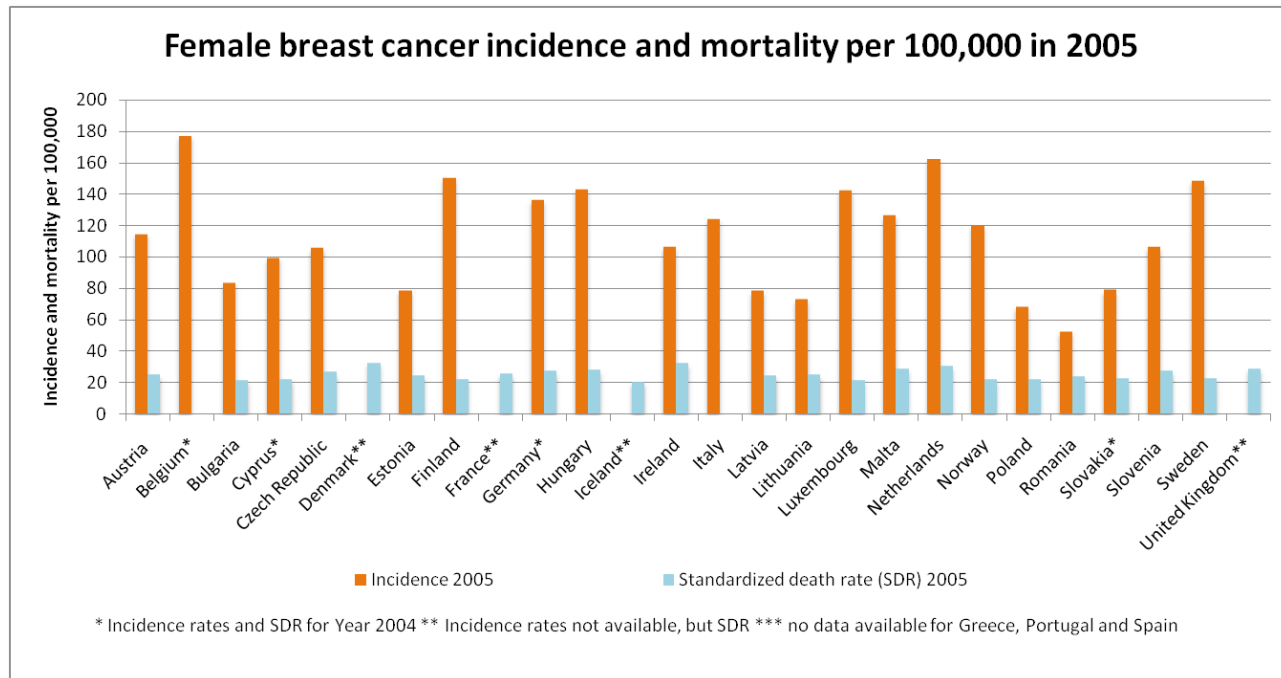


Fig. 10: Female breast cancer incidence and mortality per 100,000 in 2005. (WHO 2009h)

The risk of breast cancer depends on the number of reproductive years throughout women’s lifespan. It decreases by about 15% for each year of delay in age at menarche and increases by 3% for each year of delay in age at menopause. Artificial menopause exerts a similar or somewhat stronger protective effect than natural menopause (Colditz et al. 2006; Boyle, Lewin 2008). Further risk factors include genetic disposition, lifestyle factors (such as obesity, physical inactivity, and smoking) and environmental factors, a late first birth, and Hormone Replacement Therapy (HRT) (Boyle, Lewin 2008).

Cervical Cancer

Cervical cancer is caused by a persistent infection with one or more of 15 oncogenic types of the human papilloma virus (HPV) (Boyle, Lewin 2008).

During 1995-2005 a number of EU-27 Member States showed a slight decline in the incidence (per 100,000) of cervical cancer. However, incidence rates continued to increase in Eastern European countries such as Estonia, Lithuania, Latvia, Bulgaria, and Romania.

In 2004, the highest incidence rates were found in

- Lithuania (31.1/100,000),
- Romania (29.9/100,000), and
- Bulgaria (26.98/100,000).

While the lowest incidence rates were found in Malta, Cyprus, and Finland (1.98/100,000 to 6.07/100,000) (WHO 2009h).

As cervical cancer typical develops slowly, cervical cancer screening has been proven to be effective in reducing incidence rates (see also chapter health care “HPV vaccination and “Cervical cancer screening”).

Mortality (SDR all ages) from cervical cancer in Europe decreased from 4.38 per 100,000 to 3.45 per 100,000 between 1995 and 2005, the most recent interval for which data was available. The exceptions were Bulgaria, Latvia and Romania, because in these countries mortality rates rose slightly over this period. The lowest SDR (all ages) were observed in

- Iceland (0.79/100,000),
- Malta (0.97/100,000),
- Greece (1.22/100,000),
- Luxembourg (1.33/100,000), and
- Finland (1.4/100,000) (WHO 2009h).

Epidemiological studies identify a wide range of risk factors for developing cervical cancer, for example tobacco smoking, low socio-economic status, infection with *Chlamydia trachomatis*, long term use of oral contraceptives, multiple sexual partners, multiparity, and micronutrient deficiency in fruits and vegetables (Boyle, Lewin 2008).

Lung cancer

Lung cancer remains one of the most important forms of cancer for the population of the European Union.

During the period 1995-2005 the greatest increases in female cancer incidence (per 100,000) of the trachea, bronchus, and lung were observed in:

- Hungary: increasing from 24.86/100,000 to 67.12/100,000 (+42.26)
- Slovenia: from 17.42/100,000 to 29.68/100,000 (+12.26)
- Norway: from 26.83/100,000 to 38.64/100,000 (+12.02)
- the Netherlands: from 24.51/100,000 to 41.35/100,000 (+16.84) (WHO 2009h).

Although the average mortality rate of lung cancer is much lower in women than men, the female death rate has been steadily rising in the EU, with a measurable increase in the last few years (WHO 2008; Bosetti et al. 2008).

The pattern of lung cancer mortality in women is quite different from that observed in men. In the period 1982-2002 lung cancer mortality (SDR in men and women aged 35-64 years) was higher in men than in women, but male mortality declined from 77.18/100,000 to 56.49/100,000. Conversely, while women had an overall lower mortality rate than men, the rate increased throughout the period from 12.82/100,000 to 18.59/100,000 (Bosetti et al. 2008).

In 2005, the highest female death rates (per 100,000 aged 0-64 years) were found in the Netherlands (16.55/100,000), Iceland (17.29/100,000), and Denmark (19.47/100,000). In these countries men and women had similar average death rates. Sweden also showed higher-than-average death rates in both women and men. Latvia, Finland, Estonia, Lithuania, Slovakia, Malta, Spain, Romania, and Greece had low death rates in women (WHO 2009h).

The current geographical patterns of lung cancer incidence are the result of smoking habits 20-30 years ago rather than those of today. The higher lung cancer mortality among women in countries such as Iceland, the Netherlands, Poland, Norway, Sweden, and the United Kingdom reflect the earlier uptake of smoking in a larger proportion of women in these countries (Boyle, Lewin 2008).

However, today smoking among women is more prevalent in Southern than in Northern European countries, and as a result the incidence pattern will change in the near future.

Lung cancer survival is particularly low. The mean five-year survival in Europe (based on data from Austria, Czech Republic, Denmark, Finland, France, Germany, Iceland, Italy, the Netherlands, Norway, Poland, the UK, Slovenia, Spain, Sweden, and Switzerland) increased from 11% in the period 1988-1990 to 13% in 1997-1999. The greatest improvements in survival among European women were estimated to have occurred in Sweden, Poland, and Italy (Verdeccia et al. 2009).

Colorectal Cancer (Colon and rectal cancer)

The average European five-year relative survival for colon-cancer (based on data from Austria, the Czech Republic, Denmark, Finland, France, Germany, Iceland, Italy, the Netherlands, Norway, Poland, the UK, Slovenia, Spain, Sweden, and Switzerland) increased from 48% to 54% in both sexes in the period 1988-1999 (Verdeccia et al. 2009). Country-specific survival rates for colon cancer diagnosed between 1997 and 1999 vary greatly, from 38% in Poland to 60% in France.

During this period colon cancer survival was highest among Italian women (61%). (Verdeccia et al. 2009)

Survival rates for rectal cancer in both sexes are similar to those for colon cancer. Similar recent improvements in survival rates for men and women were also observed, increasing from 45% in 1988-1990 to 55% in 1997-1999. The increase was greatest in countries with poorer initial relative survival (Poland, the Czech Republic, Slovenia, and Denmark).

The highest relative survival among women with rectal cancer occurred in Central and Northern European countries (Switzerland, France, Norway, and Sweden) (Verdeccia et al. 2009).

Infectious diseases

HIV/AIDS

Infection with Human Immunodeficiency Virus (HIV) and the development of Acquired Immunodeficiency Syndrome (AIDS) is a major health issue in the EU/EFTA population.

Between 2000 and 2007, newly diagnosed cases of HIV infections increased from 44 per million (14,483 cases) to 58 per million (19,435 cases) in 28 EU/EFTA countries.

In 2007, the EU/ EFTA (excluding Italy and Austria) reported 26,279 newly diagnosed cases of HIV infection (64.1/million), with the highest rates recorded in Estonia (472/million, 633 cases total), Portugal (217/million, 2,302 cases total), and Latvia (149/million, 338 cases total). Romania (7/ million, 158 cases total) and Slovakia (7/million, 39 cases total) reported the lowest infection rates.

Generally, men are more affected by HIV than women in EU/EFTA countries. In 2006, 67% of newly diagnosed cases of HIV (n=17,289) were in men and 33% were in women (n=8,484), leading to infection rates of 7.2 and 3.4 per 100,000 respectively (male to female ratio 2:1) (ECDC 2008a).

The majority of newly diagnosed HIV infections in women were reported among women 20-39 years.

Among women the predominant routes of transmission are heterosexual contact and injection drug use. Between 2003 and 2005 newly diagnosed HIV infections among female injection drug users declined from 623 to 496. However, newly diagnosed cases as a result of heterosexual contact increased from 6,231 to 7,377.

In 2007, mother-to-child transmission resulted in 270 cases of HIV infections (please see figure 11) (ECDC 2008b).

Despite the increase in newly diagnosed cases of HIV, between 2000 and 2007 the number of AIDS cases in EU/EFTA Member States continued to decline, dropping from 20.8/million to 9.3 /million, with the highest rates in Estonia (42.4/million), Portugal (30.2/million), and Latvia (23.7/million) (ECDC 2008b).

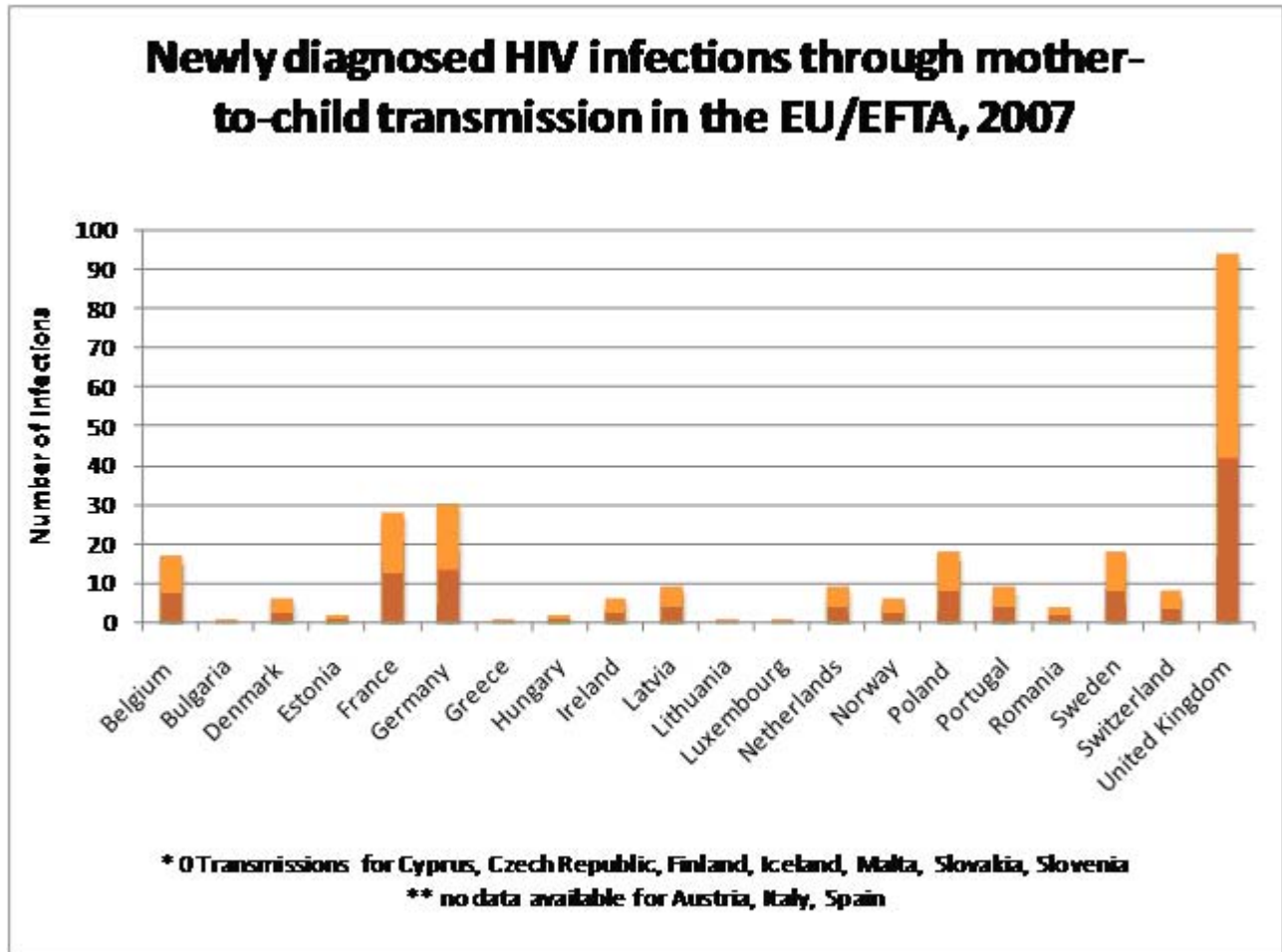


Fig. 11: Newly diagnosed HIV infections (notification year 2007) contracted through mother-to-child transmission in the EU/EFTA, by country. (ECDC 2008b)

Influenza

Seasonal influenza is caused by a virus that mainly attacks the upper respiratory tract – the nose, throat, and bronchi — and rarely, the lungs. Seasonal influenza poses a considerable public health threat. In 2004, SDR due to influenza per 100,000 EU-27 women was 0.2 (WHO 2009a). However, SDR can be dramatically higher among certain risk groups.

Risk groups include elderly people, residents of institutions of elderly people and the disabled, very young children, and people of any age with certain chronic health conditions (such as chronic heart or lung disease, metabolic or renal disease, or immuno-deficiencies).

SDR was highest among those women 75 years and older, reaching a peak of 12.77 per 100,000 EU-27 women in 2004 (WHO 2009a).

During the winter of 2006-2007 influenza activity was primarily associated with virus A (H3) (18,278 cases), while in winter 2005-2006 virus B was the predominant cause of illness (11,303 cases). Activity spread in a south to north pattern across Europe (EISS 2008).

Syphilis (*Treponema pallidum*)

Syphilis surveillance data for 2007 is available for 21 European countries (data unavailable for Poland, Romania, Bulgaria, Hungary, Liechtenstein, and Lithuania).

Differing trends were observed across European regions. Western EU-Member States reported a decrease in incidence after 1996, followed by a trend reversal and an increase of cases related to outbreaks among the MSM population (men who have sex with men) of a number of cities in the early 2000s. In Central EU-Member States the rate of syphilis incidence has been relatively stable over the last few years. Reported syphilis cases have declined in Eastern European countries since the late-nineties — decreasing in Estonia by 93% (from 1,050 cases to 76 cases) and in Latvia by 88% (from 2,597 cases to 301 cases) between 1998 and 2007.

According to 2007 data, in eight of eighteen European countries, over 80% of diagnosed syphilis cases occurred in men (Denmark, France, Germany, Norway, the Netherlands, Slovenia, Sweden, and the UK). However, some Central and Eastern European countries reported a higher proportion of cases among women, especially compared to Western Member States. In 2007, syphilis cases were more common among women than men in Estonia (51 female cases), Latvia (53 female cases), and Slovakia (119 female cases) (ESSTI 2008).

Syphilis transmission is particularly high among homosexual populations in these countries.

Among women, the largest proportion of cases occurs in individuals 20-34 years of age, while the largest proportion of cases among men occurs between the ages of 25 and 44 (ESSTI 2008).

Chlamydia

The main relevance of chlamydia infection in Europe comes from its relationship with infertility and adverse pregnancy outcomes.

