



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE



Health Status and Living Conditions in an Enlarged Europe

*Monitoring Report prepared by the European Observatory on the
Social Situation - Health Status and Living Conditions Network*

European Commission

Directorate-General "Employment, Social Affairs and Equal Opportunities"
Unit E1 - Social and Demographic Analysis

Manuscript completed in November 2006



European Commission

Health status and living conditions in an enlarged Europe¹

Table of contents

Tables and Figures	4
EXECUTIVE SUMMARY	7
INTRODUCTION	14
Methodology and structure of the report	18
PART ONE: HEALTH STATUS IN THE EU.....	19
Organization of the data.....	19
I. Mortality indicators.....	22
1.1 Health status in the EU-15, Malta and Cyprus	22
1.2 Health Status in the central and eastern European Member States and Croatia.....	25
1.3 Health Status in the Baltic Member States.....	28
1.4 Health status in south eastern Europe: Bulgaria, Romania, Turkey and TFYR Macedonia	30
2. Explanations for variation in health status among European countries: disease patterns and their underlying risk factors.....	34
2.1 Morbidity indicators.....	34
2.2 Chronic diseases.....	36
2.3 Communicable diseases.....	58
2.4 Other causes of mortality and morbidity	66
2.5 Preventable risk factors.....	69
2.6 Avoidable mortality in Europe	83
2.7 Socioeconomic inequalities in morbidity and mortality	87
Concluding remarks: Part One	94
PART TWO: NATIONAL PUBLIC HEALTH POLICIES IN THE EU	107
1. Tobacco-Control Policies in Europe.....	108
1.1 Overview of Tobacco Use in the EU.....	108
1.2 Framework for EU Policies to Prevent and Control Tobacco Use	110

¹ The views expressed in this document are those of the authors and do not necessarily represent those of the European Commission.

1.3 Specific Tobacco Control Policies in the EU.....	112
1.4 Conclusions and recommendations.....	127
2. Obesity–Control Policies in Europe.....	135
2.1 Overview of the state of the obesity epidemic in Europe.....	135
2.2 Policies countries use to counteract rising obesity.....	136
2.3 Special focus on obesity in children	144
2.4 Assessing the effectiveness of obesity policy	150
2.5 Steps forward to decrease obesity prevalence	151
3. Mental Health Policies in Europe	155
3.1 Introduction.....	156
3.2 What do we know about the prevalence of mental health problems in the EU?	158
3.3 What are the social and economic costs of poor mental health?.....	158
3.4 What mental health policies are being adopted across Europe?.....	165
3.5 Using legislation to safeguard human rights and promote social inclusion	167
3.6 Are promotion and prevention strategies being implemented across the EU?.....	168
3.7 Is there sufficient funding for mental health?	174
3.8 What is the mix of mental health services provided across Europe?	177
3.9 Continuing challenges	188
3.10 Policy Conclusions	193
4. Screening of communicable diseases in the EU: TB and HIV/AIDS. Special focus on immigration	203
4.1 Overview of TB and HIV in Europe	203
4.2 Screening for infectious diseases	204
4.3 Screening for TB	205
4.4 Screening of HIV	214
4.5 Conclusion and recommendations	221
5. National public health policies in Europe: Special focus on tackling inequalities	225
5.1 Overview of public health policies in the EU	225
5.2 Policies to reduce health inequalities in the EU	228
5.3 Policies to reduce health inequalities in the Acceding/Candidate Countries	237
5.4 Conclusions and recommendations.....	239
Concluding remarks: Part two.....	242
CONCLUSIONS	244

Tables and Figures

PART ONE

FIGURE 1.1	LIFE EXPECTANCY, 1980* AND 2001	19
FIGURE 1.2	INFANT DEATHS PER 1000 LIVE BIRTHS, 1980* AND 2001	20
FIGURE 1.3	LIFE EXPECTANCY IN THE EU-15, MALTA AND CYPRUS	22
FIGURE 1.4	FEMALE-MALE DIFFERENCES IN LIFE EXPECTANCY AT BIRTH, LATEST YEAR AVAILABLE	23
FIGURE 1.5	LIFE EXPECTANCY AT AGE 65, IN YEARS	24
FIGURE 1.6	INFANT DEATHS PER 1000 LIVE BIRTHS IN THE EU-15	24
FIGURE 1.7	LIFE EXPECTANCY AT BIRTH IN SELECTED CENTRAL AND EASTERN EUROPEAN COUNTRIES AND THE EU-25.....	26
FIGURE 1.8	LIFE EXPECTANCY AT AGE 65, IN YEARS	27
FIGURE 1.9	INFANT DEATHS PER 1000 LIVE BIRTHS IN SELECTED CENTRAL AND EASTERN AND SOUTH EASTERN EUROPEAN COUNTRIES AND THE EU-25	27
FIGURE 1.10	LIFE EXPECTANCY AT BIRTH (IN YEARS) IN THE BALTIC STATES AND THE EU-25	28
FIGURE 1.11	INFANT DEATHS PER 1000 LIVE BIRTHS IN THE BALTIC MEMBER STATES AND THE EU-25	29
FIGURE 1.12	LIFE EXPECTANCY AT AGE 65, IN YEARS	30
FIGURE 1.13	LIFE EXPECTANCY IN THE EU-25, NEW MEMBER STATES, TURKEY, TFYR MACEDONIA, ROMANIA & BULGARIA.....	31
FIGURE 1.14	LIFE EXPECTANCY AT AGE 65, IN YEARS*	32
FIGURE 1.15	INFANT DEATHS PER 1000 LIVE BIRTHS IN THE EU-25, NEW MEMBER STATES, TURKEY, TFYR MACEDONIA, ROMANIA AND BULGARIA	33
FIGURE 2.1	SELF-REPORTED ILL-HEALTH IN 10 EUROPEAN COUNTRIES, 2000	35
FIGURE 2.2	ESTIMATES OF HEALTHY LIFE EXPECTANCY AT BIRTH IN EUROPE, 2002	36
FIGURE 2.3	SDR, ISCHAEMIC HEART DISEASES , 0-64 PER 100,000	38
FIGURE 2.4	SDR, DISEASES OF CIRCULATORY SYSTEM, 0-64 PER 100,000	39
FIGURE 2.5	CANCER INCIDENCE PER 100,000, 2002 OR LATEST YEAR AVAILABLE, 1990*	40
FIGURE 2.6	SDR, TRACHEA/BRONCHUS/LUNG CANCER, 0-64 PER 100000	42
FIGURE 2.7	AGE-STANDARDIZED LUNG CANCER INCIDENCE RATES / 100,000 IN EUROPE, 2000	43
FIGURE 2.8	BREAST CANCER INCIDENCE PER 100,000, LATEST YEAR AVAILABLE	44
FIGURE 2.9	SDR, MALIGNANT NEOPLASM FEMALE BREAST, ALL AGES PER 100,000	44
FIGURE 2.10	PREVALENCE ESTIMATES OF DIABETES MELLITUS, 2003 AND 2025	48
FIGURE 2.11	AGE-ADJUSTED DEATH RATES FOR COPD FOR MALES AND FEMALES.....	50
FIGURE 2.12	SDR, CHRONIC LIVER DISEASE AND CIRRHOSIS, ALL AGES PER 100,000.....	51
TABLE 2.1	EUROPEAN PREVALENCE RATES FOR MENTAL DISORDERS AND ESTIMATED NUMBER OF INDIVIDUALS AFFECTED ANNUALLY	53
FIGURE 2.13	TRENDS IN AGE ADJUSTED STANDARDISED DEATH RATES PER 100,000 ALL AGES FOR SUICIDE AND SELF INFLICTED INJURY IN THE EU FROM 1980 - 2004.....	54
FIGURE 2.14	COMPLETED SUICIDES FOR MEN PER 100,000 POPULATION (LATEST AVAILABLE YEAR USED)	55