During the period 1998-2007, most European countries showed an increase in new chlamydia cases, particularly France with cases increasing by 144%, Slovenia (183%), and Sweden (210%) (data unavailable for Germany, Austria, Greece, Italy, Poland, Spain, Slovakia, Lithuania, Romania, Bulgaria, Hungary, and Liechtenstein). Exceptions include Estonia and Latvia where the number of new chlamydia infections decreased by 37% (from 3,916 cases to 2,480 cases) and 48% (from 1,367 cases to 711 cases) during this period (ESSTI 2008).

The cause of this increase is not clear. Potential explanations include a genuine rise in incidence, an increase and change in diagnostic testing, and/or the introduction of screening in various countries.

Chlamydia is more often diagnosed in women than in men. In 2007, 55% of all reported chlamydia cases were in women, with the largest proportion of female cases in Estonia (83%), Denmark (63%), and France (67%).

For both sexes chlamydia affects mainly younger age groups (individuals 15-24 years of age).

Approximately 77% of all cases in women in 2007 (based on data from 11 European countries) occurred in women under 25 years, compared with 58% among men under 25. (ESSTI 2008).

Gonorrhoea

Between 1998 and 2007, increases in gonorrhoea cases were observed in a number of European countries, including France (298% increase from 224 cases to 891 cases) and Sweden (87% increase from 343 cases to 642 cases) (data were unavailable for Germany, Poland, Lithuania, Romania, Bulgaria, Hungary, and Liechtenstein). In 2007, the largest number of new cases occurred in the Czech Republic (1,149 cases), the Netherlands (n=1,827), and the UK (18,710 cases). Reported cases also declined in a number of countries in 1998-2007, falling by 49% in Latvia (1,237 cases to 669 cases), 89% in Estonia (1,574 cases to 174 cases), and 88% in Cyprus (42 cases to 5 cases).

Gonorrhoea occurs less often in women than in men. About 71% of all known gonorrhoea cases in 2007 occurred in men, reaching a high of 98% in Greece.

Gonorrhoea affects sexually active people and over half of reported gonorrhoea infections are reported in individuals older than 25 years (ESSTI 2008).

Vaccination coverage

Vaccination plays a central role in infectious disease morbidity and mortality. Diseases for which vaccinations are widely available include measles, mumps, rubella, chickenpox, diphtheria, tetanus, pertussis, polio, influenza, and *Streptococcus pneumoniae* in the elderly.

Sex-and-age-specific data on basic vaccination coverage is currently minimal. However, as most vaccination occurs during infancy and childhood, rates of vaccination among European children provide relevant information.

Using combined data from 2005 and 2007, 90% or more of all European children are vaccinated against diphtheria, tetanus, pertussis, and poliomyelitis, with the exception of Austria, Denmark, and Malta where rates were below 90% (and Romania and Greece, for which data was unavailable). Hungary had the most extensive vaccine coverage for these diseases, reaching 99.9% of children in 2007. Slovakia had 99.3% coverage and Luxembourg provided 99.1% coverage in 2007. With less than 90% of children covered, Austria (84.5%), Denmark (75%), and Malta (74% for diphtheria, tetanus, and pertussis; 76% for polio) were at the lower end of vaccination coverage in 2007 (WHO 2009h).

Vaccination for measles, mumps, and rubella (MMR vaccine), commonly given together, has generally high coverage, but has experienced a reduction in uptake in recent years. As a result of scepticism and public concern about vaccine safety, isolated subpopulations, and the success of earlier vaccination campaigns decreasing the perceived health risk of the diseases, vaccination remains far below EU target levels. In 2007, vaccination was below 90% in Austria (77%), Malta (79%), the UK (86.2%), Italy (87%, data from 2006), Cyprus (87%), Ireland (87%), and Denmark (89%).

The low vaccination rate is pronounced in Western Europe and vaccination is greater among nations that entered the EU after 2004 (97.59%) than for EU members before May 2004 (91.49%). For some countries, MMR vaccination is in fact decreasing despite the much broader trend of increased vaccination: in the UK, MMR vaccination decreased from 99% in 2000 to 86.2% in 2007 and in Denmark from 100% in 2000 to 89% in 2007 (WHO 2009h).

Vaccinations against the remaining diseases (chickenpox, influenza, and *Streptococcus pneumoniae*) is varied. As of 2008, Germany was the only European country with a routine childhood chickenpox immunisation programme and the vaccine is officially recommended in only a few other countries (Belgium, Finland, Italy, Spain, and the UK) (Sengupta 2008).

Of the 30 EU and EEA states, 29 provide information on influenza policies and 22 supply estimates of vaccination coverage among the elderly (persons aged 65 years and over). Thirteen of these 22 countries exceeded the 2005 target of the World Health Assembly (target of 50% vaccination uptake in the elderly by 2005-2006), however, only two countries (the Netherlands and the UK) reached or passed the 2010 target (75% uptake in the elderly by 2010–11) (ECDC 2008a).

Data on *Streptococcus pneumoniae* vaccination is highly limited.

Sexual and Reproductive health

Fertility

Fertility rate is defined as the number of children that would be born to a woman over her lifetime if age-specific fertility remained constant over her reproductive lifespan. The total fertility rate across the countries of the European Union is very low. The rate declined from 2.6 in early 1960 to circa 1.4 in the period 1995-2005 (EUROSTAT 2008a).

The rates are higher in countries which adopt family-friendly policies such as implementation of easily accessible and affordable childcare and/or flexible working time patterns (Northern European countries and France) (EUROSTAT 2008a).

During recent years there has been a distinct trend in the deferral of birth to older ages, particularly visible in the Czech Republic, Baltic countries, Hungary, and Slovenia. The mean age for child bearing increased at least two years in the period 1995-2006. In 2006, the average age of women bearing children increased to over 30 years in Spain, Italy, the Netherlands, Sweden, and Denmark and ranged from 29 to 30 years in an additional 10 EU-countries (EUROSTAT 2008a).

Data on European reproductive health indicators related to infertility (such as woman trying to get pregnant for one or more years, deliveries associated with artificial reproductive technology, etc.) is currently insufficient (Gissler et al. 2008).

Data concerning contraceptive use of any method among currently married women aged 15-49 (%) are inadequate in EU-Member States. The prevalence of contraceptive use in both sexes, aged 15-49, is relatively low in Romania (60%) (Gissler et al. 2008).

Pregnancy outcome

From 1995-2005 live births per 1,000 populations in the EU declined from 10.77 to 10.40, with the highest rates in Iceland (14.47/1,000), Ireland (14.78/1,000), France (12/1,000) and the lowest rate in Germany (8.3/1,000). In Bulgaria and Romania a respective 14% and 13% of all live births were to mothers under age 20, in contrast to lower rates of births to women under 20 in Northern European countries (WHO 2009h).

Low birth weight (under 2,500g) is an indicator for maternal care. Low birth weight babies are at higher risk of poor perinatal outcome, as well as a higher risk of physical and cognitive impairments. Babies with a birth weight less than 1,500g, defined as very low birth weight, are at the greatest risk. The causes of low birth weight include preterm birth or intrauterine growth restriction (IUGR).

In 25 EU-Member States which provided data on the indicator birth weight, the percentages of live births with a birth weight under 2,500g ranged from 4.2% to 8.5% of all births in 2004. These data also showed that Southern European countries (Greece, Hungary, Portugal, Malta, and Spain) had the highest percentages of babies born with low birth weight (ranging from 8.5 to 7.5) and that Northern countries had the lowest percentages (Finland 4.2, Sweden 4.2, Luxembourg 4.4 and Norway 4.8).

The percentage of live births of children under 1,500g ranged from 0.7 in Lithuania to 1.4 in Hungary (EURO-PERISTAT 2008).

Maternal mortality

The causes of maternal death can be separated into directly attributed to pregnancy complications (for example thrombo-embolism, hypertension, infection/sepsis, obstetrical complication, haemorrhage) and indirectly attributed, which include cardiac or maternal conditions that are aggravated by pregnancy.

Maternal mortality in the EU has declined greatly in the last decade. Absolute maternal deaths (per 1,000,000 live births) declined in European countries from 9.32 in 1997 to 6.05 in 2006.

In 2006, maternal mortality (per 100,000 live births) was highest in Slovenia (15.83), Romania (15.49), the Czech Republic (13.23), and Latvia (13.45). Malta, Iceland, Ireland, Lithuania, and Luxembourg did not report any maternal deaths (WHO 2009h).

Between 1995 and 2005 Caesarean sections per 1,000 live births in EU-Member States rose from 16,462 to 24,451, as shown in figure 12. In 2005, C-sections per 1,000 live births were highest in Hungary (274), Italy (382), and Malta (302) (WHO 2009h).

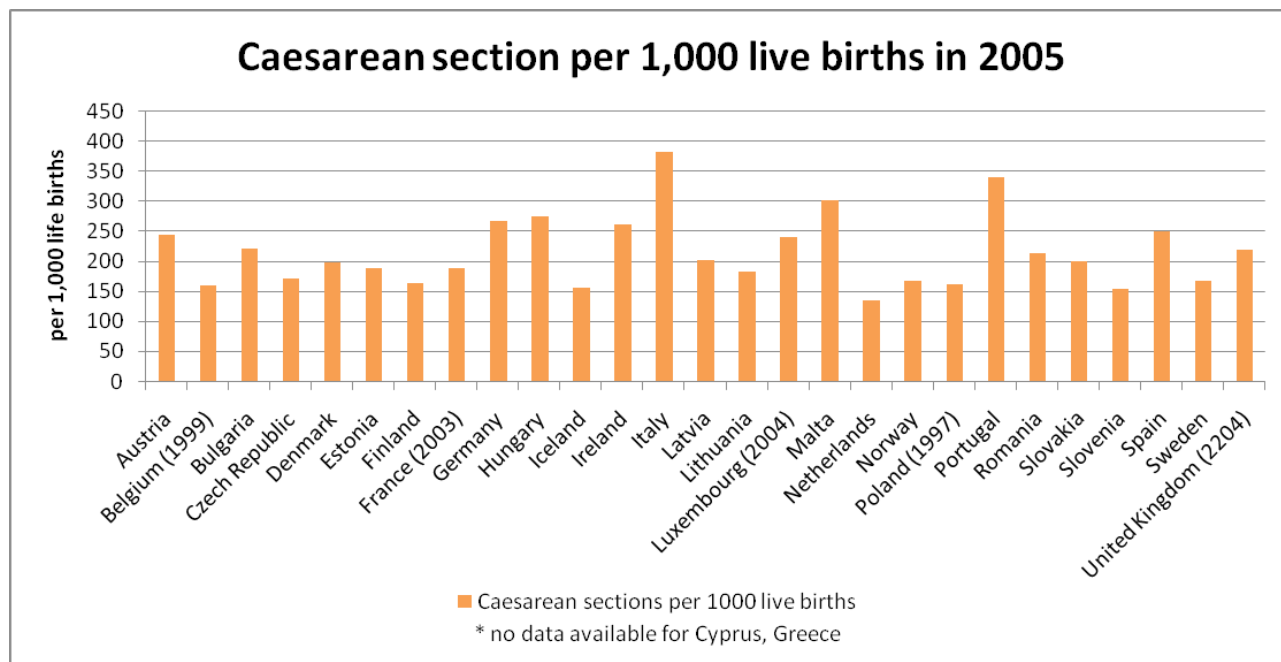


Fig. 12: Caesarean section per 1,000 live births 2005). (WHO 2009h)

Abortion

The legal requirements for abortion vary between European countries, because the abortion laws are a reflection of religious belief, culture, and economic status. For example, in Malta abortion is illegal, while in Poland and Ireland abortion is only allowed if pregnancy physically or mentally threatens the woman's life. In a study of six European countries considering legality, availability of facilities, and health insurance coverage, it was shown that abortion services are easily accessible in the Netherlands, France, and Slovenia, while abortion services were less accessible in Great Britain and Hungary and limited in some Eastern European countries (Pinter et al. 2005).

Across the EU-countries in 2005, the highest abortion rates (abortions per 1,000 live births) were observed in Hungary, Latvia, Bulgaria, and Estonia (ranging from 499 – 670/1,000 live births); the Netherlands, Germany, and Finland report substantially fewer abortions.

In addition, average rates of abortion in countries in Eastern and Central Europe are higher than in Western Europe. However, from 1995 to 2005, in these countries (the Czech Republic, Estonia,

Lithuania, Latvia, Bulgaria, Hungary, Slovenia and Romania) a significant decline in abortions per 1,000 live births was observed (WHO 2009).

Abortions in adolescents and young women less than 20 years of age remain high, having increased during the period 1995-2005. The reasons for this general trend across industrialized countries are broader than factors limited to any one country: increased importance of education, increased motivation of young people to achieve higher levels of education and training, and greater centrality of goals other than motherhood and family formation for young women (Singh, Darroch 2000).

Sexual and intimate partner violence

Sexual and intimate partner violence result from a complex interplay of individual, relationship, social, cultural, and environmental factors and may take physical, sexual, or emotional forms. Up to 1 in 4 women have reported sexual assaults during their lifetime and between 6-10% of women suffer domestic violence in a given year. Reported violence is most often performed by a husband or intimate partner (Council of Europe 2002; Women's aid's 2009).

Data on sexual violence against women collected by the justice system underestimates the size of the problem, as only 5-25% of women report rape to the police. Reasons for underreporting may include shame, stigma, and fear of social exclusion or repeat victimisation (WHO 2006).

Measuring the incidence of sexual violence among victims is also very difficult because perceptions of what is unacceptable sexual behaviour and readiness to report incidents to an interviewer may differ across countries.

Some estimates of the rates and prevalence of sexual violence against women in various countries are reported in table 3 (EUGLOREH 2007).

Table 3: Information's on sexual violence in various countries. (EUGLOREHHE 2007)

Countries	Sexual violence
France ^a	- 25,000 raped per year
Ireland ^a (2002 study)	- 20.4% of women have reported a sexual assault as adults
	- 6.4% reported rape as adults
Latvia ^b (1998 study)	- 5.2% women reported being sexually assaulted in last five years
Lithuania	- 26.5% of women reported sexual abuse by a stranger after 16 years
	- 18.2% of women reported sexual abuse by a unknown man after 16 years
Hungary ^b (1999 data)	- 2.2% of women over 16 years reported being raped
	- 9.4% reported almost being raped
	- 7.4% raped by their partner
United Kingdom (Wales & England) ^b (2000 data)	- 4.9% of women have reported rape or sexual assault on at least one occasion since the age of 16 years

^a European Women's Lobby, 2001

^b London Metropolitan University, 2003

The health consequences of sexual violence may result directly from a violent act or may stem from long term effects, and can range from injuries to death in extreme cases. Violence against women is associated with sexually transmitted infections (e.g. HIV/AIDS), different physical health problems such as back and abdominal pain, gastrointestinal disorder, and irritable bowel syndrome, gynaecological complaint, and severe psychological problems such as depression or post-traumatic stress disorder, which can lead to suicide. Unwanted pregnancy, which often leads to induced abortion, occurs in as many as one in six rapes among women aged 12-45 years (WHO Europe 2006).

Greater systematic documentation and dissemination of information on sexual and intimate partner violence is necessary. To accomplish this goal, the health sector must collaborate with the police, justice, and welfare systems (EUGLOREH 2007).

Endometriosis

Endometriosis, a disease occurring only in women, is defined as the presence of endometrial-like tissue, i.e. glands and stroma, outside the uterus. The most-affected sites are the pelvic organs and peritoneum. The disease varies from a few, small lesions on otherwise normal pelvic organs, to solid infiltrating masses and ovarian endometriotic cysts (endometriomas). Symptoms are subfertility, dysmenorrhoea, dyspareunia, chronic pelvic pain or perimenstrual symptoms (frequently bowel or bladder), abnormal bleeding, and chronic fatigue. Many women with endometriosis are asymptomatic. Depending of the severity of endometrioses, it can cause infertility and subfertility.

In the reproductive years the prevalence is circa 10 % in women (Vigano et al. 2004). The most widely used classification is that of the American Society for Reproductive Medicine (ASRM). The severity of endometriosis is described as minimal (Stage 1), mild (Stage 2), moderate (Stage 3), or severe (Stage 4). This definition was developed to assist in determining the prognosis and management of patients with endometriosis undergoing surgery for subfertility.

The study group (Parazzini et al. 2005) have analysed a risk of recurrence of endometriosis after the first line treatment (two-year recurrence rate was 5.7% among cases stage 1-2 and 14% among stage 3-4).

If a woman suffers from endometriosis she more frequently develops autoimmune diseases e. g. rheumatoid arthritis or systemic lupus erythematosus (SLE).

Risk factors for the development of endometriosis are age, obesity, and greater exposure to menstruation (e.g. short cycles, menorrhagia, and low parity). Smoking, exercise, and oral contraceptive use may be protective (Koninckx 1994). Genetic predisposition is likely, as endometriosis occurs 6-9 times more often in 1st degree relatives, suggesting endometriosis is a complex genetic trait like diabetes or asthma.

Diabetes mellitus

Diabetes is a chronic non-communicable disease which occurs when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin it produces. This leads to an increased concentration of glucose in the blood (hyperglycaemia).

Type 1 diabetes (previously known as insulin-dependent or childhood-onset diabetes) is characterised by a lack of insulin production. Type 2 diabetes (formerly called non-insulin-dependent or adult-onset diabetes) is caused by the body's ineffective use of insulin. It often results from excess body weight and physical inactivity. There is also gestational diabetes or hyperglycaemia that is first recognized during pregnancy and can either persist thereafter or not (WHO 2009f).

Diabetes mellitus is a growing burden in Europe.

An estimate by the International Diabetes Federation (IDF) suggests that the number of people with diabetes in EU-countries will rise from 25 million to 29 million between 2007 and 2025. During this period (2007-2025) Germany (from 3,815,9 to 4,19.2), Italy (from 1,882,8 to 2,122.9), and France (1,92.6 to 2,369.0) will have the highest estimated increases in number of diabetes mellitus cases in women (aged 20-79 years) (IDF 2006).

The prevalence of diseases is similar among men and women, but is slightly higher among men over 60 and older women.

Diabetes mellitus is associated with increased mortality and morbidity from cardiovascular disease (Almadal et al. 2004).

In 2005, deaths due to diabetes mellitus among men and women in EU-27 Member States was estimated to be 14.3 per 100,000 inhabitants (SDR). In women the average death rate was 12.8 with the highest single-country rates found in Cyprus (35.5), Portugal (25.3), Austria (23.4), and Malta (19.2) (EUROSTAT 2009).

The number of people of both sexes suffering from diabetes mellitus is rising due to increased ageing of the population, prevalence of obesity, and physical inactivity (Wild et al. 2004; Carlsson et al. 2007).

The major risk factor for diabetes Type 2 is obesity, particularly when the excess weight was due to abdominal fat. Further risk factors are high blood pressure and high cholesterol, age, and genetic disposition.

Women with previous gestational diabetes mellitus (GDM) show an increased risk of developing diabetes mellitus Type 2 in later years. Therefore these women form a population in which direct efforts at diabetes prevention may be effective (IDF 2008).

Pregnancy in woman with diabetes mellitus Type 1 is associated with an increased risk of preterm delivery, Caesarean section, stillbirth, neonatal mortality, and congenital malformations (Evers et al. 2004; Lapolla et al. 2008).

Mental health

Currently mental health problems constitute one of Europe's major public health challenges. Over one in four European adults are affected by mental health problems every year (DG SANCO 2006b). Mental disorders comprise a broad range of problems, with different symptoms. However, they are generally characterized by some combination of abnormal thoughts, emotions, behaviours, and relationships with others (WHO Definition of Mental disorders 2009g). Statistics on mental disorders as a group conceal the considerable differences that exist between men and women in the prevalence of specific types of mental disorders at different stages of the life cycle. In later life women are more likely than men to suffer from poor mental health (Patel 2005). In particular, dementia, Alzheimer's disease (AD), and depression are common mental disorders among the elderly.

Dementia and Alzheimer's disease

The term "dementia" is used to describe a pattern of symptoms of brain disorder which involve the progressive damage and death of brain cells. The result is a loss of cognitive and intellectual functions (such as thinking, concentrating, remembering, and reasoning) of sufficient severity to interfere with a person's daily functioning.

Dementia is not actually a disease but rather a syndrome, which may be caused by an almost infinite number of cerebral and extra-cerebral diseases. However, neuro-degenerative diseases and small vessel cerebro-vascular diseases account for most cases of dementia; Alzheimer's disease (AD) is the most common form (Kipeläinen et al. 2008; Kurz 2009).

The majority of available studies on the prevalence and incidence of dementia do not differentiate between the various forms and stages of the disease. The EURODEM group (Hofmann et al. 1991) and Ferri et al. (2005) have attempted to define the prevalence rates of dementia in different age categories. Using these prevalence rates and demographic information on the EU-27 as reported in EUROSTAT the prevalence rate of dementia is between 1.13% and 1.25 % (n=5,526,488-n=6,120,842) among the total population of the EU-27 Member States.

Dementia is more common in people over 65 years. It affects about one person in 20 over 65, one in five over 80, and one in three over 90 years. Generally, prevalence is higher among old women than among old men (EUGLOREH 2009).

In EURODEM studies, significant gender differences were found in the incidences of AD after 85 years of age. In particular, they concluded that there was a higher risk of AD in older women than men: at 90 years of age the rate of AD among women was 81.7 versus 24.0 in men (Andersen et al. 1999).

Studies suggest an association between female sex and increased risk of development of AD (Gorelick 2004; Lobo et al. 2000). Hypertension and hypercholesterolemia predict a higher risk of developing AD in later life for both sexes (Nahid et al. 2007).

Numerous studies have also examined individual risk factors for dementia, but only a few studies show gender differences in dementia risk factors. According to the review by Nahid et al. (2007), age is the strongest predictor for dementia in both sexes, but the prevalence of dementia is higher among older women than among their male counterparts. Diabetes mellitus in women, more than in men, is associated with substantial risk factors of cognitive impairments. Women who suffered from diabetes for more than 15 years had a 57%-114% greater risk of major cognitive decline than women without diabetes. Midlife obesity seems to be a slightly greater risk factor for dementia in women than in men (7.1% vs. 6.7%).

Lindsay et al. (2002) found that regular physical activity protected against cognitive impairment and AD in women more so than in men.

Depression

Mood disorders, particularly depression, are quite common among the European Member States. Depression is characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration. These problems can become chronic or recurrent, substantially impairing an individual's ability to cope with daily life. At its most severe, depression can lead to suicide. Most cases of depression can be treated with medication and psychotherapy (WHO 2009e).

In the European study of the Epidemiology of Mental Disorders (ESEMed-project) relevant epidemiological data of adults over 18 years were collected in Belgium, France, Germany, Italy, the Netherlands, and Spain. In these countries a lifetime prevalence of any mood disorder of 14.0% and a 12-month prevalence of 4.2% were reported. Mood disorders were more common in women in both lifetime (18.2%) and 12-month time-frames (5.6%) than in men (9.5% and 2.8% respectively) (EUGLOREH 2007).

Among mood disorders, major depression was the most common. For example, in Spain a lifetime prevalence of 13.4% and a 12-month prevalence of 4.1% were found. Depression disorders were more common among women (lifetime prevalence: 17.1%; 12-month prevalence: 5.3%) than men (lifetime prevalence: 9.4%; 12-month prevalence: 2.8%) (European Commission 2008b).

The Share Study (Castro-Costa et al. 2007) described the national variation in prevalence of depressive symptoms in persons aged over 50 years across ten European countries and found the highest prevalence rates of depressive symptoms in France, Spain, and Italy. In all involved countries the affective symptoms (depressed mood, tearfulness, fatigue, and suicidality) generally had a higher prevalence among women.

Suffering from a mental disorder is a key risk factor for suicidal behaviour.

Results from the ESEMed study showed a two-fold higher prevalence rate of suicide attempts in women compared to men (DG for Health & Consumers 2008).

The mortality rates for suicide and intentional self-harm among the 27 EU-Member States (and Switzerland, Norway, and Iceland) are higher among men than among women. Figure 13 shows that the mortality rates (SDR) amongst women are highest in Lithuania, Hungary, Slovenia, Belgium, and Finland.

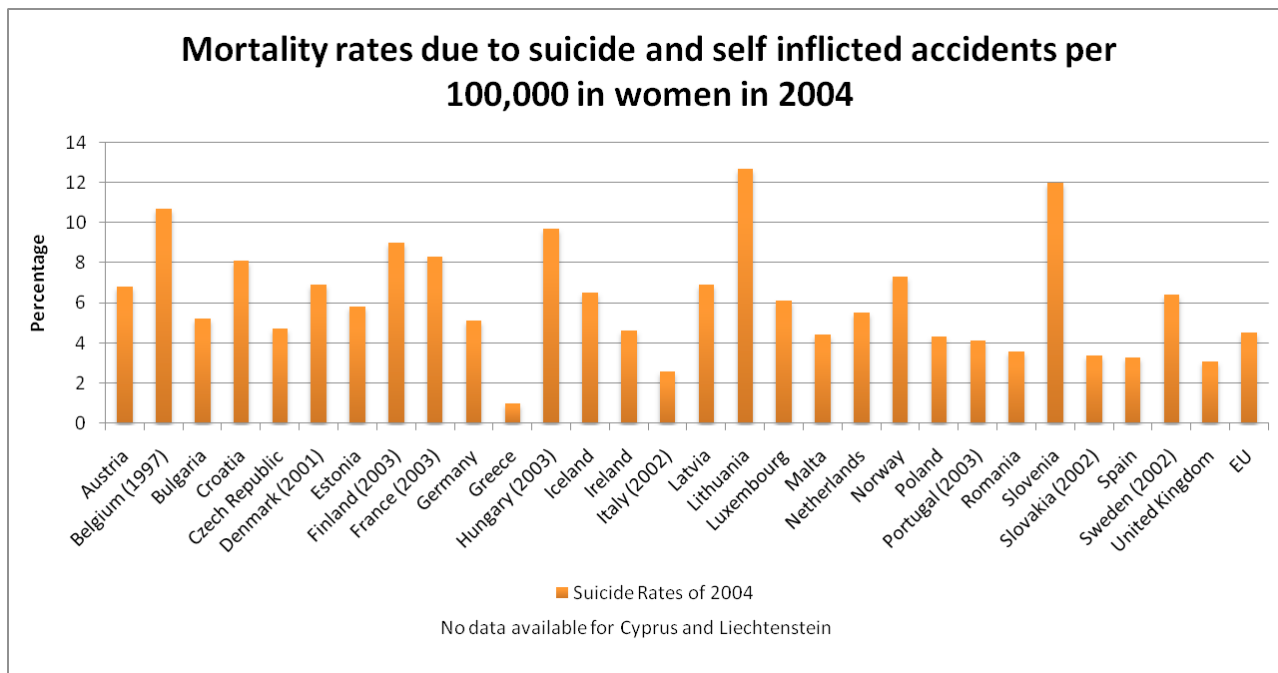


Fig. 13: Mortality rate due to suicide and self inflicted accidents (per 100,000) in women in 2004. (EUGLOREH 2009)

Musculoskeletal Disorders

Musculoskeletal disorders are characterised by pain and/or disability. They include osteoporosis (and osteoporotic fractures) as well as (rheumatoid) arthritis. Musculoskeletal disorders significantly affect quality of life and daily activities.

Dysfunction and other problems of the musculoskeletal system are common and their impact is pervasive. In a 2007 Eurobarometer Survey, about a third (32%) of all respondents said that in the week preceding their interview they experienced muscle, joint, neck, or back pain, which affected their daily activities (DG SANCO 2007b).

Musculoskeletal disorders are often chronic diseases and are one of the most common causes of disability in older adults. Osteoporosis and rheumatoid arthritis are particularly prevalent among the elderly. The disease burden, measured in disability-adjusted life years (DALYS), is one of the seven highest in Europe and is expected to increase as the result of an aging population (WHO 2006).

Women are at a higher risk than men of developing osteoarthritis, rheumatoid arthritis, and osteoporosis and fragility fractures. Generally, fractures of the forearm (80%), humerus (75%), hip (70%), and spine (58%) are found frequently in women (Johnell, Kanis 2006).

Rheumatoid arthritis

Rheumatoid arthritis (RA), a systemic auto-immune disease that affects predominantly synovial joints, is the most common chronic form of polyarthritis and is also known as the most common form of inflammatory arthritis. RA usually begins in the small joints (hands, feet), spreading later to the larger joints. The inflamed joint lining or synovia extends and then erodes the articular cartilage and bone, causing joint deformity and progressive physical disability (EUGLOREH 2007).

Generally, the prevalence and incidence are two times higher in women than in men and increase with age until about the age of 70 after which they begin to decrease. In both sexes the prevalence of RA is characterised by a south (lowest) to north (highest) gradient in Europe. For example, RA prevalence is estimated at 1% in Finland, at 0.86% in France, and at 0.51% in Italy (EUGLOREH 2007).

There are complex interactions between the female sex hormones and RA. Therefore, RA is rare during pregnancy, whereas the disease is more common in nulliparous women. The use of oral contraceptives pill, or another factor associated with its use, appears to protect against the development of severe RA. Smoking and obesity are also risk factors for RA (Symmons et al. 2000).

Studies have shown that life expectancy may be reduced in people with RA (Symmons et al. 2000). A study in the United Kingdom reported a 10-year reduction in median survival for men with RA compared to the general population and an 11-year reduction for women with RA (Minaur et al. 2004).

Osteoporosis and osteoporotic fracture

Osteoporosis is a systemic skeletal disease, characterised by low bone mass, micro-architectural deterioration in bone tissue, and increased bone fragility (EUGLOREH 2007).

According to the WHO, a woman is osteoporotic when her bone mineral density (BMD) is 2.5 standard deviations or more below the normal mean of a young woman (EUGLOREH 2007).

Fracture data is an indirect measure of osteoporosis incidence. In 2000, 3.79 million Europeans suffered from osteoporosis fractures, of which 0.89 million were hip fractures. The estimated number of hip fractures each year in women is dramatically higher (611,000 cases) than it is in men (179,000 cases) (IOF 2009b).

The prevalence of age-related osteoporotic (osteoporosis occurring in individuals over age 50) is higher in women than in men because of increased bone loss and related to menopause. The result is an increase in the incidence of fractures, particularly of hip fractures. The figures 14 and 15 related to a Report on Osteoporosis in the European Community in 1998.

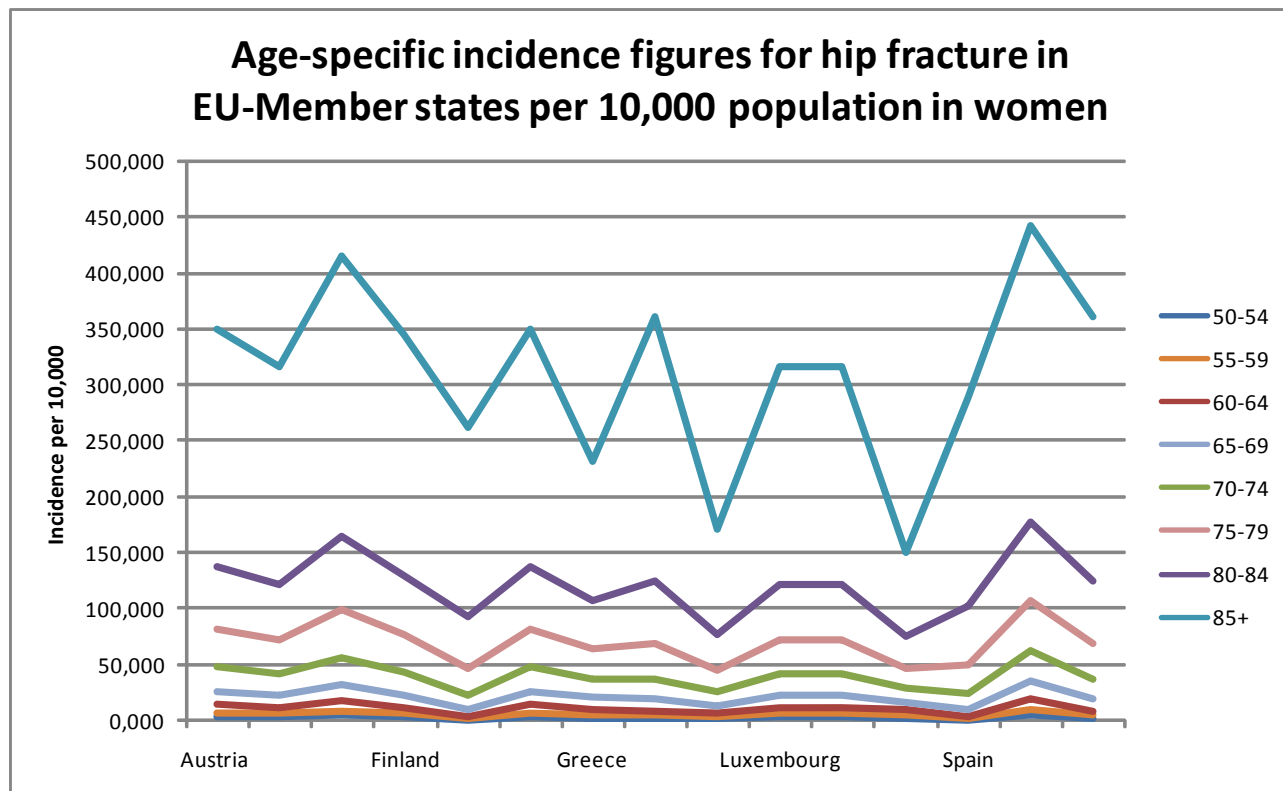


Fig. 14: Age-specific incidence for hip fracture in EU-Member States (per 10,000 populations) in women. (European Commission 2008b)