FIGURE 2.15	COMPLETED SUICIDES FOR WOMEN PER 100,000 POPULATION (LATEST AVAILABLE YEAR)	56
FIGURE 2.16	REGIONAL VARIATION IN SUICIDE RATES OVER TIME: AN EXAMPLE FROM THE UK	57
TABLE 2.2	NUMBER OF CASES OF CHLAMYDIA IN SELECTED COUNTRIES EUROPEAN COUNTRIES	59
TABLE 2.3	NUMBER OF CASES OF GONORRHOEA IN SELECTED EUROPEAN COUNTRIES.....	60
TABLE 2.4	NUMBER OF CASES OF SYPHILIS IN SELECTED EUROPEAN COUNTRIES	60
TABLE 2.5	NUMBER OF REPORTED NEW HIV INFECTIONS IN SELECTED EUROPEAN COUNTRIES	62
FIGURE 2.17	TUBERCULOSIS INCIDENCE PER 100,000	64
FIGURE 2.18	SDR, ACUTE RESPIRATORY INFECTIONS, PNEUMONIA AND INFLUENZA IN CHILDREN UNDER 5 YEARS, PER 100,000	65
FIGURE 2.19	SDR, MOTOR VEHICLE TRAFFIC ACCIDENTS, 0–64 PER 100,000	67
FIGURE 2.20	ROAD TRAFFIC ACCIDENT TRENDS, SELECTED EUROPEAN COUNTRIES*	68
FIGURE 2.21	REGULAR DAILY SMOKERS IN THE POPULATION (%), AGE +15, 2003 OR LATEST YEAR AVAILABLE 71	
FIGURE 2.22	REGULAR DAILY SMOKERS IN THE POPULATION (%), AGE +15 IN SELECTED EU–10 COUNTRIES..	72
TABLE 2.6	PERCENTAGE OF 15 YEAR OLDS WHO SMOKE AT LEAST ONCE A WEEK	74
FIGURE 2.23	PURE ALCOHOL CONSUMPTION, LITRES PER CAPITA, 2003* AND 1970	76
FIGURE 2.24	OBESITY RATES IN EUROPEAN COUNTRIES	78
FIGURE 2.25	PERCENTAGE OF SCHOOL MALE AND FEMALE CHILDREN AGED 13 AND 15, OBESE IN 2001–2002 79	
FIGURE 2. 26	PREVALENCE OF OVERWEIGHT CHILDREN IN SELECTED EUROPEAN COUNTRIES AND THE USA.....	80
TABLE 2.7	PHYSICAL ACTIVITY (PA) AND SEDENTARY BEHAVIOUR DURING WEEKDAYS AMONG YOUNG PEOPLE, 2000 2001: EUROPEAN COMPARISONS.....	82
FIGURE 2.27	AGE–STANDARDIZED DEATH RATES OF TREATABLE MORTALITY IN 18 EUROPEAN COUNTRIES, 1990/91 AND 2000/02	86
FIGURE 2.28	AGE–STANDARDIZED DEATH RATES OF PREVENTABLE MORTALITY IN 18 EUROPEAN COUNTRIES, 1990/91 AND 2000/02	87
FIGURE 2.29	ILL–HEALTH BY INCOME QUINTILES IN 10 EUROPEAN COUNTRIES, 2000	90
FIGURE 2.30	ILL–HEALTH BY EDUCATION LEVEL IN 10 EUROPEAN COUNTRIES, 2000	91
TABLE 2.8	MAGNITUDE OF EDUCATIONAL DIFFERENCES IN PAIR/POOR SELF–ASSESSED HEALTH: MEN AND WOMEN AGED 25–69 YEARS (ODDS RATIOS ^A , 95% CONFIDENCE INTERVALS)	92
TABLE 2.9	INEQUALITY AND MORBIDITY INDICES ACROSS 14 EU MEMBER STATES.....	93

PART TWO

TABLE 1.1	SUMMARY OF EU TOBACCO-CONTROL LEGISLATION AND RELATED ACTIVITIES (1989 TO PRESENT) 110	
FIGURE 1.1	TAXES ON CIGARETTES IN THE EU.....	114
TABLE 1.2	POLICIES ON SMOKING IN PUBLIC AND WORKPLACES IN THE EU.....	117
FIGURE 2.1	EUROPEAN COMMISSION ACTION AND POLICIES CONCERNING PUBLIC NUTRITION.....	139
TABLE 2.2	NATIONAL POLICIES TO CONTROL OBESITY IN EUROPE.....	140
FIGURE 2.3	INITIATIVES TO IMPROVE DIET, PHYSICAL FITNESS AND TACKLE OBESITY CONCERNS IN CHILDREN	147
FIGURE 2.4	EXAMPLES OF REGULATIONS AROUND FOOD ADVERTISING AND CHILDREN.....	150
FIGURE 3.1	INTERNATIONAL ESTIMATES OF THE LIFETIME COSTS OF COMPLETED SUICIDES.....	160
FIGURE 3.2	EMPLOYMENT RATES OF PEOPLE WITH SCHIZOPHRENIA ¹ IN COMPARISONS TO SEVERELY – DISABLED ² AND ALL DISABLED ² PEOPLE IN SELECTED COUNTRIES IN THE LATE 1990S	163
FIGURE 3.3	AN EXAMPLE OF THE LONG TERM ECONOMIC COSTS OF MENTAL HEALTH PROBLEMS*	165
BOX 3.1	ANDALUCIA: INTEGRATED MENTAL HEALTH PLAN 2003–2007	166
BOX 3.2	THE NATIONAL PROGRAMME FOR IMPROVING MENTAL HEALTH AND WELL-BEING IN SCOTLAND 170	
FIGURE 3.4	OUTCOMES OF CONTROLLED TRIALS OF SUPPORTED EMPLOYMENT SCHEMES IN CANADA AND THE US 1994– 2004	173
TABLE 3.1	EXPENDITURE ON MENTAL HEALTH AS % OF HEALTH CARE BUDGET/GDP, LATEST AVAILABLE YEAR 175	
TABLE 3.2	PSYCHIATRISTS, PSYCHIATRIC NURSES AND PSYCHOLOGISTS PER 100,000 POPULATION	179
TABLE 3.3	SOCIAL WORKERS PER 100,000 POPULATION	181
BOX 3.3	MENTAL HEALTH SERVICE MIX: POLICY CONSIDERATIONS.....	182
FIGURE 3.5	TRENDS IN PSYCHIATRIC BED NUMBERS PER 100,000 POPULATION IN OLD EEA COUNTRIES PLUS CYPRUS AND MALTA 1970 – 2004	183
FIGURE 3.6	TRENDS IN PSYCHIATRIC BED NUMBERS PER 100,000 POPULATION IN NEW MEMBER STATES AND CANDIDATE COUNTRIES 1980 – 2004	185
FIGURE 3.7	TRENDS IN USE OF DIFFERENT TYPES OF INSTITUTIONAL ACCOMMODATION 1990 – 2002 IN SIX EUROPEAN COUNTRIES.	186
TABLE 4.1	SUMMARY OF CRITERIA FOR SCREENING	204
FIGURE 4.1	GROUPS OF CHILDREN TARGETED IN NATIONAL BGC RECOMMENDATIONS.....	210
TABLE 4.2	COUNTRIES WITH TB SCREENING PROGRAMMES FOR NEW ENTRANTS IN THE EU*	211
TABLE 4.3	NATIONAL POLICIES REGARDING ENTRY FOR PEOPLE WITH HIV IN EUROPE	217
BOX 5.1	AREAS TO ADDRESS IN THE ENGLAND STRATEGY TO REDUCE HEALTH INEQUALITIES.....	229
BOX 5.2	INVESTING IN HEALTH – NORTHERN IRELAND’S PUBLIC HEALTH STRATEGY 2001	231
BOX 5.3	SPANISH HEALTH SYSTEM QUALITY PLAN 2006 – FOCUS ON HEALTH INEQUALITIES	233
BOX 5.4	HEALTH INEQUALITIES IN ROMANIA: FOCUS ON ROMA POPULATION	238