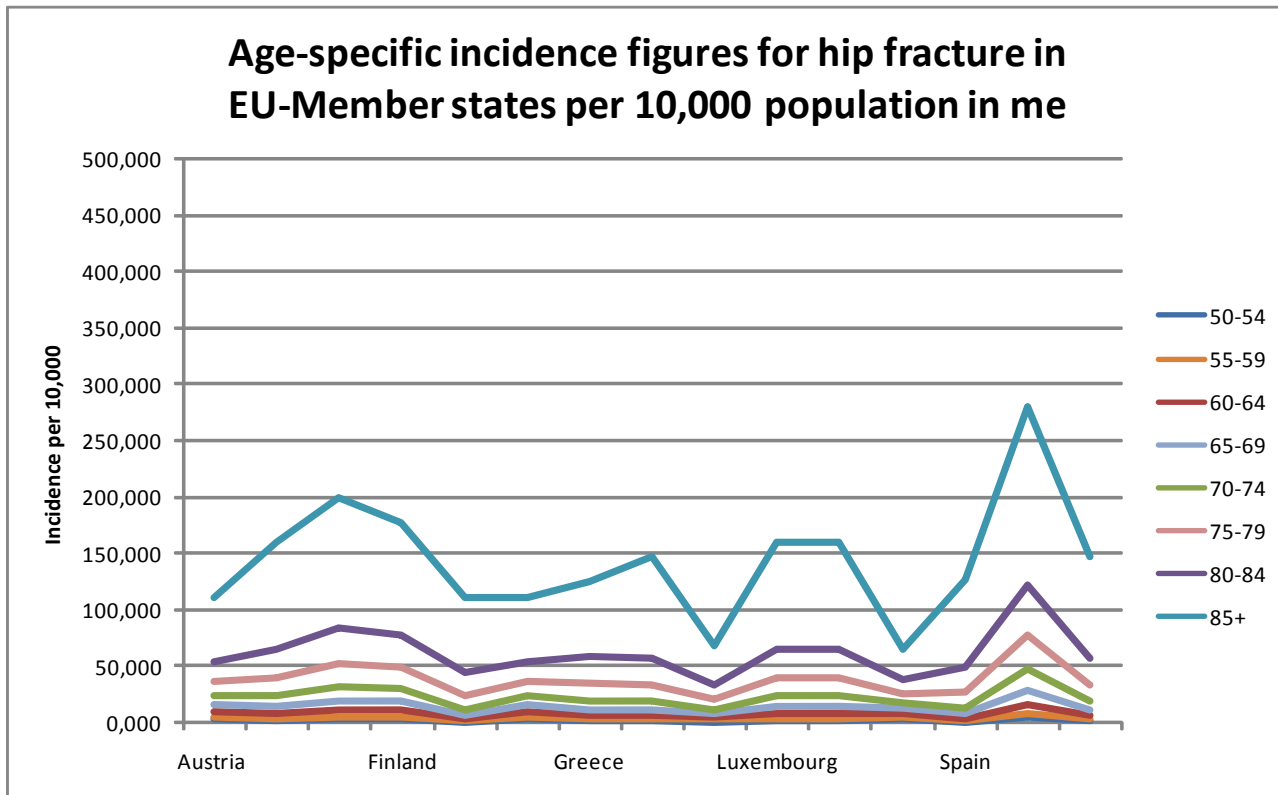


Fig.15: Age-specific incidence for hip fracture in EU-Member States (per 10,000 populations) in men. (European Commission 2008b)

An increased incidence of distal forearm fracture was also found among women aged >70 years in Western countries between the end of the twentieth-century and the first decade of the twenty-first (EUGLOREH 2007).

Most fractures are the result of a fall; only a minority of fractures are caused by serious accidents (Piirtola et al. 2007). Preventable risk factors of osteoporosis include physical inactivity, low peak bone mass in early adulthood, previous fractures, smoking, low body weight, and low exposure to sunlight. For example, studies have shown that walking positively influences the BMD in the hip and spine in postmenopausal women. Other effective activities for increasing BMD are weight-bearing exercises, aerobics, and weight-resistance exercises (Johnell, Herzmann 2006). Studies have also concluded that diabetes and poor self-rated health are risk factors for osteoporotic fractures in women (Homeberg et al. 2006).



The background features a dynamic, abstract composition of flowing, translucent orange and white lines. These lines curve and swirl, creating a sense of movement and depth. The colors transition from a bright, almost white glow in the center to a rich, dark orange at the edges. The overall effect is one of fluidity and modern elegance.

Lifestyle

An understanding of health determinants and their interactions is important as they greatly affect the structure, condition, and sustainability of a population's health.

This chapter describes a number of the main lifestyle determinants of diseases that affect women, including risk factors such as smoking, alcohol use, obesity, inadequate physical activity (PA), accidents and injuries, and drug and substance abuse (EUROSTAT 2009).

Smoking

Smoking is the leading cause of preventable disease and death in Europe (EUGLOREH 2007). The prevalence of female daily smokers in the period 1996-2003 ranged from 6.8% in Portugal to 32.2% in Austria (EUROSTAT 2009). Although recent complete data is unavailable, partially complete data for the period 2002-2005 suggests that the prevalence among women has increased in some European countries. Combining both daily and occasional smokers, the prevalence reached 46.5% in Austria and was above 20% in the majority of European countries for which data was available (WHO 2009b).

Overall, the smoking prevalence is lower among women than among men. However, this gap has been closing in recent years due to decreasing numbers of male smokers and increasing numbers of female smokers in some countries (EUGLOREH 2007). Smoking-associated female deaths are also still on the rise in some Eastern European countries (European Communities 2003). In the years 2002-2005, the smoking prevalence was higher among women than men in Sweden (19% vs. 14%) and rates were almost identical in Ireland (23.6% vs. 24.2%), please see figure 16 (WHO 2009b).

In addition, young girls are more likely to smoke than boys, particularly in Northern and Western European countries. In the 2002-2005 period more girls than boys smoked in Italy, Sweden, Finland, the Czech Republic, France, Spain, Denmark, Ireland, the UK, Norway, Belgium, the Netherlands, Hungary, Germany, Austria, Greece, Portugal, and Slovenia (data from national sources and therefore with varying relevant age-range, but in general referring to youth approximately 15 years of age) (WHO 2009b).

Smoking is also more common in lower socio-economic groups (EUGLOREH 2007).

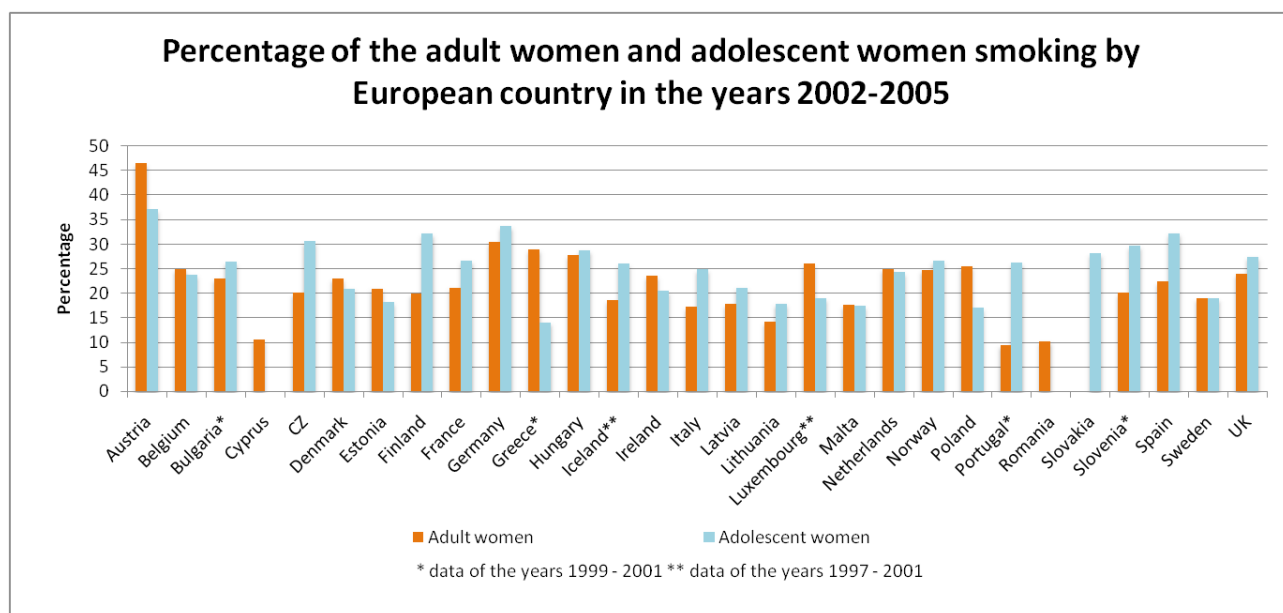


Fig. 16: Percentages of adult women and adolescent women smoking by European country in the years 2002-2005. (WHO 2009b)

Smoking is associated with an extensive array of diseases and adverse health effects, including stroke, chronic bronchitis, cancers (of the lung, pharynx, larynx, and cervix among others), atherosclerotic peripheral disease, low birth weight babies, and lower fertility (EUGLOREH 2007; European Communities 2003). Second-hand smoke is associated with acute respiratory illness in early childhood (SIDS – Sudden Infant Death Syndrome), irreversibly reduced lung function in children and adults, increased symptoms and decreased lung function in asthmatics, lung cancer, and ischaemic heart disease (European Communities 2003).

Cancers, cardiovascular diseases, and respiratory diseases are the most common causes of smoking-related mortality, causing 43%, 28%, and 18% respectively of smoking-related deaths (EUGLOREH 2007). In total, about 90% of lung cancers and 25% of heart disease deaths are associated with smoking (European Communities 2003).

According to the Eurobarometer Special Survey Attitudes of Europeans Towards Tobacco, the majority of Europeans are in favor of smoking bans in restaurants, bars and pubs, indoor public spaces (metros, airports, shops), and offices (DG SANCO 2007a). The most contested of these bans is the ban in bars and pubs, which women support more strongly than men - 65% vs. 59% of women in the EU-25 (DG SANCO 2007a). These results should, however, be taken with caution, as the Eurobarometer survey is only a broad overview of public opinion.

Alcohol consumption

Per capita alcohol consumption is higher in Europe than in any other region in the world and is a significant lifestyle-related health determinant (Anderson, Baumberg 2006). In general, men drink more and more frequently than women, but comparable data on average alcohol consumption among European women is limited. The Eurobarometer Special Survey on Attitudes Towards Alcohol, which provides a snapshot of women's drinking habits, suggests that in the EU-25 more men than women drank alcohol in the last 12 months (84% vs. 68%); more men than woman who drank in the last 12 months had also had a drink in the last 30 days (92% vs. 82%); and men drank more on each occasion, with 41% of women claiming never to have had 5 or more drinks on 1 occasion, while only 22% of men said they had never had that much at one time (DG SANCO 2006a).

More men than women are also dependent on alcohol, with an estimated 5% of European men and 1% of women being dependent in any one year (Anderson, Baumberg 2006).

A significant number of women (25 to 50%) drink alcohol during pregnancy (Anderson, Baumberg 2006).

Total SDR in the EU-27 in 2007 for men and women from selected alcohol-related causes was 64.06 per 100,000 (WHO 2009). Using combined data from the period 2005-2007, SDR for women due to alcohol abuse was lowest in Bulgaria, Greece, and Malta (0/100,000) and highest in Estonia (5.6/100,000). Most European countries fell somewhere between 0 and 2 alcohol abuse-related deaths per 100,000 women. SDR from alcohol abuse was much higher among men, reaching a peak of 27.5/100,000 in Estonia (data was unavailable for Belgium, Cyprus, Denmark, and Slovakia) (EUROSTAT 2009).

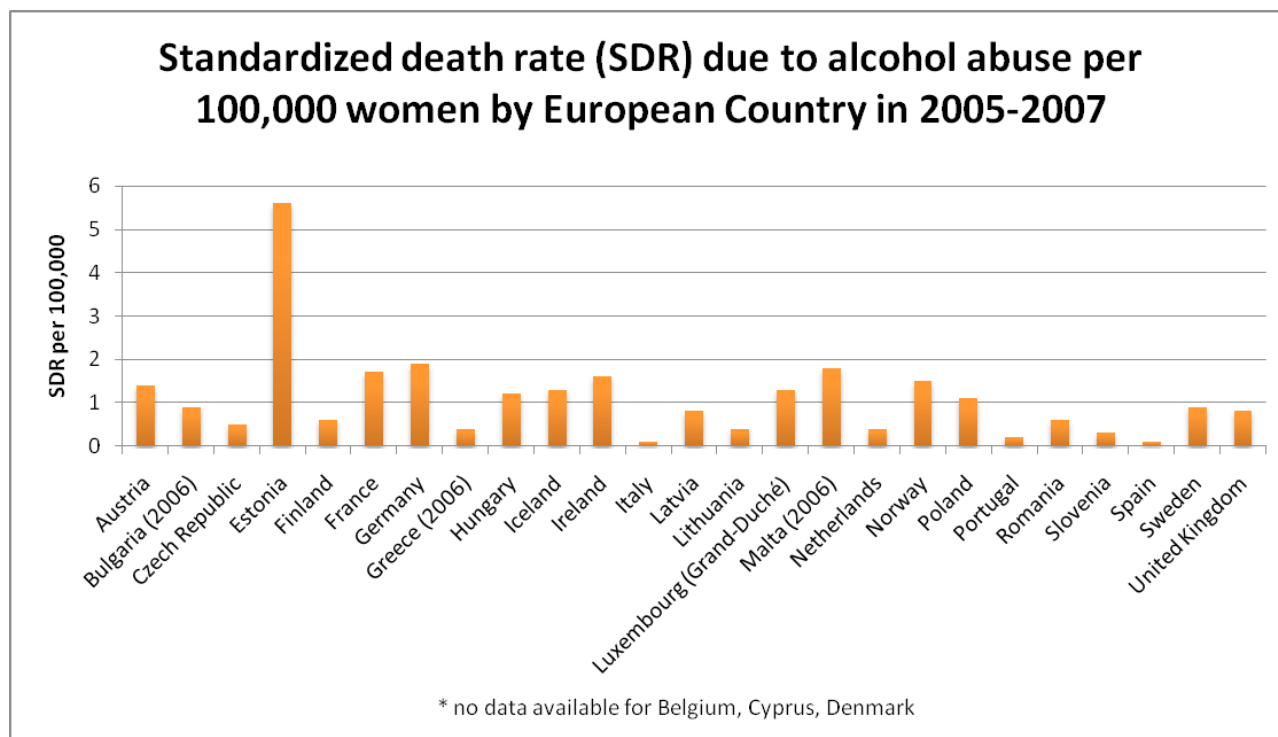


Fig. 17: Standardised death rate (SDR) due to alcohol abuse per 100,000 women by European country in 2005-2007. (EUROSTAT 2009)

Harmful alcohol consumption has been associated with a wide range of diseases and conditions including injuries, occupational diseases, mental and behavioural disorders, gastrointestinal conditions, cancers, cardiovascular diseases, immunological disorders, lung disease, and skeletal and muscular diseases.

There are also risks specific to women. Harmful consumption may result in prenatal harm in pregnant women (increased risk of premature birth and low birth weight), may affect fertility, results in a higher risk of diabetes than with men, and is associated with victimization of women, such as domestic abuse, sexual assault, and rape (Edwards et al. 1994). Studies also suggest that although women are not more likely to report social problems for a given level of alcohol consumption, they are more likely to be at risk of physical harm at lower levels of consumption than men (Edwards et al. 1994). The relative risks for women of some of these conditions based on different levels of alcohol consumption are listed in Table 4.

Table 4: Relative risks in women for selected conditions caused by drinking. (Rehm et al. 2004)

	Relative risk for alcohol consumption, g/day		
	0-19	20-39	40+
Cirrhosis of the liver	1.3	9.5	13.0
Oesophageal varices	1.3	9.5	9.5
Diabetes mellitus	0.9	0.9	1.1
Mouth and oropharynx cancers	1.5	2.0	5.4
Oesophageal cancer	1.8	2.4	4.4
Laryngeal cancer	1.6	3.9	4.9
Liver cancer	1.5	3.0	3.6
Breast cancer	1.1	1.4	1.6
Coronary heart disease	0.8	0.8	1.1
Ischaemic stroke	0.5	0.6	1.1
Ischaemic stroke	0.5	0.6	1.1
Haemorrhagic stroke	0.6	0.7	8.0
Spontaneous abortion	1.2	1.8	1.8
Low birth weight	1.0	1.4	1.4
Prematurity	0.9	1.4	1.4
Intrauterine growth retardation	1.0	1.7	1.7

Alcohol may also negatively affect relationships, family, friendships, employment, and finances (Institute of Alcohol Studies 2008).

Predisposing factors for the development of heavy drinking or alcohol problems include having a family background of heavy drinking, a history of sexual abuse, low self-esteem, traumatic life events, and eating disorders (Anderson, Baumberg 2006). Health effects of alcohol depend on how much and how quickly alcohol is consumed, length of time drinking, body size and weight, age, general health, genetic disposition, and nutritional status (WHO 2005).

Overweight, Obesity and Eating Disorders

Overweight and obesity

Overweight and obesity are defined as abnormal or excessive fat accumulation that poses a risk to health. A standardised measure of obesity is the body mass index (BMI). A person with a BMI of 25 or more is considered overweight and a person with a BMI of 30 or more is defined as obese.