ACKNOWLEDGEMENTS

This report was prepared by LSE Health and Social Care staff at the London School of Economics and Political Science. The project was led by Professor Elias Mossialos and coordinated by Sara Allin, Dr Cristina Masseria and Philipa Mladovsky. We are grateful for the contributions to this report by Professor Walter Holland, David McDaid, Professor Martin McKee (London School Of Hygiene & Tropical Medicine), Dr Ellen Nolte (London School Of Hygiene & Tropical Medicine), Caroline Rudisill, Corinna Sorenson and Sarah Thomson. We would also like to thank Champa Heidbrink for her extensive managerial and administrative support for this project.

In addition, country experts provided reports on their country's health status and living conditions and relevant policies, which we are grateful for.

Austria – Maria Hofmarcher (Institute for Advanced Studies); Belgium – Dirk Corens (Centre for Health Economics, Free University of Brussels); Bulgaria – Alexandrina Stoyanova (CRWE, University of Barcelona); Cyprus – Panos Pashardes (Economics Research Centre, University of Cyprus); Czech Republic – Martin Dlouhy (Czech Institute of Health Policy and Economics); Denmark – Karsten Vrangbaek (University of Copenhagen); Estonia – Maris Jesse (Center for Policy Studies, Tallinn); Finland – Hennamari Mikkola and Jan Klavus (STAKES, Helsinki); France – Sandra Mounier–Jack (London School of Hygiene and Tropical Medicine) and Valérie Paris (IRDES, Paris); Germany – Stefanie Ettelt (London School of Hygiene and Tropical Medicine) and Annette Riesberg (Technical University Berlin); Greece – John Yfantopoulos (University of Athens); Hungary – Roza Adany (School of Public Health, University of Debrecen); Italy, Italy – Margherita Giannoni–Mazzi (University of Perugia); Latvia – Daiga Behmane (University of Latvia); Lithuania – Skirmante Starkuviene (Dept of Social Medicine, Kaunas University of Medicine); Malta – Natasha Azzopardi Muscat (Institute of Health Care, University of Malta); Netherlands – Hans Maarse (Maastricht University); Poland – Stanislaw Golinowska and Agnieszka Sowa (Institute of Public Health); Portugal – Monica Oliveira (Universidade Tecnica de Lisboa); Romania – Victor Olsavszky (WHO); Slovakia – Darina Sedlakova and Hana Letkovicova (WHO); Slovenia – Tit Albreht (Institute of Public Health of the Republic of Slovenia); Spain – Alexandrina Stoyanova (University of Barcelona); Sweden – Bo Burstrom (Karolinska Institute, Stockholm); Turkey – Fikret Adaman (Department of Economics, Boğaziçi University).

EXECUTIVE SUMMARY

Improvements have been seen over the past few decades in both health status and living and working conditions in Europe. However, the level of heterogeneity in living conditions characteristics has and will continue to widen tremendously in the EU as it goes through enlargement. Inequalities in income, education, housing, and employment affect population health, both directly (for example good housing reduces risks associated with poor health) and indirectly through psychosocial factors (such as stress). The diversity in living conditions has translated into a diversity in patterns of health across the region.

Good health can be considered one of the most fundamental resources for social and economic prosperity. While the goal to improve average levels of population health is important for any government, there has been an increasing focus on disparities at the national and European level. Investigating differences in health status within and between European countries provides the focus of this report. The relationship between living conditions, socioeconomic factors and health will be discussed and analysed with the objective of stimulating a debate and policy action for creating a healthier and more equitable society. We aim to present an overview of key issues and not a comprehensive literature review or exhaustive analysis of the topics.

The report is in two parts. Part One provides a descriptive analysis of trends and living conditions across the EU and accession and candidate countries (ACC). It highlights the diversity in health status across Europe, attempting to identify current differences between countries, historical trends and possible future directions. In light of these differences and similarities, at the risk of oversimplification, four broad categories are discerned in terms of levels of health and accompanying risk factors in this report. These comprise: (1) the EU-15 plus Cyprus and Malta (2) central European EU member states plus Croatia (3) Baltic states and (4) the four remaining southeast European ACC (Bulgaria, TFYR Macedonia, Romania, and Turkey).

The report begins with an overview of mortality indicators, comparing the different groups. The focus then turns to disease patterns, beginning with an examination of trends in chronic conditions. The chronic diseases covered comprise: cardiovascular diseases, cancer, diabetes, respiratory diseases (focusing on chronic obstructive pulmonary disease and asthma), chronic liver disease and liver cirrhosis. Trends in mental health are also reported. Then follows an outline of communicable diseases in Europe, beginning with sexually transmitted infections, including HIV/AIDS. After this, trends in tuberculosis, pneumonia and influenza are described. Next, mortality and morbidity caused by injuries and road traffic accidents are reported. Following this outline of the main causes of mortality and morbidity in Europe, the section turns to the major underlying factors for observed patterns. These comprise tobacco use, unhealthy diet, including excessive alcohol consumption and excessive energy intake and physical

inactivity. Next, socioeconomic inequalities are discussed briefly, although a full exploration of these issues is beyond the scope of this report.