The prevalence of overweight and obesity is rapidly increasing in many European countries for both sexes. As illustrated in figure 18, the highest percentages of women with obesity are found in Austria, the UK, and Germany. The figure also shows that there are a great number of EU-countries in which the prevalence of overweight among women is greater than 30% (IOTF 2009).

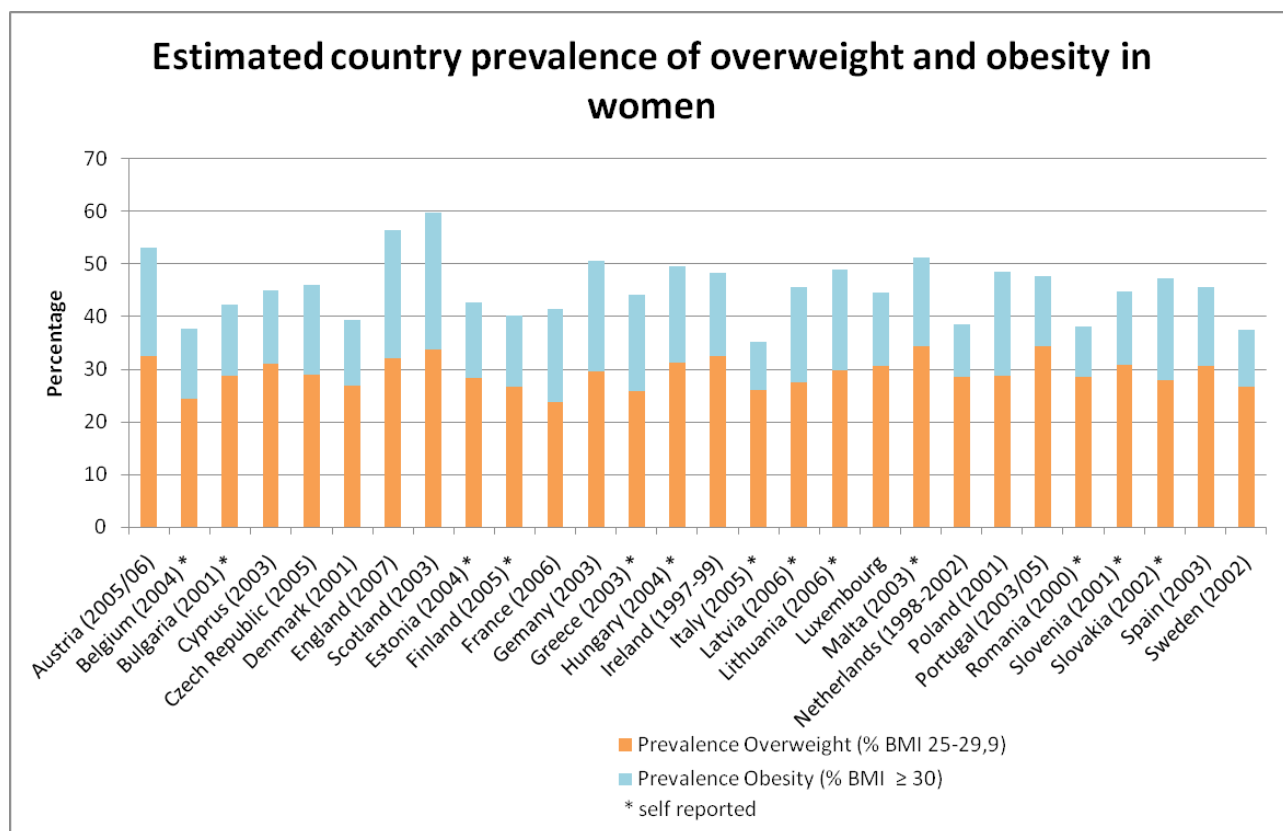


Fig. 18: Estimated prevalence of overweight and obesity in women by country for latest available year. (IOTF 2009)

Since 1980, the prevalence of obesity has increased three-fold, even in countries with traditionally low obesity rates. Among women and men in Ireland and the UK, the prevalence of overweight has risen by a rapid 0.8 percentage points a year (based on observational data) and self-reported annual increases in obesity were highest in Denmark, Ireland, France, and Hungary. On the other hand, Estonia and Lithuania self-reported adult obesity rates have fallen (WHO 2007).

Table 5: Trends in increase in prevalence of overweight

Country	Period	Increase in prevalence of overweight in women (percent points, self-reported data)	Increase in prevalence of overweight in men (percent points, self-reported data)
Denmark	19987-2001	1.2	0.9
Ireland	1998-2002	1.1	1.1
France	1997-2003	0.8	0.8
Hungary	2000-2004	0.6	0.6

The obesity epidemic is progressing at a particularly alarming rate among children and adolescents. The International Obesity Taskforce (IFO) predicts that about 38% of school-age children in the WHO European Region will be overweight by 2010 and that more than a quarter of these children will be obese (Wang, Lobenstein 2006)

Overweight and obesity in women are associated with an increased risk of CVD, hypertension, and diabetes type 2 (Schienkiwitz et al. 2006).

Other studies reveal that overweight and obesity are associated with breast and endometrial cancer in postmenopausal women and musculoskeletal disorders (such as osteoarthritis and lower back pain) (IARC 2008b). Studies emphasise the importance of a within-normal-range pre-pregnancy weight, and show links between pre-pregnancy overweight and obesity and pregnancy complications, such as higher risk for caesarean delivery, gestational diabetes, or increased risk of birth anomalies. In addition, maternal obesity substantially increases a child’s risk of being overweight (WHO 2007).

Eating disorder – Bulimia nervosa

Eating disorders are a great risk to individual health and are gender-specific.

Bulimia is a specific eating disorder which is characterized by frequent bouts of binge eating, followed by attempts to compensate the fattening effects of the binged food with various behaviour (fasting, emesis), and an overall permanent preoccupation with food (Kirch 2008). There are few representative epidemiological studies on this topic, particularly studies that differentiate between men and women. However, the generally accepted prevalence rate of bulimia is about 1% among young women. Only a minority (6%) of patients with bulimia enter the mental health care system (Hoek 2006).

Physical Activity (PA)

The 2003 Special Eurobarometer Survey Physical Activity collected data on the prevalence of health-enhancing physical activity for both sexes across 15 EU-countries (Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and Sweden) using the “International Physical Activity Questionnaire” (IPAQ) (Sjöström et al. 2006). Among the participating countries only one third of the adult population (29%) was sufficiently active for optimal health benefits. Among the individual countries rates of sufficient activity ranged from 44% in the Netherlands to 23% in Sweden and according to the measure total weekly activity, men were 1.6 times more likely than women to be sufficiently active and less likely to be sedentary.

The results also showed that in Greece, Denmark, Germany, and the Netherlands there was a higher prevalence of sufficient activity (31.4% - 40.2%) among women than in other participating countries. In France (19.5%), Sweden (17.9%), and Spain (17.2%) few women were sufficiently active (Sjöström et al. 2006).

The quality and quantity of PA among men and women depends heavily upon context (work, transportation, home, or leisure-time). According to the Eurobarometer survey, about a third of women (32.1%), compared to 16% of men, reported a lot of physical activity in and around the home. For leisure-time, men reported a lot (18.1%) or some (38.6%) leisure-time physical activity, while women reported a lot or some physical activity only 11.8% and 34.7% of the time. Meanwhile, for physical activity at work, men reported they had engaged in a lot or some physical activity during the last 7 days more often than women (DG SANCO 2003).

Physical inactivity is an independent risk factor for breast cancer, osteoporosis, cardiovascular diseases, and Type 2 diabetes mellitus. Physical inactivity is also associated with obesity (EUGLOREH 2007).

A Danish prospective cohort study identified predictors of physical inactivity in initially active people – for women these were found to be heavy smoking, poor self-rated-health, and lack of the belief that their effort had an effect on health (Zimmermann et al. 2008).

Drug and substance abuse

Drug abuse is generally more common among men than women in European countries. This includes the use of cannabis, ecstasy, and cocaine. However, the sex differences have recently been decreasing lately. (EMCDDA 2006).

The number of lifetime experiences of cannabis use among students (aged 15-16 years) is higher in men than in women, but these ratios are low and show little variation between EU-countries (1.0 in Ireland, Finland, and Norway to 1.8 in Portugal). Among adults (15-64 years old) the number of lifetime experiences of cannabis use is higher and varies more between EU-countries. The adult male to female ratio of use ranged from 1.3 in Finland to 4.0 in Estonia.

The overall prevalence of ecstasy use is lower in both sexes than the prevalence of cannabis use, but the rate varies between countries and population subgroups. In over half of EU-countries, the lifetime experience of ecstasy use in 15-to-16-year-old female students is roughly the same as in male students. Among adults (15-64 years) lifetime experiences are lower in women than men (ratios ranged from 1.0 in Estonia to 6.0 in Poland).

The prevalence rate of cocaine use is lower among adults and school students than the prevalence of cannabis and ecstasy use. Men using cocaine outnumber women by a factor of 2 or more in most countries. The reported lifetime prevalence for women of cocaine use ranged from 0.1% in Lithuania to 7.1% in the United Kingdom.

Tranquilisers and sedatives are legal over the counter medicines that do not require a doctor's prescription. A tranquiliser or sedative is a substance that induces sedation by reducing irritability or excitement. Among school students (aged 15-16 years), use was clearly higher in women than in men in most EU-Member States. Comparable data on abuse of legal drugs are not available for adults.

Men outnumber women among drug treatment clients and also tend to be older. Available data from 2004 shows that among drug users asking for treatment for the first time, men outnumbered women by a ratio of 4 to 1 and among clients new to treatment; women were on average two years younger than men.

Accidents and Injuries of Women in the EU

With more than 80,000 fatalities each year (about 250,000 in both sexes), accidents and injuries represent the fifth (fourth) major cause of death of women in the European Union. Only cardiovascular diseases, cancer, diseases of the respiratory system and diseases of the digestive system claim more lives (KfV 2007). The recent injury death rate for women in the EU is 21.6 per 100,000 inhabitants (Table 4), with a range from 11.5 in Greece (low also in Malta and Spain) to 60.6 in Lithuania (high also in Latvia and Estonia). Two thirds (67%) of women's injury deaths in the EU are attributable to unintentional injuries (accidents: 14.4 deaths per 100,000 inhabitants). For all EU-27, EEA, and candidate countries the range is from 9 (Portugal, Greece) to over 40 deaths per 100,000 inhabitants (Lithuania and Latvia). These differences combined with strong evidence that prevention works indicate there is potential for reducing injury mortality.

Injury death rates are consistently lower for women than for men at all ages, for all major causes and for all EU-27, EEA, and candidate countries. However, it is interesting to note that on the average of the EU-27 the risk of women of dying from a fatal injury is only about one third (35%) of that of men, but that this share is lowest (22% to 24%) in countries with a high overall injury mortality (Lithuania, Latvia, Estonia) and highest (45% to 51%) in countries with low to medium overall injury rates like the Netherlands, Switzerland or Norway (Figure 19).

As indicated in Table 6 transport accidents (19%) and falls (19%) are the leading causes of unintentional injury deaths among women. Falls are also the leading cause of hospital admissions of nonfatal injuries, in particular in the elderly (65+) and in particular for women: 29% of hospital discharges of women in the age group over 65+ are diagnosed with "hip fracture" (849 per 100,000) as opposed to "only" 17% for men (401 per 100,000). Extrapolated to the population of the EU-27, these rates amount to 340,000 women over 65 years admitted for hip fractures each year, and 1.2 million hospital admissions for injuries in general, mostly due to falls. Fall prevention can therefore be considered the most relevant approach to women specific injury prevention, with a number of resources made already available to this avail at EU level (ProFaNE 2009; EUNESE 2009).

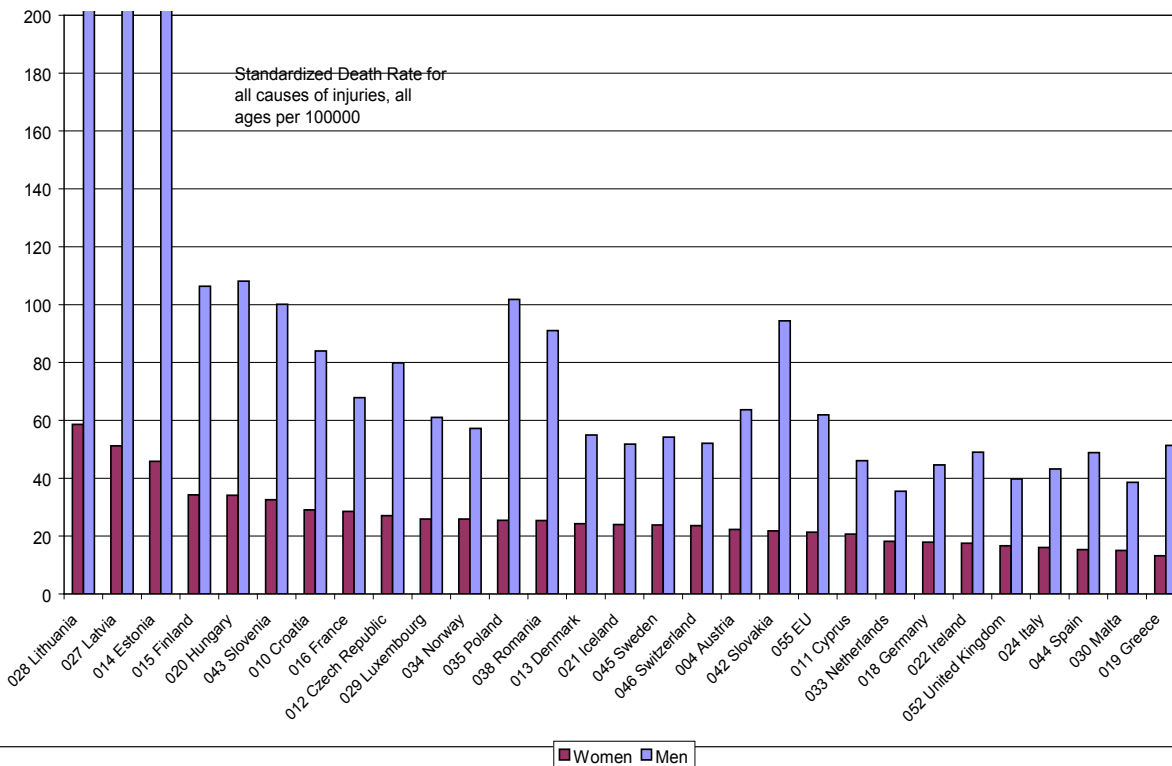


Fig. 19: Injury death rates for women and men in selected European countries, age standardised death rates per 100,000 inhabitants. (EUROSTAT 2005-2007)

Table 6: Major causes of fatal injuries in the EU by sex, age standardized death rates per 100,000 inhabitants. (Eurostat 2005-2007)

External cause of injury and poisoning	Female	%	Male	%	Female/Male (%)
Accidents (V01-X59)	14.4	67%	38.2	63%	38%
Transport accidents (V00-V91)	4.2	19%	14.9	24%	28%
Accidental falls (W00-W19)	4.2	19%	7.2	12%	58%
Accidental poisoning (W00-W19)	1	5%	3.2	5%	31%
Suicide (X60-X84)	4.7	22%	16.9	28%	28%
Homicide (X85-Y09)	0.6	3%	1.4	2%	43%
All external causes (ICD10 V01-Y89)	21.6	100%	60.9	100%	35%

Another gender specific approach to injury prevention is practiced in sports medicine. Although the existence of a major sex divide in sports injuries is still controversially discussed, a well documented example for a lesion that women are more likely to sustain than men are knee injuries, namely tears of the anterior cruciate ligament that are closely related to all sports and recreational activities (Ahmad et al. 2006).

The challenge for physicians and researchers there is to determine why women are more susceptible to these sports injuries than men and how the injuries can be effectively prevented.

Table 7: Hospital treated knee injuries by sex and type of sports (top ten) (n=404,000; All injury” data from Austria, Cyprus, Germany, Latvia, Malta, the Netherlands, Sweden, Slovenia (ProFaNE 2009) EU Injury Database 2006 and 2007

Type of sport	Observed Knee Injuries	% Female
Soccer – Outdoor	1472	10%
Skiing – Alpine/downhill	222	55%
Gymnastics	180	54%
Hockey – Field	146	56%
Trail or general horseback riding	123	83%
Basketball	115	34%
Volleyball	111	46%
Jogging/running	98	39%
Handball – Team	96	61%
Tennis	88	38%

In order to provide the appropriate data for guiding and evaluating these specific injury prevention approaches adequate injury data is also needed: characteristics that make women more or less vulnerable to injuries (e.g. preventable risk factors) as well as detailed information about activity, type of sports, place of occurrence, mechanism, involved products, and a narrative description of the injury scenario (Kisser et al. 2009). In the EU, the Injury Database (IDB) is generating such information in a number of Member States and is meant to expand to the entire EU-region (IDB 2009). The EU IDB shows the percentages of all occurring knee injuries sustained by women in sports with frequent knee injuries.