Part Two is concerned with the policies pursued by governments to address the health issues described in the first section. Sections on the following topics are presented: controlling two important risk factors for chronic diseases – tobacco consumption and obesity; screening for TB and HIV, two communicable diseases that are resurging in some parts of Europe; mental health problems; and finally, socioeconomic inequalities in health. The aim of these sections is to present new information and to draw contrasts and comparisons between countries in order to highlight possible areas of policy that are particularly successful, unsuccessful or underdeveloped. Policies at the EU level are also considered. Public health experts from a selection of EU countries were consulted in order to obtain topical and current information. This has been supplemented with published reports, academic papers and grey literature.

Part One: Health status in the EU

The EU-15 countries, Malta and Cyprus have experienced a steady increase in life expectancy over the last 25 years. Most of them have high life expectancies when compared to central and eastern European (CEE) countries. While initial improvements in longevity resulted from declining infant mortality rates, more recent gains are largely due to a significant fall in mortality at advanced ages, although there is a high degree of heterogeneity across countries.

The former Eastern Bloc countries that are now members of the EU experienced stagnating male mortality and only very minor improvements in female mortality in the 1970s and particularly the 1980s. Death rates among middle-aged men were about 2.5 times higher in CEE than in western Europe. Most countries in the former Eastern Bloc experienced a mortality crisis in the early 1990s after the fall of communism. This worsening of mortality was in many cases short-lived and followed by improvements in health. Indeed Poland, the Czech Republic, Slovenia and Slovakia are now approaching or surpassing the EU average in certain health indicators. Ischaemic disease accounted for much of the mortality crisis in CEE and it is the leading cause of death in most EU and ACC countries. Overall, standardized death rates for heart disease have fallen in the last 20 years in western Europe.

The Baltic states appear to have begun recovering only recently. In these countries men have been especially vulnerable to political and economic instability, as they have experienced a significant deterioration in health, probably associated with excessive alcohol consumption. Reflecting this, the Baltic countries have the highest sex differences in life expectancy in the EU.

Turkey, Bulgaria, Romania and TFYR Macedonia lag behind both the new Member States and EU-15 averages in many mortality and morbidity indicators. Croatia, on the other hand, has more favourable indicators and is comparable to the countries of CEE.

In all of Europe, women are expected to live longer than men. However, there has been a narrowing gender gap in life expectancy among many European countries, both in the east and west, over the past decade. Rising levels of smoking-related mortality among women contributed significantly to this pattern. Age standardized male death rates for lung cancer have been steadily decreasing in most western European countries over the last 20 years. Unfortunately, mortality for lung cancer among women is increasing almost everywhere, except the UK and to some extent Ireland and Denmark. This rise is associated with the failure to reduce rates of smoking among women.

While generally higher than the EU average, infant and child mortality rates in central and eastern Europe have been falling since the 1980s, and accelerated in the 1990s. Impressively, the Czech Republic and Slovenia are in fact now among the countries with the lowest infant deaths per 1000 live births in all of Europe. This has been attributed to a large extent to improvements in quality of health care.

The east-west health gap has mainly been attributed to three causes of death: injuries and violence, cardiovascular disease, and cancer; combined with underlying social and economic factors. These different mortality patterns across Europe are understood in this report by examining the common risk factors such as cigarette smoking, alcohol consumption and obesity. For example, the incredibly high smoking rates and binge drinking of vodka are identified as risk factors for elevated mortality in certain countries of CEE.

CEE countries also lag behind in avoidable mortality indicators. Avoidable mortality measures death from certain causes that should be avoided in the presence of timely and effective medical care; therefore providing a link between population health and the effectiveness of the health system. High performers in terms of avoidable (treatable) mortality include France, Sweden, Spain, Italy and the Netherlands, with consistently high levels of avoidable mortality (poor performers) in Romania, Latvia, Estonia, Bulgaria and Hungary. Romania and Bulgaria have the highest level of avoidable mortality among the countries analysed, accounting for almost half of total mortality in men in the former. The data suggests that in these countries, more needs to be done to improve public health policies to address lifestyle related risk factors – such as in the areas of tobacco control – and improve access to and quality of health care services.

Regarding young people, a worrying trend is that smoking among young people seems to be increasing in several countries in western Europe and CEE, both among boys and girls. Furthermore, the rising figures of child and adolescent overweight and obesity are also very worrying.

Disaggregating trends within countries also reveals that by analysing the relationship between living condition factors and health, people at the lower end of the social ladder are more likely

to report ill health than those near the top, both at the individual and population level. A health gradient is present all along the social spectrum, although no clear time trends can be detected.

Part Two: National public health policies in the EU

The second part to this report is concerned with the policies pursued by governments to address the health issues described in Part One. The first two sections explore policies designed to control two underlying risk factors for chronic diseases: tobacco control and obesity. Next, policies addressing mental health problems are presented. The following section discusses screening for TB and HIV, two communicable diseases that are resurging in some parts of Europe. The last policy section reviews national policies aimed at reducing socioeconomic inequalities in health.

Various policies and initiatives have been implemented across Europe to reduce the prevalence of tobacco use. Policies in Ireland, the UK, Norway, and Iceland appear to have been the most effective in reducing national smoking rates between 1985–2005, where prevalence declined by 20% to 25%; the least successful were Luxemburg, Romania, and Latvia. Ireland was in the forefront regarding the prohibition of smoking in public areas, followed by Norway, Malta, and Italy. While more research is needed to evaluate the effectiveness and cost-effectiveness of national tobacco strategies, evidence suggests that increases in cigarette prices and taxes and the implementation of comprehensive clean air laws have been successful in reducing smoking rates. In light of the increasing rates among young people in many countries, further policy action is needed targeting youth; evaluations of the impact of recent tobacco control measures aimed at children and adolescents are needed. Also, numerous studies point to the link between socioeconomic status and smoking habits, such that individuals in lower socioeconomic groups have higher rates of smoking in all countries. Therefore, policies need to take this into account and to target the more disadvantaged groups. Encouragingly, initial evidence suggests that recent tobacco control measures have reduced health inequalities.

At the national level, there has been renewed attention to obesity with many countries in all parts of the EU recently introducing public health programmes. These largely focus on improving nutrition and levels of physical activity in the population. Recognising that childhood obesity requires urgent attention, many countries have also introduced policies focusing on schoolchildren to reduce obesity. Some countries, including Sweden, Belgium, the Netherlands and Ireland, have taken action to restrict advertising of low-nutritional value products to children. However, difficulty in assessing the effectiveness of individual policy interventions to combat obesity has hindered EU-wide strategy development. EU-wide policy holds a particularly important place because of the transnational nature of some aspects of factors influencing obesity rates, such as food manufacturing and agricultural policies. The results of the 2005 European Commission green paper for consultation on fighting obesity are eagerly awaited.

In recent years, European and several national governments have raised mental health problems up the political agenda, but both the development and implementation of policies and the level of funding for mental health are highly variable across Europe. Mental health promotion continues to be a low priority in many countries. This is reflected by relatively low spending: most countries spend less than 10% of their health budget on mental health, with less than 3% in Bulgaria and the Czech Republic. While the evidence base on the availability of cost effective pharmaceutical and psycho-social treatments continues to grow, there are substantial gaps in our knowledge on the prevalence of mental health disorders. Steps to encourage the collection of such data would be helpful to future European comparative analysis.

There are wide differences in screening policies for communicable diseases, in particular TB and HIV, both in the population and in high risk groups. Some countries continue with testing and vaccination of school children while seven countries do not use vaccination systematically. Some countries have no specific policy regarding TB screening in new entrants while some have legal requirements for TB screening (Malta, Latvia, the Netherlands, France and the Czech Republic fall into the latter category). HIV screening policies during pregnancy have been adopted in most EU countries. Bulgaria, Belgium, some parts of Germany, Cyprus, Greece, Spain, Estonia, Latvia, Hungary all have requirements for HIV testing for non-EU immigrants, while the other EU countries do not. This variation may be due to cultural differences between countries and the lack of clarity on both the public health benefits and cost effectiveness of the different approaches.

Reducing inequalities in health is a specific goal of public health or broader health policy in most EU countries. Although significant policy developments aimed at reducing health inequalities have been seen in some countries (e.g. England, Sweden and at local level in the Netherlands), to date there has been little evidence that they have been successful. This relative lack of evidence is due on the one hand to the long time lags from policy implementation and changes in population health, and on the other hand limited capacity for research and evaluation. Furthermore, in many countries, data collection and accuracy on health and health inequalities is limited, making developing policies difficult. In new Member States and ACC, policies to tackle health inequalities are more limited than in the west, although actions to address poverty and social exclusion have been or are in the process of being developed and implemented. It is vital that countries move towards formal coordination across sectors if improvements in health inequalities are to be realised.

The picture that emerges from the five policy sections is one of considerable activity and attention paid by governments to addressing key health challenges. Much has been achieved in recent years. However, a common limitation observed across these policy interventions is the lack of evidence to support policy decisions and to evaluate effectiveness of programmes. Finally, it is important to note that there are several limitations with the surveys available for comparing data between European countries. Improvements are needed in: (1) scope; (2) comparability; (3) motivations of behaviours; and (4) accessibility.

INTRODUCTION

In May 2004 ten countries joined the EU, bringing the number of Member States to 25 and five additional countries are expected to join in the near future: Turkey, Bulgaria, Romania, Croatia and TFYR Macedonia. The level of heterogeneity in living conditions such as absolute and relative income, education, employment, housing, and transport, has and will continue to widen in the EU. Changes in socioeconomic conditions affect population health directly and through psychosocial factors. While the goal to improve average levels of population health is important for any government, there has also been an increasing focus on health equity both at the national and European level. Health equity implies the “absence of unfair and avoidable or remediable differences in health among population or groups defined socially, economically, demographically or geographically” (Macinko and Starfield 2002). Investigating differences in health status within and between European countries provides the focus of this report.

Economic growth is a major determinant of average health status in poor and developing countries where malnutrition and infectious diseases are the main causes of the high percentage of maternal, infant and childhood deaths. Among poor countries, a small rise in GNP corresponds with large gains in life expectancy; but as GNP increases, the relationship levels off. In wealthy countries, absolute income has no significant effects on longevity (Marmot 1999) but what matters is the association between relative income, or societal status, and health.

Socioeconomic inequalities in health status are persistent in all societies; even in the richest countries the better off live longer and report better health than the poor. The social conditions in which people live and work affect their health status and longevity and contribute to widening the gap among socioeconomic groups. The relation between health and socioeconomic status may be bi-directional: either health status influences socioeconomic position (“selection”), or social context leads to illness (“causation”). Sick individuals are more likely to lose their jobs and remain unemployed than healthy people but, on the other side, people in poor health are more likely to move downward than upward (Mackenbach 2002). However, it has been shown that lower socioeconomic groups have a higher probability of developing health problems than the better-off, suggesting that the direction is more likely to be from social environment to illness and not the other way round. “Causation” instead of “selection” seems to be the predominant explanation for socioeconomic inequalities in health.

Different models have tried to synthesize the relation between socioeconomic status and health. Although these models may vary in degree of complexity and details, they are all based on the “layered” view of the causation of health inequalities (Mackenbach 2002). Lower socioeconomic status leads to ill health through a number of other factors that represent the “link” between socioeconomic status and health.

Genetic predispositions have the main role in determining why among the exposed a person is more likely to get ill than another. However, the individual level of analysis may miss the social causes of diseases. Marmot and Wilkinson (1999) link biological and social determinants of health (see below); individual genetic predisposition, environment and lifestyle characteristics are all factors that affect ill health. Therefore, to find the determinants of prevalence and incidence rates, it is necessary to consider also factors operating beyond the individual level. The influence of social structure operates via three main pathways. Material circumstances are related to health directly and via the social and work environment. These in turn affect psychological and health behaviours. The life course is also important; early life together with cultural and genetic factors influences the probability of becoming sick.

Looking at the social gradient in health, income, education and occupational status affect health and life expectancy both directly, and indirectly, through psychosocial factors. People at the lower end of the social ladder are more likely to report ill health than those near the top, both at the individual and population level. A health gradient is present all along the social spectrum. Lifestyle choices clearly have an effect on health. However, these appear to be influenced by social factors. For example, in the post-war period there has been a reversal of the trend of higher social classes suffering disproportionately from the 'diseases of affluence' such as heart disease, as the risk factors for these diseases (smoking, alcohol, diet and inactivity) became prevalent among lower social groups.

Among the lifestyle related sources of socioeconomic inequalities in health such as diet, housing, job control, physical exercise, smoking, and alcohol consumption (Mackenbach 2002), it is difficult to differentiate the ones that are the result of free choices from the ones that are influenced by the society stratification. Indeed, only the latter can be considered a violation of social justice and avoidable and therefore, reflect unfair socioeconomic inequality in health. Roemer (1995) has argued that unhealthy choices made by individuals in a particular social stratum have to be regarded as a product of that class structure as long as the individual's risk taking is not greater than the average risk taking of the people in that stratum. A corollary of this thesis is that behaviours of working-class people cannot be judged freely most of the time.