Although we know that injury death rates in the EU are lower for women than for men at all ages, and injury hospitalisation rates are higher for women than for men beyond the age of 65, we still have a long way to go in exploring the impact of injuries on women’s lives. In particular unintentional injuries create an enormous burden on the lives of women. Moving forward in reducing the burden of accidents requires intensifying the ongoing work in the EU that already provides a strong context and framework for research and dissemination.

As an empirical basis for this work also a dedicated prevention oriented data system for injury surveillance like the EU IDB has to be in place that supports the exploration of the impact of injuries on women’s lives with the required information accidents and injuries.

“You don’t get to choose how you’re going to die. Or when. You can only decide how you’re going to live now.”

Joan Baez



The background features a dynamic, abstract composition of flowing, translucent red and white ribbons. The ribbons curve and swirl, creating a sense of movement and depth. The red is a vibrant, slightly dark shade, while the white is bright and clean. The overall effect is modern and energetic.

Healthcare

This chapter examines women's access to health care, the quality of the health care women receive, and the responsiveness of different health care systems to women's needs. In order to compare diverse health care systems and to address the complexity of the issue, a set of objective indicators is required. Topics for this chapter are based on indicators recommended by The European Community Health Indicators (ECHI) Monitoring Project (Kilpeläinen et al. 2008). The majority of the indicators are not gender-specific and there is very limited gendered data on health care available. For this reason, only those indicators with specific relevance to women or with gender-specific data available are presented here. For assessing accessibility, this includes equity of access and general practitioner utilization and for quality of health care, breast cancer screening and cervical cancer screening. Patient satisfaction is also addressed, as acknowledging patient views is an increasingly important part of health care quality assessment.

To examine responsiveness, which the ECHI list does not directly address, two brief examples highlighting the role of responsiveness in current European women's health issues are included — acceptability of HPV vaccination and health promotion of PA among working women.

Access to health care

Reliable and comparable data on access to health care across the EU-27 Member States is limited. The most comprehensive available data comes from the 2007 Eurobarometer Survey Health and Long-Term Care in the European Union. However, it is essential to recognize that the data from this survey are only sufficient to suggest potential trends, as it is a broad public opinion survey with limited sample size. Based on those women interviewed for the survey, the majority of European women report having easy access to health care. Approximately 88% of women felt that it was easy to access a family doctor or general practitioner, 76% felt that it was easy to reach a hospital, and 62% felt that it was easy to access medical or surgical specialists. However, the survey suggests that access to health services varies widely within and across Europe. Approximately 8% of interviewed women reported they had gone without necessary hospital care in the past 12 months because a hospital was not available or easily accessible; 10% had gone without medical or surgical specialists; 14% without dental care; and 16% without family doctors or general practitioners although they needed to (DG Employment, Social Affairs and Equal Opportunities 2007).

Data on unmet medical needs, as seen in figure 20, also suggests that for the most part women have access to health care, however, there is some discrepancy among income quintiles, with the poorest women much more likely to report unmet medical needs (EUROSTAT 2009).

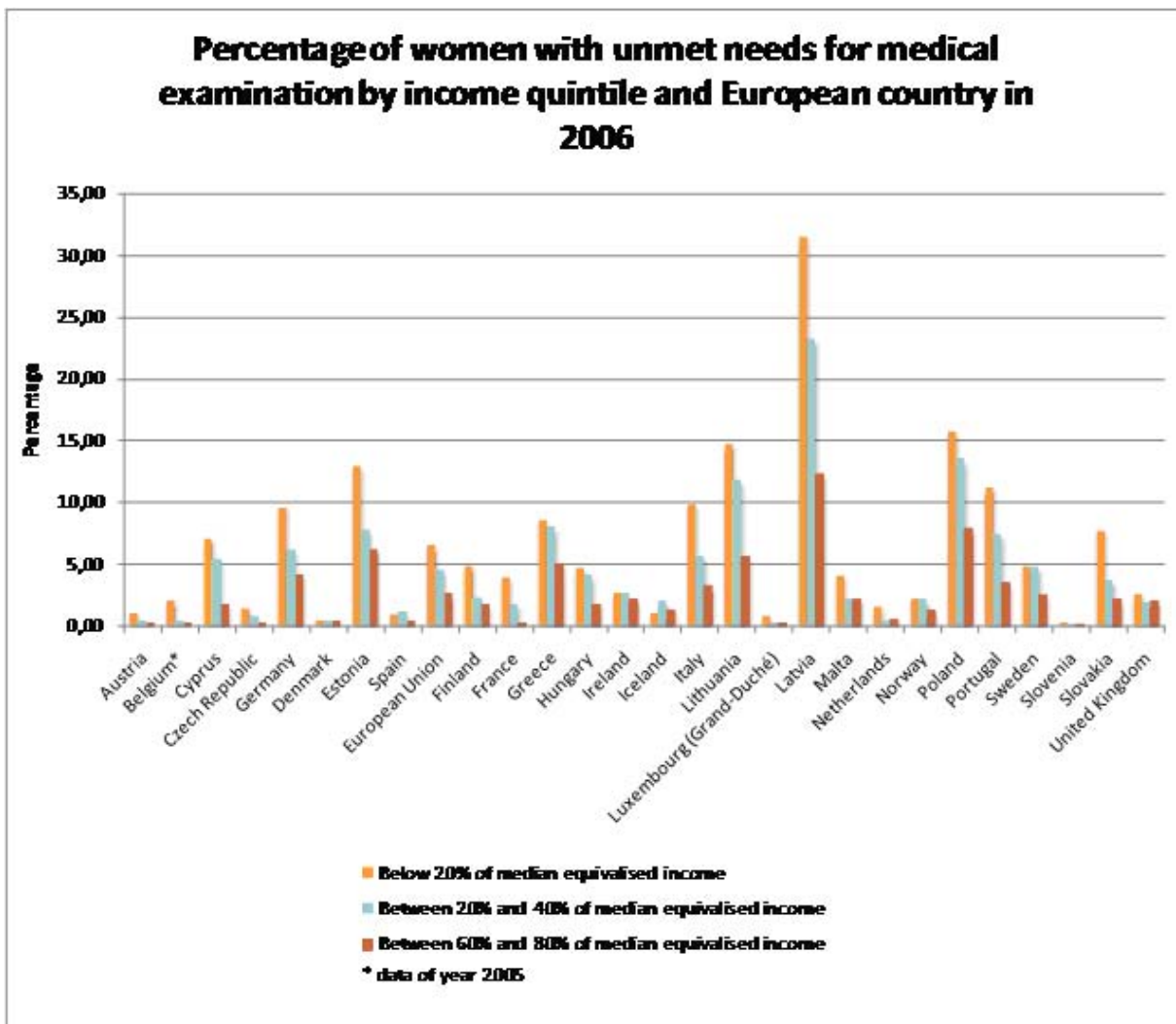


Fig. 20: Percentage of women with unmet needs for medical examination by income quintile and European country in 2006. (EUROSTAT 2009)

The current data on health care utilization in Europe tends to make no distinction between sexes, however, there is some limited sex-specific data. In 2005 the number of inpatient hospital discharges per 100,000 female inhabitants was higher than the number of discharges per 100,000 male inhabitants in 19 out of 21 European countries for which data was available. Discharges were highest in Austria, with 28,663.7 per 100,000 women and lowest in Cyprus with 6,251.5 per 100,000 women (EUROSTAT 2009).

The average percentage of women consulting a medical doctor in the last 12 months, according to data collected in 19 European countries between 1999 and 2003, was around 81%. In Hungary, Germany, the Czech Republic, and Belgium, more than 90% of women had been to a doctor during that time-span and in all other countries for which data was available, except Romania, a minimum of 70% of women had consulted a doctor (EUROSTAT 2009).

Available facilities and specialists vary extensively between countries. In 2005 the number of practicing medical professionals with a specialty in obstetrics and gynaecology per 100,000 inhabitants ranged from 2.2 in Ireland to 23.1 in the Czech Republic (data was unavailable for Cyprus, Finland, Hungary, Iceland, Lithuania, Malta, Spain, and Poland) (EUROSTAT 2009).

Rate per 100,000 Inhabitants of Physicians With A Specialty in Gynaecology and Obstetrics By Country in 2005

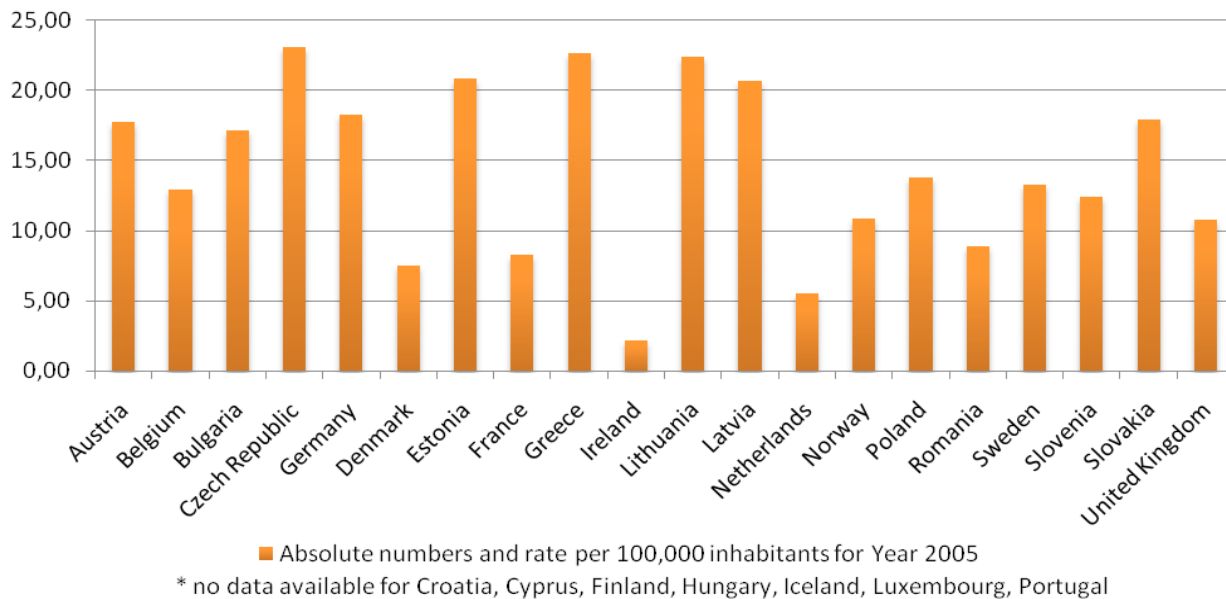


Fig. 21: Number of physicians with a specialty in gynaecology and obstetrics per 100,000 inhabitants in 2005. (EUROSTAT 2009)

In addition to the physical accessibility and availability of health care, costs of health care play a central role. Despite this, gendered data on health care expenditures is lacking and data on health care costs and health insurance coverage for women is weak. Most gender-specific data on costs come from public opinion surveys, such as the previously mentioned Eurobarometer Special Survey Health and Long-Term Care in the European Union.

Using this survey again cautiously as a general guide, the majority of European women consider hospitals affordable (54%) or report that they are free of charge (21%). Only 3% of women surveyed had gone without hospitals or general practitioners/family doctors in the last 12 months because of cost issues. However, 22% of the surveyed women judged hospital services to be unaffordable.

The availability of dental care proves to be a particular challenge across Europe — the majority of European women (53%) thought dental care was unaffordable and 13% reported having gone without dental care due to cost issues (DG Employment, Social Affairs and Equal Opportunities 2007).

Specific at-risk groups of women face additional obstacles. Migrant women, residents of rural areas, and elderly or functionally limited women may experience cultural, social, and physical barriers reaching and utilizing healthcare services (European Commission 2008c).

Quality of Health care

Health care quality is determined by numerous factors such as access, effectiveness, efficiency, safety, equity, appropriateness, and timeliness, to name only a few (Legido-Quigley et al. 2008). As it is outside the scope of this report to analyze the overall non-gender specific quality of care in all EU-Member States, the ECHI criteria breast cancer screening and cervical cancer screening are used as indicators for their particular relevance to women's health. It should be noted that comparable data on breast and cervical cancer screening volume is limited. It is difficult to compare national screening programmes because of different logistical set-ups (targeted age range, regional or nationwide implementation, recommended screening interval) and because the absence of an active screening programme does not mean that screening is not occurring — research suggests a significant proportion of total screening is done on an opportunistic basis (outside of an established programme) (IARC 2002). However, examined here is the best available data on screening.

Breast cancer screening by mammography has been shown to reduce breast cancer mortality among women aged 50-69, when implemented at population level, i.e. individuals are identified as a pre-selected target population and invited (via letter or phone call) to receive screening for a specific disease or condition (IARC 2002). Most European countries recommend breast cancer screening at a 1-3 year interval for women of this age group (IARC 2002).

As of 2007, in a review of the EU-27, breast cancer screening was implemented at the population level in eleven countries (Belgium, Cyprus, Estonia, Finland, France, Hungary, Luxembourg, the Netherlands, Spain, Sweden, and the UK). On top of this, screening programmes at the population level were currently being introduced in seven countries (the Czech Republic, Denmark, Germany, Ireland, Italy, Poland, and Portugal) and three countries were planning or piloting a nationwide screening programme (Malta, Romania, and Slovenia). Four countries had non-population based screening programmes (Greece, Latvia, Lithuania, Slovakia), one country offered nationwide subnational population-based screening (Austria), and one country had no active or planned screening programme (Bulgaria) (IARC 2008a).

Cervical cancer screening, which has been recommended by the EU since 1987, is associated with up to 60% reductions in mortality when implemented in organized population-based screening programmes (WHO 2009d). Cervical cancer screening, most commonly a cytological (Pap smear) test, is recommended by almost all European countries for women between 25 and 64 years of age, at intervals of 1, 3, or 5 years (IARC 2005).

As of 2007, in a review of the 27 EU Member States, seven countries had active nationwide population-based screening programmes (Denmark, Finland, Hungary, the Netherlands, Slovenia, Sweden, and the UK), five were rolling-out, planning, or piloting nationwide population-based programmes (Estonia, Ireland, Italy, Poland, and Romania), twelve had non-population based programmes (Austria, Belgium, Bulgaria, the Czech Republic, France, Germany, Greece, Latvia, Lithuania, Luxembourg, Slovakia, and Spain), and two had no programmes or planned programmes (Cyprus and Malta) (IARC 2008a).

In total, of the 59 million EU women for which the European Commission recommends breast cancer screening (aged 50-69) (The Council of the European Union 2003), 91% were targeted for screening in 2007 through some type of programme (IARC 2008a). Of the 109 million EU women aged 30-60, the EC recommended screening age range for cervical cancer (The Council of the European Union 2003), 51% were targeted for population-based screening programmes and 47% were targeted by non-population based programmes in 2007 (IARC 2008a).

It is essential to recognize that while this data gives an idea of the aspired screening coverage in the EU and of individual-country action on making screening available to women—more data on women's utilization of these services is necessary. The availability of data on participation rates of women in cervical and breast cancer screening programmes is of utmost importance to women's health.

Examining patient satisfaction as a measure of quality, European women believe that they are for the most part receiving good quality care: seven out of ten women judge the quality of hospitals in their country good (DG Employment, Social Affairs and Equal Opportunities 2007). Based on the Second European Quality of Life Survey, most women in the EU-27 are satisfied with their own health, although there is some discrepancy between those women in the lowest and highest income quartiles. Women in the middle income quartile ranked satisfaction with their health at 7.2 out of 10, while women in the lowest quartile ranked their satisfaction at 6.8 and women in the highest quartile ranked their satisfaction at 7.8 (Anderson et al. 2009).

Responsiveness of health care to specific needs of women

Part of quality health care for women is responsiveness to women's needs. Responsiveness is not a direct measurement of the quality of health outcomes, but rather refers to the non-health features of the health care system and whether a population's expectations for care provision are met, including respect for personal dignity, confidentiality, autonomy to participate in choices about one's own health, and freedom in the selection of facilities and care providers (WHO 2000). Responsiveness is especially relevant for women already facing barriers for utilization of the health care system.

Very little data directly measuring European-wide responsiveness exists, thus the acceptability to women of female-specific programmes, namely HPV vaccination programmes and physical activity promoting programmes, are used as illustrations of the state of responsiveness to women's needs in this section.

HPV vaccination

Cervical cancer is caused by persistent infection with one or more of 15 types of oncogenic HPVs (Boyle, Lewin 2008). The first of two currently commercially available vaccines to protect against a subset of these viruses (HPVs 16 and 18, estimated to cause 73% of cervical cancer cases in Europe) was made available in 2006 (King et al. 2008; Clifford et al. 2006). As of February 2009, introduction of the HPV vaccine into national immunization schedules had been approved in Austria, Germany, France, Italy, Belgium, Greece, Luxembourg, Portugal, Spain, Sweden, and the UK (King et al. 2008; Tegnell et al 2009).

The acceptability of the vaccination among women is fundamental to its implementation. Crucial questions include: do women trust the vaccine as effective and safe; do they want or expect the HPV vaccine to be part of a required national immunization schedule; do they expect vaccination costs to be covered by national health insurance programmes; will they allow preadolescents and adolescent children to be vaccinated for a disease linked to sexual activity (male children may also be potential candidates for vaccination as men may benefit from HPV vaccination for protection against genital warts or be virus carriers later infecting women).

Considering the relatively recent introduction of the vaccine and the ongoing process of developing national guidelines, clear-cut answers to these questions are not available, making the collection and analysis of current data necessary. In November 2008 the Ministry of Public Health in Romania also began a campaign aimed at immunizing 110,000 girls in 4th grade, however, in an example of the importance of assessing current vaccine acceptability, parents were not informed until the day of the immunization and many refused to allow vaccination (WHO 2009i).

Health promotion of physical activity (PA) among working women

Most adults spend half of their waking hours at the workplace. An adequate level of physical activity may be needed to maintain or promote work ability, particularly among aging female workers. Therefore, in order to prevent consequences such as early retirement preventive promotion of health and work ability is needed. This section outlines worksite interventions that aim to promote moderate PA among working women and their acceptability to women.

The outcomes measured in worksite health promotion programmes are variable (for example proportion of workers engaging in regular exercise, aerobic capacity and body fat level, or level of stress). However, most studies of such programmes present positive findings and significant changes in women's health.

PA interventions can be divided into two groups — those based on counselling and education sessions and those offering facilities, space, or time for the workers to engage in PA. The outcomes of these studies show that offering fitness facilities or classes may not be more successful than offering educational sessions.

A low employee participation rate is one of the main problems in health promotion activities, suggesting acceptability has not been well addressed. Data on which baseline characteristics of the target population are associated with participation rates are limited. Still, it is known that older women, less educated women, and women with lower socioeconomic status are less likely to engage in PA than other women.

Women with lower incomes or those working in blue-collar occupations in small to medium-sized worksites (for example women in manufacturing) have less access to health promotion programmes, as such worksites often lack comprehensive health programmes and resources. Women working at these types of worksites tend to have elevated health risks due to a high prevalence of unhealthy behaviour and higher stress because of high demands and low control.

Time constraints stemming from women's multiple roles and responsibilities in work, family, and private life may also cause participation problems (Janer, Kogevinas 2008).





Conclusion and recommendations

Conclusion

This report was prepared to provide an overview of issues related to women's health across the EU-27 Member States and the EEA (Norway, Iceland, and Liechtenstein). It considers a variety of morbidity and mortality related risk factors, as well as issues of health determination and health promotion. Detailed description of the state of women's health at the national and European levels would require consideration of the interaction of potential health promoting and health risk factors. However, current data related to women's health are scattered, inconsistent, and in some cases even unavailable. This report is an attempt to identify information gaps and topic areas that need focus and attention and thus pave the way for European policy-making in relation to women's health.

Therefore, this report is not a "complete" overview of women's health in the EU today, in the sense that all facets of women's health are discussed. Subjects were included based on their relevance to women's health and the availability of sufficient, reliable, and topical data for all or most of the EU-27 Member States as well as Norway, Iceland, and Liechtenstein. In addition, gender specific data had to be available.

For this report a wide range of statistical databases from EU-countries and international sources were used. All efforts were made to use the most up-to-date data available. If for a certain variable data was unavailable for only one or two countries, data from the most recent available year has been substituted (including in tables and graphs). Where this was done, it has been clearly indicated in the text. Data was particularly unavailable for Liechtenstein.

However, although available data was occasionally a limiting factor and much data was not broken down by gender, it is nonetheless possible to provide a picture of a number of different dimensions of women's health in Europe.

Demographic and Socio-Economic Trends

In the European population there are more women than men. Women generally live longer than men in all parts of Europe, but women also experience more years of disability than men. With the increasing population of old women the risk of chronic diseases such as diabetes and mental health problems is increased. To ensure women's health it is necessary to make explicit how women's physical, psychosocial, and social health should be addressed at every stage of their lifespan. Health care must be more sensitive to women's specific needs, particularly the specific needs of older women, as they are a growing demographic.

Women are more likely to receive lower wages than men, even though on average women have a higher level of education. In addition, women are employed part time much more frequently than men in all European countries, partially because part time work may enable women to balance their double role as employee and caretaker. Women carry out a greater proportion of unpaid work (e.g. household and caring work) compared to men. Adding paid and unpaid work women work more hours per week than men. The double workload (family and work duties) puts women at greater risk of mental health problems. More research is necessary to examine this work life balance.

Health Issues

The main causes of death for women in the EU and EEA are still CVD and cancer. In spite of the improvements seen in mortality rates for most forms of cancer, further research is required to reduce these rates through primary and secondary prevention.

HIV infection remains of major public health problem in Europe and reported cases of HIV infection continue to increase. However, the available data are incomplete because of limitations in reporting systems, which urgently need to be addressed in the near future.

Mental health disorders are a common public health problem in the European community. In particular, dementia and AD are of major concern to women due to their longer life expectancy. In this report data from the EURODEM group was used because we were unable to locate any comprehensive, current, gendered data on the prevalence and incidence of dementia which differentiated between the different forms and stages of the condition. Thus analysis of gender-related differences in dementia and AD and relevant health determinants should be a research priority. Women suffer more often from mental health problems than men such as depressive disorders. A possible influencing factor may be their multiple roles in society (mother, employee, wife, etc).

Health surveys pertaining to musculoskeletal disorders such as osteoporosis are also limited. There were no data routinely collected available.

There are a number of additional issues related to women's health for which statistics were extremely scarce. For example, current local epidemiological data of endometriosis in European women are rare and EU-wide studies were not available within the scope of the literature reviews performed for this report. Data on migraine in European women and its effect on women's work and health status are also rare.

Health care

Analyzing the quality of health care across an area as large and varied (in terms of health care systems, demographic composition, and cultural behaviours) as the EU/EEA is a difficult task. Both adequate indicators and sufficient data are necessary. Currently, there is a significant gap in available data on health care-related issues — from utilization of health care facilities to participation in health care programmes and health promotion activities to awareness of women's specific desires from and satisfaction with the health care system. Where data is available, it tends to be regional, from a relatively limited sample, and not gender specific. Improvements in gendered data collection on health care-related issues are an essential step in identifying relevant issues for women and for analysing the efficacy of current measures. However, based on the little data is available, most EU women generally have easy access to good quality health care.

Lifestyle

Data on lifestyle determinants shows that there is still cause for concern and much room for improvement in lifestyle-related diseases. The prevalence of female smokers in some European countries is on the rise, as are smoking-associated female deaths. There are also limitations in official reporting systems, such as those for drug and substance abuses and alcohol use among European women. For example, the available epidemiological data do not always include a gender breakdown, and when data do exist, figures relating to women are sometimes low and difficult to interpret.

Overweight and obesity are a serious public health problem in European women. As women are more often responsible for the preparation of meals, they are an important target group in the fight against the obesity epidemic in Europe, not only in the female population. Available annual data includes self-reported and measured data, but is important to recognize that self-reported data tends to underestimate the actual weight in overweight and obese people. Making comparisons among countries is difficult due to different methods of data collection, years of collection, and age ranges included, as well as the lack of measured and valid BMI data for a number of EU-countries. There is also a particular need for more information on eating disorders among EU women: a number of studies focusing on eating disorders in European women suggest that they are increasingly a major health problem, however, data related to specific eating disorders, particularly Bulimia nervosa, are limited.

Recommendations

The fundamental aim of this report was to present and summarize available data on important issues in the field of women's health. However, the larger intended impact was to bring to light both current and emerging important women's health issues, identifying areas where more communal, medical, financial, and political effort is needed, and to foster discussion among stakeholders. Based on the analysis of available data as presented in this report, the authors recommend that women's health shall be recognised as a public health subject area of considerable importance in research and policy making.





Glossary and references

Glossary

Kirch: Encyclopedia of Public Health, Springer New York, 2008

Determinants of Health: “Determinants of health are health indicators that represent factors which either directly cause illness and disease, or are risk factors that affect the health status of populations and individuals. Determinants of health include the social environment (such as political, policy, socio-economic factors), the physical environment (living and working conditions), person-related dimensions (such as genetic endowment and health behaviour), and access to health care services.”

Incidence: “Incidence refers to the number of people newly affected by a certain condition in a specific period of time. It can be given as a number or as a ratio, having as denominator the total number of people who can possibly be affected by the mentioned condition.”

Indicator: “An indicator is a measurement that reflects the status of a system. Indicators reveal the direction of a system (a community, the economy, or the environment); if it is going forward or backward, increasing or decreasing, improving or deteriorating, or staying the same.”

Fertility Rate: “Fertility rates are measured in terms of the number of live births per women-year of exposure for a given period, usually one year.”

Morbidity Rate „The morbidity rate is the proportion of individuals who become ill with particular disease within a susceptible population during a specific time period, e.g. given year. It is usually expressed as number of people afflicted per 1,000, 10,000, or 100,000 people. It can also refer to a percentage of people who have complications after a procedure or treatment.”

Mortality Rate: “Mortality rate is a measure of number of deaths in a given population. Mortality rate is typically expressed in number of death per 1,000 individuals per year.”

A standardised death rate is a crude death rate that has been adjusted for differences in age composition between the region under study and a standard population. Standardisation allows for comparisons when the population structures differ and is key in assessing the potential influence of environmental or cultural factors on death rates in a region

Prevalence: “Prevalence refers to the total number of people affected by a certain condition at a given point in time. It can be given as a total number, or as a percentage of the total population or as a ratio.”

Reproductive Health: “Reproductive health refers to the complete physical, mental and social well-being in all matters concerning the reproductive system, its functions and processes.”

References

- Ahmad CS et al. (2006) Effect of Gender and Maturity on Quadriceps-to-Hamstring Strength Ratio and Anterior Cruciate Ligament Laxity. *Am J Sports Med* March 1, 34: 370-374
- Almdal T, Scharling H, Jensen JS, Vestergaard H (2004) Independent effect of type 2 Diabetes mellitus on ischemic heart disease, stroke and death. A population-based-study of 13000 men and woman with 20 years follow up. *Arch Intern Med* 164:1422-1426
- Andersen K, Launer LJ, Dewey ME, Letenneur L, Ott A, Copeland JR, Dartigues JF, Kragh-Sorensen P, Baldereschi M, Brayne C, Lobo A, Martinez-Lage JM, Stijnen T, Hofman A (1999) Gender differences in the incidence of AD and vascular dementia: The EURODEM Studies. EURODEM Incidence Research Group. *Neurology* 53(9):1992-7
- Anderson R, Mikulic B, Vermeylen G, Lyly-Yrjanainen M, and Zigante V (2009) Second European Quality of Life Survey. European Foundation for the Improvement of Living and Working Conditions. Office for Official Publications of the European Communities, Luxembourg.
- Anderson P, Baumberg B (2006) Alcohol in Europe: A Public Health Perspective. Institute of Alcohol Studies, London.
- APOLLO Hospital Discharge Registers Database. Available at www.unav.es/preventiva/apollo/asistente/. Accessed Apr 09.
- Azad NA, Bugami MA, Loy-English I (2007) Gender Differences in Dementia Risk Factors. *Gender Medicine* 4(2):121-129
- Bosetti C, Bertuccio P, Levi F (2008) Cancer mortality in the European Union, 1970-2003, with a join point analysis. *Ann Oncol* 19: 631-640
- Boyle P, Ferly F (2005) Cancer incidence and mortality in Europe 2004. *Annals of Oncology* 16:481-488
- Boyle P, Lewin B (2008) World Cancer Report. WHO International Agency for research and cancer. Available at: <http://apps.who.int/bookorders/anglais/detart1.jsp?sesslan=1&codlan=1&odcol=76&codcch=26>. Accessed Apr 09.
- Boyle P, Smans M (2008) IARC Scientific Publications, Number 156, Atlas of cancer mortality in the European Union and the European Economic Area 1993-1997. International Agency for Research on Cancer, Lyon, France:
- Carlsson S, Midthjell K, Tesfamarian MY, Grill V (2007) Age, overweight and physical inactivity increase the risk of latent autoimmune diabetes in adults: results from the Nord-Trøndelag health study. *Diabetologia* 50:55-58
- Catro-Costa E, Dewey M, Stewart R, Banerjee S, Huppert F, Mendonca-Lima, Bula C, Reisches F, Wancata J, Ritchie K, Tsolaki M, Mateos R, Prince M (2007) Prevalence of depressive symptoms and syndromes in later life in ten European countries. The Share-Study. *British Journal of Psychiatry*. 1991:393-401
- Clifford G, Franceschi S, Diaz M, Munoz N, Villa LL (2006) HPV type-distribution in women with and without cervical neoplastic diseases. *Vaccine* 24(Suppl 3):26-34
- Colditz GA, Baer HJ, Tamimi RM (2006) Breast Cancer. In: Schottenfeld D, Fraumeni JF. *Cancer Epidemiology and Prevention*. New York Oxford University Press 995-1012
- Council of Europe (2002) Council Recommendation REC(2002)5 of the committee of Ministers to member states on protection of women against violence and Explanatory Memorandum Adopted on 30. April 2002. Available at:http://www.coe.int/T/E/Human_Rights/Equality/05._Violence_against_women/
- Council of European Union (2003): Council Recommendation of 2 December 2003 on cancer screening. *Official Journal of the European Union* 327:34-38. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:327:0034:0038:EN:PDF> Accessed Apr 09.
- DG Employment, Social Affairs and Equal Opportunities (2007) Health and long-term care in the European Union. Special Eurobarometer 283/Wave 67.3-TNS Opinion & Social. Office for Official Publications of the European Communities, Luxembourg.
- DG for Health and Consumers (2008): Major and Chronic Disease Report 2007. European Commission, Brussels.

- DG SANCO (2003) Physical Activity. Special Eurobarometer 183-6/Wave 58.2 European Opinion Research Group (EEIG). European Commission
- DG SANCO (2006a) Attitudes towards Alcohol. Special Eurobarometer 272b/Wave 66.2-TNS Opinion & Social. European Commission, Brussels.
- DG SANCO (2006b) Mental Well-being. Special Eurobarometer 248/Wave 64.4-TNS Opinion & Social. European Commission, Brussels.
- DG SANCO (2007a) Attitudes of Europeans towards Tobacco. Special Eurobarometer Survey 272c/ Wave 66.2-TNS Opinion & Social. European Commission, Brussels.
- DG SANCO (2007b) Health in the European Union. Special Eurobarometer 272e/ Wave 66.2-TNS Opinion & Social. Office for Official Publications of the European Communities, Luxembourg.
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2006) Annual report: A gender perspective on drug use and responding to drug problems. Available at: <http://www.emcdda.europa.eu/themes/women>
- Edwards G, Anderson P, Babor TF, Caswell S, Ferrence R, Giesbrecht N, Godfrey C, Holder HD, Lemmens P (1994) Alcohol Policy and the Public Good. Oxford University.
- EISS (2008) Annual Report: 2006-2007 influenza seasons Available at http://www.eiss.org/html/annual_reports.html (Access March 09)
- Espelt A, Borrell C, Roskam AJ, Rodríguez-Sanz M, Stirbu I, Dalmau-Bueno A, Regidor E, Bopp M, Martikainen P, Leinsalu M, Artnik B, Rychtarikova J, Kalediene R, Dzurova D, Mackenbach J, Kunst AE (2008) Socioeconomic inequalities in diabetes mellitus across Europe at the beginning of the 21st century. *Diabetologia* 51:1971–1979
- EUGLOREH project (2007) The status of health in the European Union: towards a healthier Europe. Available at: http://www.intratext.com/ixt/_EXT-REP/_INDEX.HTM. Accessed Apr 09.
- EUNESE - EUropean NEtwork for Safety among Elderly. Available at <http://www.euroipn.org/eunese/>. Accessed Apr 09.
- European Communities (2003) The Health Status of the European Union - Narrowing the health gap. Office for Official Publications of the European Communities. Luxembourg.
- European Commission (2008a) Employment in Europe 2008. Directorate General for Employment, Social Affairs and Equal Opportunities. Office for Official Publications of the European Communities, Luxembourg.
- European Centre of Disease Prevention and Control (ECDC) (2008a) Annual epidemiological report on communicable diseases in Europe 2008. Stockholm.
- European Commission (2008c) Quality in and Equality of Access to Healthcare Services. European Communities. DG for Employment, Social Affairs and Equal Opportunities. European Communities.
- European Commission (2008d) Report on Equality Between Women and Men. Directorate-General for Employment, Social Affairs and Equal Opportunities. Office for Official Publications of the European Communities, Luxembourg.
- European Centre of Disease Prevention and Control (ECDC) (2008b) AIDS/HIV Surveillances in Europe 2007, Stockholm.
- European heart network. European cardiovascular disease statistics 2008 edition http://www.who.int/topics/cerebrovascular_accident/en/. Accessed Feb 09.
- European Surveillance of Sexually Transmitted Infections Surveillance in Europe (ESSTI) (2008) Annual Report No. 3. Health Protection Agency Centre for Infections, London.
- EURO-PERISTAT project, with SCPE, EUROCAT, EURONEOSTAT (2008) European Perinatal Health Report. Available at: <http://www.europeristat.com/publications/In-the-News/index.shtml>. Accessed Apr 09.
- EUROSTAT (2008a) Europe in figures. Eurostat yearbook 2008. Office for Official Publications of the European Communities, Luxembourg.
- EUROSTAT (2008b) The life of women and men in Europe - A statistical portrait. Office for Official Publications of the European Communities, Luxembourg.
- EUROSTAT (2009) Eurostat database. Available at: <http://epp.eurostat.ec.europa.eu/>. Accessed Apr 09