According to the "life course" perspective, past social positions influence individuals' health status; advantages and disadvantages tend to cluster cross-sectionally and to accumulate longitudinally (Blane 1999). On the one hand, advantages and disadvantages in one sphere of life are likely to be associated with similar advantages or disadvantages in other spheres of life. On the other hand, advantages and disadvantages in one phase of life are likely to have been preceded by similar advantages or disadvantages in other phases of life. Therefore, "the underlying dynamic of this social process is the continuity of social circumstances from parental social classes to social conditions during childhood and adolescence and, eventually, to adult socioeconomic position" (Blane 1999). Individual social experiences are undeletable, they are written into the physiology and pathology of our body: a child raised in an affluent home is

likely to succeed educationally, which will favour the entrance to more privileged sectors of the labour market, and increase the probability that she can live in a good-quality house and earn an income that permits a healthy lifestyle. On the contrary, a child from a disadvantaged home is likely to achieve few educational qualifications, to enter the unskilled labour market, to have a risk-full and low paid job, and less probability of having a healthy lifestyle. Therefore, family socioeconomic status is strongly related to the child's educational opportunities, which in turn are associated with subsequent occupation and income. Parental interest in the child's education is also likely to affect educational attainment, and educational attainments together with occupation are likely to be related to health habits, such as smoking, exercise, and dietary choices.

Social hierarchy may also induce worries about possible incompetence and inadequacy, feelings of insecurity, and fears of inferiority. These feelings are among the most powerful and recurrent sources of chronic stress and increase people's vulnerability to a wide range of infections and cardiovascular diseases. The pathway is mainly from income distribution, through the quality of social relations, to health (Kawachi 1997).

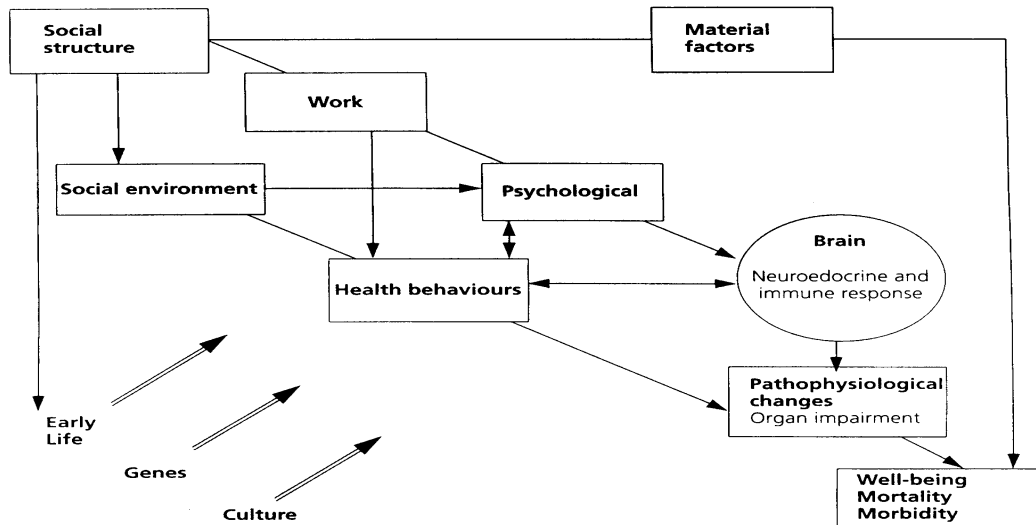
Many diseases, each with different established risk factors, show similar social patterns: termed the "hypothesis of generalized susceptibility" (Berkman and Syme 1976). Each social position has a different exposure probability, encountering specific patterns of health risks. Exposures may vary for duration, amount and type (Diderichsen 2001). For example, people in lower socioeconomic groups have a higher probability of being exposed to hazards during work and at home (e.g. greater risk of toxic exposure) and they might also be more vulnerable and susceptible to diseases than the better-off (Mackenbach 2002). Therefore, even if a risk factor is distributed equally across social groups, its impact on health may be unequally distributed, given the differences among social groups in their vulnerability or susceptibility to that factor.

The WHO has recently established a commission on Social Determinants of Health with the intention of addressing important areas such as: gradient of health inequality, life-course perspective, relation to health systems, and rapidly growing health problems in developing countries. The contribution of Wilkinson and Marmot (2005) has the objective of addressing ten themes: the social gradient, stress, early life, social exclusion, work, unemployment, social support, addiction, food, and transport to understand the causes of health inequalities.

The health care system may also play a role in explaining health inequalities. Although most research in the area of health equity has focussed on the social determinants of health, it is important to understand the contribution of health care to both improving health, and possibly reducing inequalities. Most importantly, access to health care may not be equitable across social groups, thus exacerbating existing health inequalities. Individuals in most need of health care may be less able to benefit from the services available to them, whether due to financial barriers, such as payments required, or socio-cultural barriers, such as having less 'voice' or

ability to navigate the system. Offering universal access to health care services does not eliminate inequalities, as shown by most industrialized countries that have removed financial barriers to access. However the extent to which improvements in health care, with medical advancements, continue to benefit more privileged social classes due in inequalities in access, then the health system could play an important role in fighting health inequalities.

SOCIAL DETERMINANTS OF HEALTH



Source: Marmot and Wilkinson, 1999

Methodology and structure of the report

The report is divided into two main sections. Part One reports trends in health and living conditions across the EU and accession and candidate countries (ACC). It highlights the diversity in health status across Europe, attempting to identify both current differences between countries, historical trends and possible future directions. It begins with an overview of mortality indicators, comparing different regions in Europe. Next, it reports on disease patterns and risk factors, beginning with an examination of trends in chronic conditions such as cardiovascular diseases, cancer and diabetes, then turning to communicable diseases such as respiratory infections and HIV/AIDS. After presenting trends for the main causes of mortality and morbidity in Europe, the major underlying factors for observed patterns are discussed, focusing mainly on risk factors/lifestyle such eating behaviours, alcohol and smoking. Next, socioeconomic inequalities are reviewed briefly, although a full exploration of these issues is beyond the scope of this report. Where possible trends as well as cross sectional data is used.

Much of the statistical information is drawn from the World Health Organization's *Health for All* database. However, supplementary sources were used to report data on several topics, in particular health inequalities, diabetes, mental health, sexually transmitted infections, road traffic accidents and health behaviour among children. Comprehensive literature reviews were also performed to identify supporting studies. Where there are technical problems with the data, for example in comparing obesity, STI or road traffic accident data across countries, this is highlighted, although addressing these problems is beyond the scope of the report.

Part Two of the report is concerned with the policies pursued by governments to address the health issues described in Part One. The following themes are reviewed from the policy perspective: tobacco control and obesity, the underlying risk factors for chronic diseases; screening for TB and HIV, two communicable diseases that are resurging in some parts of Europe; mental health problems; and finally, socioeconomic inequalities. The aim of Part Two is to present new information on national policies in the EU, and to draw contrasts and comparisons between these in order to highlight possible areas of policy that are particularly successful, unsuccessful or underdeveloped. Policies at the EU level are also considered.

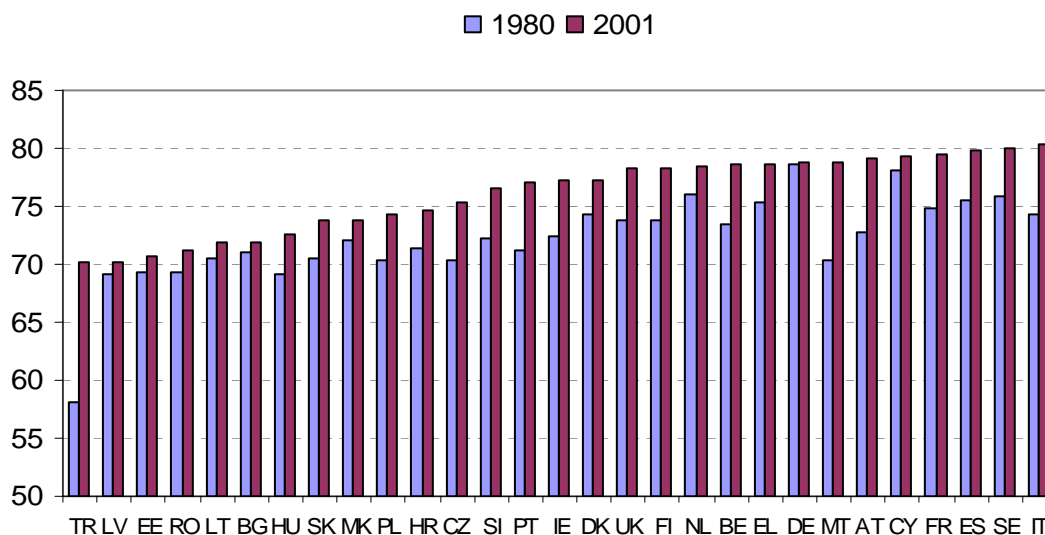
Public health experts from 14 EU countries (Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Poland, Slovakia, Slovenia and Spain) and Turkey, Romania and Bulgaria were consulted in order to obtain topical and current information. Information on the UK, Ireland, Sweden and the Netherlands was obtained directly by the authors. This has been supplemented with a comprehensive literature review of published reports, academic papers and grey literature. Key points for Part One of the report and for each Part Two section are provided to draw attention to and summarize some of the most important points.

PART ONE: HEALTH STATUS IN THE EU

Organization of the data

In May 2004 ten countries joined the EU, bringing the number of member states to 25. Among these new members states are two Mediterranean countries: Malta and Cyprus, and eight countries of central and eastern Europe (CEE): Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Five additional countries in South Eastern Europe are expected to join in the near future: Bulgaria and Romania (acceding countries) and Turkey, TFYR Macedonia and Croatia (candidate counties). There are broad differences in health status between the EU-15, the new Member States and the south eastern European countries, with countries in each of these groupings tending to have similar health indicators (Figures 1.1 and 1.2). Nevertheless, on closer inspection, differences within these groups complicate the picture. For example, in terms of life expectancy and infant mortality, Cyprus and Malta are more similar to the EU-15 than the EU-10, while Croatia is more similar to the eight CEE Member States than the acceding and candidate countries (ACC). In some cases, some countries in CEE perform better than EU-15 countries. The Baltic Member States, on the other hand, are more similar to several of the ACC than the rest of the EU-10.

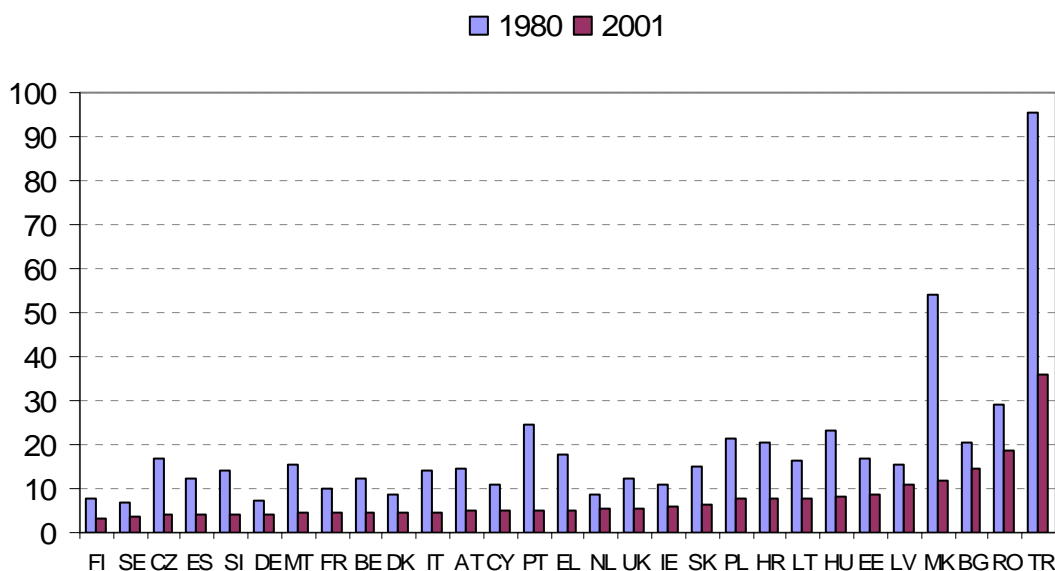
FIGURE 1.1 LIFE EXPECTANCY, 1980* AND 2001



Source: WHO Health for All 2006, and Health systems in transition, Belgium, 2006

* Estonia, 1981, Germany, 1990, Croatia and Slovenia, 1985, TFYR Macedonia, 1991

FIGURE 1.2 INFANT DEATHS PER 1000 LIVE BIRTHS, 1980* AND 2001



*Source: WHO Health for All 2006 and Health systems in transition, Belgium, 2006
Cyprus, 1990, Estonia, 1981, Germany, 1990, Lithuania, 1981, Slovakia, 1986, Slovenia, 1984*

In light of these differences and similarities, at the risk of oversimplification, four broad categories are discerned in terms of levels of health and accompanying risk factors in this report. The four categories comprise: (1) the EU-15 plus Cyprus and Malta (2) the central European EU member states plus Croatia (3) Baltic states and (4) the four remaining south east European ACC. In other words, in order to facilitate analysis of health trends in Europe, this report does not organise countries according to their EU status (EU-15, EU-25 and ACC). Rather, countries are grouped primarily according to their mortality and morbidity profile.

After presenting health trends among these countries, this section will proceed to comment on the major underlying factors for observed patterns, focusing mainly on risk factors/lifestyle such eating behaviours and smoking, differences in disease and mortality rates between eastern and western Europe, and social and economic determinants.