- Evers I, De Valk HW, Visser GHA (2004) Risk of complications of pregnancy in women with type 1 diabetes: nationwide prospective study in the Netherlands. *BMJ* 328:915
- Ferri CL et al. (2005) Global prevalence of dementia: a Delphi consensus study. *The Lancet* 366:2112-2117
- Gissler M, Hannikainen-Ingmann K, Donati S, Jahn A, Oliveira da Silva M, Hemminki E, and REPROSTAT-group (2008) The feasibility of European reproductive health indicators. *The European Journal of Contraception and Reproductive Health Care* 13(2):376-386
- Gorelick PB (2004) Risk factors for vascular dementia and Alzheimer disease. *Stroke* 35 (Suppl.1):2620-2622
- Hoek HW (2006) Incidence, prevalence and mortality of anorexia nervosa and other eating disorders. *Current Opinion in Psychiatry* 19: 389-394 392
- Hofman A et al. (1991) The prevalence of dementia in Europe: a collaborative study of 1980-1990 findings. *International Journal of Epidemiology* 20(3):736-748
- Homeberg AH, Johnell O, Nilsson PM et al. (2006) Risk factors for fragility fracture in middle age. A prospective population-based study of 33,000 men and women. *Osteoporos Int.* 17(7):1065-1077
- IARC (2002) IARC Handbooks of Cancer Prevention, Vol. 7, Breast Cancer Screening. IARC Press, Lyon.
- IARC (2005). IARC Handbooks of Cancer Prevention, Vol. 10, Cervix Cancer Screening. IARC Press, Lyon.
- IARC (2008a) Cancer Screening in the European Union 2007: Report on the implementation of the Council Recommendation on cancer screening. First Report. European Communities. Brussels
- IARC (2008b)
- European Injury database (IDB). Available at <https://webgate.ec.europa.eu/idb>. Accessed Mar 09.
- Institute of Alcohol Studies (2008) IAS Fact Sheet. Women and Alcohol. Alcohol Studies. Institute of Alcohol Studies, London.
- International Diabetes Federation (2006) Diabetes Atlas, Third Edition. International Diabetes Federation Executive Office: Belgium. Available at: www.eatlas.idf.org. Accessed Mar 09.
- International Obesity Taskforce (IOTF). Available at: <http://www.ietf.org/database/index.asp> Accessed May 09)
- International Osteoporosis Foundation (2009a) EU policy report of 1998 Report on Osteoporosis in the European Community. Action for Prevention. Available at: <http://www.iofbonehealth.org/publications/eu-policy-report-of-1998.html>. Accessed Apr 09.
- International Osteoporosis Foundation (2009b) Facts and Statistics about osteoporosis and its impact. Available at: <http://www.iofbonehealth.org/facts-and-statistics.html#factsheet-category-229>. Accessed Mar 09.
- Janer G, Kogevinas M (2008) Promoting physical activity and a healthy diet among working women. In: Linos A, Kirch W (2008) Promoting health for working women. Springer, New York.
- Johnell O, Herzmann P (2006) Health Evidence Network report: What evidence is there for the prevention and screening of osteoporosis? WHO Regional Office for Europe, Copenhagen. Available at: www.euro.who.int/document/e88668.pdf. Accessed Mar 09.
- Johnell O, Kanis JA (2006) An estimate of the worldwide prevalence and disability associated with osteoporosis fractures. *Osteoporos Int* 17:1726
- Kennedy S, Koninckx PR (2007) Endometriosis. In: Edmonds K (ed.) Dewhurst's Textbook of Obstetrics & Gynaecology. Blackwell, Oxford: pp 430-439
- KfV (Kuratorium für Verkehrssicherheit) (2007) Injuries in the European Union – a statistics summary 2003-2005. KfV, Vienna.
- Kilpeläinen K, Aromaa A, and the ECHIM Core Group (ed.) (2008) European Health Indicators: Development and Initial Implementation. National Public Health Institute, Helsinki University Press, Helsinki.
- King LA, Levy-Bruhl D, O'Flanagan D, Bacci S, Lopalco PL, Kudjawu Y, and Salmaso S (2008) Introduction of human papillomavirus (HPV) vaccination into national immunisation schedules in Europe: results of the VENICE 2007 Survey. *Eurosurveillance* 13:7-9

- Kipeläinen K, Aromaa A, ECHIM Core Group (2008) European Health indicators: Development and initial implementation. Final report of the ECHIM project. National Public Health Institute, Helsinki.
- Kirch W (Ed.) (2008) Encyclopaedia of Public Health. Volume 2 I-Z. Springer, New York
- Kisser R et al. (2009) Injury data needs and opportunities in Europe. *Int J Injury Control & Safety Promotion (NICS)*, in press.
- Koninckx PR (1994) Is mild endometriosis a condition occurring intermittently in all women *Hum Reprod* 9:2202-2205
- Kurz A (2009) Dementia: Definition and Concept. *Alzheimer europe*. Available at: <http://www.alzheimer-europe.org/?Im3=55F3C34B39CB>. Accessed Apr 09.
- Kvalvik AG, Jones MA, Symmons DP (2000) Mortality in a cohort of Norwegian patients with rheumatoid arthritis followed from 1977 to 1992. *Scandinavian Journal of Rheumatology* 29(1):29-37
- Lapolla A, Dalfrà MG, Di Cianni G, Bonomo M, Parretti E, Mello G (2008). A multicentre Italian study on pregnancy outcome in woman with diabetes. *Nutrition, Metabolism & Cardiovascular diseases* 18:291-297
- Lagro-Janssen T (2007) Sex gender and Health. *Developments in reseach. European Journal of Women's Studies* 14 (9): 9-20
- Legido-Quigley H, McKee M, Nolte E, and Glinos IA (2008). *Assuring the quality of health care in the European Union: A case for action*. WHO Regional Office for Europe. MPG Books Ltd., Bodmin, Cornwall, UK.
- Lindsay J, Laurin D, Verreault R, Hébert R, Helliwell B, Hill G, McDowell I (2002) Risk Factors for Alzheimer's Disease: a prospective analysis from the Canadian Study of Health and Aging. *American Journal of Epidemiology* 156(5):445-453
- Lobo A, Launer LJ, Fratiglioni L, Andersen K, Di Carlo A, Breteler MM, Copeland JR, Dartigues JF, Jagger C, Martinez-Lage J, Soininen H, Hofman A (2000) Prevalence of dementia and major subtypes in Europe (2000): a collaborative study of population-based cohorts. *Neurologic Diseases in the Elderly Research Group. Neurology* 54 (11 Suppl.5):4-9
- Minaur NJ, Jacoby RK, Cosh JA, Taylor G, Rasker JJ (2004) Outcome after 40 years with rheumatoid arthritis: a prospective study of function, disease activity, and mortality. *J Rheumatol* 69 (Suppl. Mar):3-8
- Netherlands Institute for Health Services Research (NIVEL) (2008) European Influenza Surveillance Scheme: Annual Report 2006-2007 influenza seasons. Available at http://www.eiss.org/documents/eiss_annual_report_2006-2007.pdf. Accessed Apr 09.
- Niederlander E (2006) Causes of death in the EU. *Statistics in focus: population and social conditions. European Communities*.
- Parazzini et al. (2005) Determinants of short term recurrence rate of endometriosis. *European Journal of Obstetrics & Gynecology and Reproductive Biology* 121:216-219
- Patel V (2005) Gender in mental health research. *Gender and health research series. World Health Organization (WHO). Department of Gender, Women and Health, Family and Community Health*. Available at: <http://www.who.int/gender/documents/MentalHealthlast2.pdf>. Accessed Apr 09.
- Piirtola M, Vahlberg T, Isoaho R (2007) Incidence of fractures and changes over time among the aged in a Finnish municipality: a population-based 12-year follow-up. *Aging Clin Exp Res* 19(4):269-276
- Pinn VW (2003) Sex and gender factors in medical studies: implication for health and clinical practice *Journal of American Medical Association* 289: 397-400
- Pinter B, Aubeny E, Bartfai G, Loeber O, Ozalp S, Webb A (2005) Accessibility and availability of abortion in six European countries. *The European Journal of Contraception and Reproductive Health Care* 10(1):51-58
- ProFaNE - Prevention of Falls Network Europe. Available at: <http://www.profane.eu.org/>. Accessed Apr 09.
- Quinn MJ, d'Onofrio A, Moller B (2003) Cancer mortality trends in EU and acceding countries.

- Annals of Oncology 14:1148–1152
- Rathmann W, Haastert B, Icks A, Herder C, Kolb H, Holle R, Mielck A, Meisinger C, Wichmann HE, Giani E (2005) The diabetic epidemic in the elderly population in Western Europe: data from population-based studies. *Gesundheitswesen* 67(1):110-114
- Rehm J, Room R, Monteiro M, Gmel G, Graham K, Rehn T, Sempos CT, Frick U, Jernigan D (2004) Alcohol. In: WHO (ed), *Comparative quantification of health risks: Global and regional burden of disease due to selected major risk factors*. WHO, Geneva.
- Rich-Edwards JM, Manson JE, Hennekens CH et al. (1995) The Primary Prevention of Coronary Heart Disease in Women. *Journal of Medicine* 332(26):1758-1766
- Schienkowitz A, Schulze MB, Hofmann K, Kroke A, Boeing H (2006) Body mass index history and risk of type 2 diabetes: results from European prospective investigation in cancer and nutrition (EPIC)-Potsdam-study. *Am J Clin Nutr* 84:427-33.
- Schmitt NM, Fuchs A, Kirch W (2008) Mental health disorders and work life balance In: Linos A, Kirch W (Eds.) *Promoting health for working women*. Springer: New York, pp 117- 136
- Schmitt NM (2008): Women's health. In: Kirch W (Ed.) *Encyclopaedia of Public Health*. Volume 2 I-Z Springer, New York pp1461-1463.
- Sengupta N, Boeoy R, Schmitt JH, Peltola H, Van-Damme P, Schumacher RF, Campins M, Rodrigo C, Heikkinen T, Seward J, Jumaan A, Finn A, Olcen P, Thiry N, Weil-Olivier C, Breuer J (2008) Varicella vaccination in Europe: are we ready for a universal childhood programme? *Eur J Pediatr* 167:47-55
- Singh S, Darroch JE (2000) Adolescent pregnancy and childbearing: levels and trends in developed countries. *Fam Plann Perspect*. Jan-Feb; 32(1):14-23
- Sjöström M, Oja P, Hagströmer M, Smith BJ, Bauman A (2006) Health-enhancing physical activity across European Union countries: the Eurobarometer study. *J Public Health* 14:291–300
- Symmons D, Mathers C, Pflieger B The global burden of rheumatoid arthritis in the year 2000. Available at: http://www.who.int/healthinfo/statistics/bod_rheumatoidarthritis.pdf. Accessed Apr 09.
- Tegnell A, Dillner J, Andrae B (2009) Introduction of human papillomavirus (HPV) vaccination in Sweden. *Eurosurveillance* 14(6):19119
- The Council of the European Union (2003) Council Recommendation of 2 December 2003 on cancer screening. *Official Journal of the European Union* 327:34-38.
- Treloar SA, Wicks J, Nyhold DR (2005) Genomewide linkage study in 1,176 affected sister pair families identifies a significant susceptibility locus for endometriosis on chromosome 10q26. *Am J Hum Genet* 77:365-377
- Verdeccia A, Francisci S, Brenner H, Gatta G, Micheli A, Mangone L, Kunkler I, and EUROCORE-4 Working Group (2007) Resent Cancer survival in Europe: a 200-02 period analysis of EUROCORE-4 data. *Lancet Oncology* 8:784-796
- Verdeccia A, Guzzinati S, Francisci S, De Angelis R, Bray F, Allemani C, Tavilla A, Santaquilani M, Sant M and the EUROCORE Working Group (2009) Survival trends in European cancer patients diagnosed from 1988 to 1999. *European Journal of Cancer*. Jan 3. in press. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0959804908009271>. Accessed March 2009.
- Veronesi U, Boyle P, Goldhirsch A, et al. (2005) Breast cancer. *Lancet* 365:1727-1741
- Viganò P, Parazzini F, Somigliana E, Vercellini P (2004) Endometriosis: epidemiology and aetiological factors. *Best Practice & Research Clinical Obstetrics and Gynaecology* 18(2)177-200
- Wang Y, Lobenstein T (2006) Worldwide trends in childhood overweight and obesity. *International Journal of Pediatric Obesity* 1: 11-25
- WHO (1994) Assessment of fracture risks and its application to screening for postmenopausal osteoporosis: report of world health organization study group. WHO Technical Report Series, No 843. World Health Organization, Geneva.
- WHO (2000) *The World Health Report 2000: Health Systems Improving Performance*. WHO, Geneva.
- WHO (2005) *Gender, Health, and Alcohol Use*. Gender and Health. Department of Gender, Women and Health, WHO, Geneva.

- WHO (2006) Gaining health. The European Strategy for the Prevention and Control of Noncommunicable Diseases 2006. Available at: <http://www.euro.who.int/document/E89306.pdf>. Accessed Apr 09.
- WHO (2006) Injuries and violence in Europe: why the matter and what can be done. Regional Office for Europe: European Centre for Environment and Health, Rome. Available at: http://www.euro.who.int/InformationSources/Publications/Catalogue/20060601_1 (Accessed May 09)
- WHO (2007) The challenge of obesity in the WHO European Region and the strategies for response. WHO Regional Office for Europe. Available at: <http://www.euro.who.int/healthtopics/HT2ndLvIPage?HTCode=obesity>. (Accessed May 09)
- WHO (2008) Atlas of Health in Europe, 2nd edition 2008. WHO Regional Office for Europe, Copenhagen. Available at: http://www.euro.who.int/InformationSources/Publications/Catalogue/20080905_1. Accessed Apr 09.
- WHO (2009a) European mortality database (MDB) Regional Office for Europe. Available at: <http://data.euro.who.int/hfamdb/>. Accessed Mar 09.
- WHO (2009b) Tobacco Control Database. Smoking Prevalence in Adults and Boys and Girls. Regional Office for Europe, Copenhagen. Available at: <http://data.euro.who.int/tobacco/>. Accessed Apr 09.
- WHO (2009c) Definition of Cardiovascular diseases. Available at: http://www.who.int/topics/cardiovascular_diseases/en/. Accessed Feb 09.
- WHO (2009d) Cytology Screening. Available at <http://www.who.int/cancer/detection/cytologyscreen/en/index.html2008>. Accessed Apr 09.
- WHO (2009e) Definition of Depression. Available at: <http://www.who.int/topics/depression/en/>. Accessed Apr 09.
- WHO (2009f) Definition of Diabetes Available at: http://www.who.int/topics/diabetes_mellitus/en/. Accessed Mar 09.
- WHO (2009g) Definition of Mental disorders. Available at URL: http://www.who.int/topics/mental_disorders/en/. Accessed Apr 09.
- WHO (2009h) European Health for All Database. Regional Office for Europe, Copenhagen. Available at: <http://www.euro.who.int/HFADB>. Accessed Apr 09.
- WHO (2009i) Regional and Country Updates: Romania. EURO Immunization Monitor 3:3 Regional Office for Europe, Copenhagen
- Women aid's until women & children are safe: Domestic violence: frequently asked questions fact sheet 2009. Available at: <http://www.womensaid.org.uk/default.asp> (Accessed May 2009)
- Wild S, Roglic G, Green A, Sicree R (2004) Global Prevalence of Diabetes Estimates for the year 2000 and projections for 2030. *Diabetes Care* 27:1047–1053
- Zimmermann E, Ekholm O, Gronbaek M, Curtis T (2008) Predictors of changes in physical activity in a prospective cohort study of the Danish adult population. *Scand J Public Health* 36(3):235-241

List of abbreviations

AD	Alzheimer Disease
AIDS	Acquired Immunodeficiency Syndrome
BMD	Bone Mineral Density
BMI	Body Mass Index
CVD	Cardiovascular Disease
CHD	Coronary Heart Disease
DALY's	Disability-adjusted life years
DM	Diabetes Mellitus
ECHI	European Community Health Indicators
EEA	European Economic Association EUROPEAN
EFTA	The European Free Trade Association
EURODEM	European Community Concerted Action on the Epidemiology and Prevention of Dementia Group
ESEMed	European Study of the Epidemiology of Mental Disorders
GDM	Gestational Diabetes Mellitus
HIV	Human Immunodeficiency Virus
HLYs	Healthy Life Years
HPV	Human papilloma virus
IDB	Injury Database
IDF	International Diabetes Federation
IFO	International Obesity Taskforce
MMR	Measles, Mumps, and Rubella
n	Number
PA	Physical Activity
SDR	Standardised Death Rate
RA	Rheumatoid Arthritis

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