Key Points:

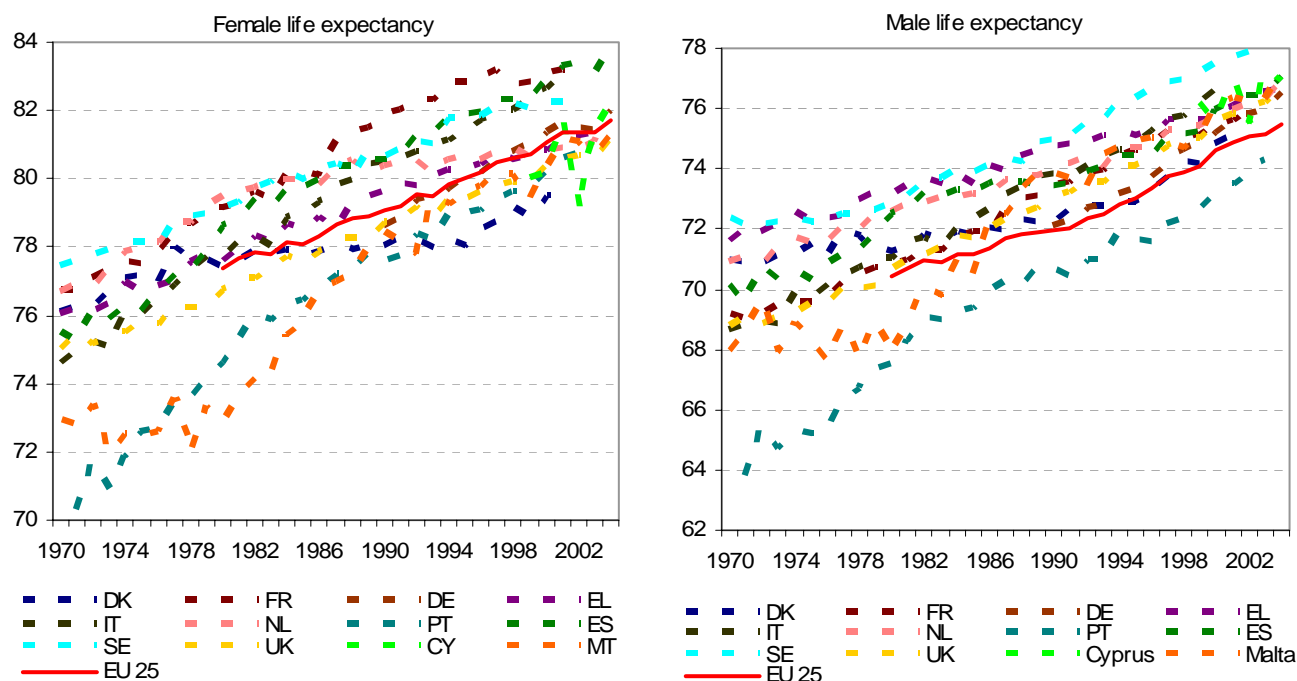
- Health status has improved in all EU-15 Member States since the 1970s
- The new Member States experienced significantly increasing mortality since the 1970s; the political and economic transition in the former communist countries significantly worsened the health of these nations
- Poland, the Czech Republic, Slovenia and Slovakia have noticeably improved health status following the transition and in some cases approach or surpass the EU average in health attainment
- The Baltic states retained a health disadvantage for longer than the CEE countries following the transition but now show some signs of improvement, particularly in the case of Estonia
- In Malta and Cyprus, health indicators are comparable to the EU-15
- In the ACC, life expectancy at birth has increased since 1970, and more rapidly since the 1980s. Turkey, Bulgaria, Romania and TFYR Macedonia, however, lag behind both the new Member States and EU-15 averages in many mortality and morbidity indicators
- Croatia, on the other hand, has more favourable indicators and is comparable to the countries of CEE
- The health gap between EU-15 and new Member States can largely be explained by disease patterns (namely CVD, injuries and violence, cancer, and alcohol-related diseases) and their underlying risk factors: smoking, diet and alcohol consumption
- “Nutritional/physiological” behaviours mainly contribute to absolute differences in cardiovascular diseases; tobacco to differences in vascular diseases and lung cancer as well; and alcohol is the leading risk factor for injuries.
- Communicable diseases continue to affect health status of some EU countries, particularly the Baltic states and are resurging in some parts of western Europe and CEE
- Like the EU-15, the new Member States and accession and candidate countries are beginning to face emerging health threats: inequalities in health and ageing population

I. Mortality indicators

1.1 Health status in the EU-15, Malta and Cyprus

The EU-15 countries, Malta and Cyprus have experienced a steady increase in life expectancy over the last 25 years and most of them have high life expectancies when compared to CEE countries (Figure 1.3). The most dramatic increases have been in Portugal and Malta where life expectancy rose by around ten years in this period. Italian and Spanish women and Italian and British men also experienced significant increases in life expectancy, of eight to nine years. Despite the convergence in life expectancy over time, there is still variation in this group: the difference between the countries with the longest longevity (Italy and Sweden) and those with the lowest (Ireland and Portugal) is about three years. These longevity gains are largely due to a significant fall in mortality rates at advanced ages, although a high degree of heterogeneity can be observed across countries (Figure 1.5).

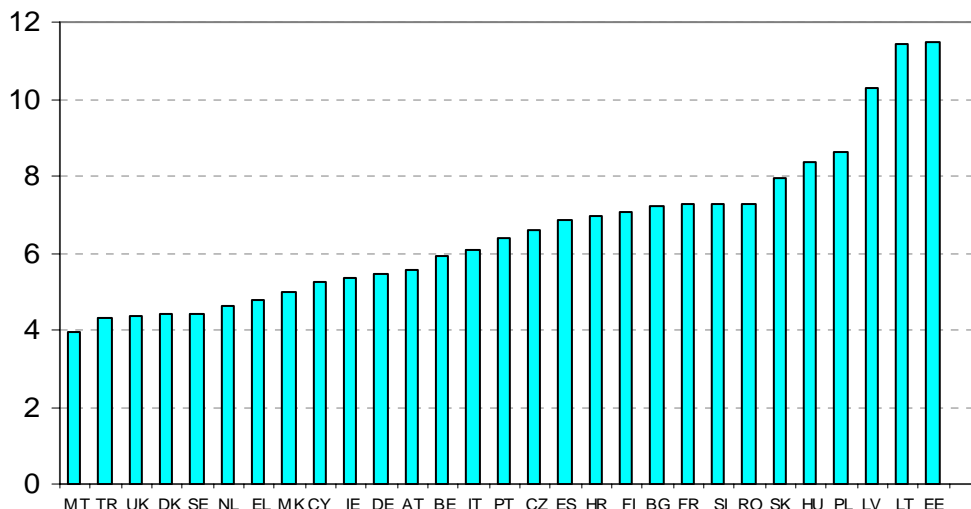
FIGURE 1.3 LIFE EXPECTANCY IN THE EU-15, MALTA AND CYPRUS



Source: WHO Health for All 2006.

In all these countries, as in all of Europe, women are expected to live longer than men. The gap is as large as seven years in some countries, such as France, Finland and Spain (Fig 1.4). However, there has been a narrowing gender gap in life expectancy among western European countries over the past decade. Rising levels of smoking-related mortality among women (discussed later in the report) contributed significantly to this pattern (Nolte et al. 2005).

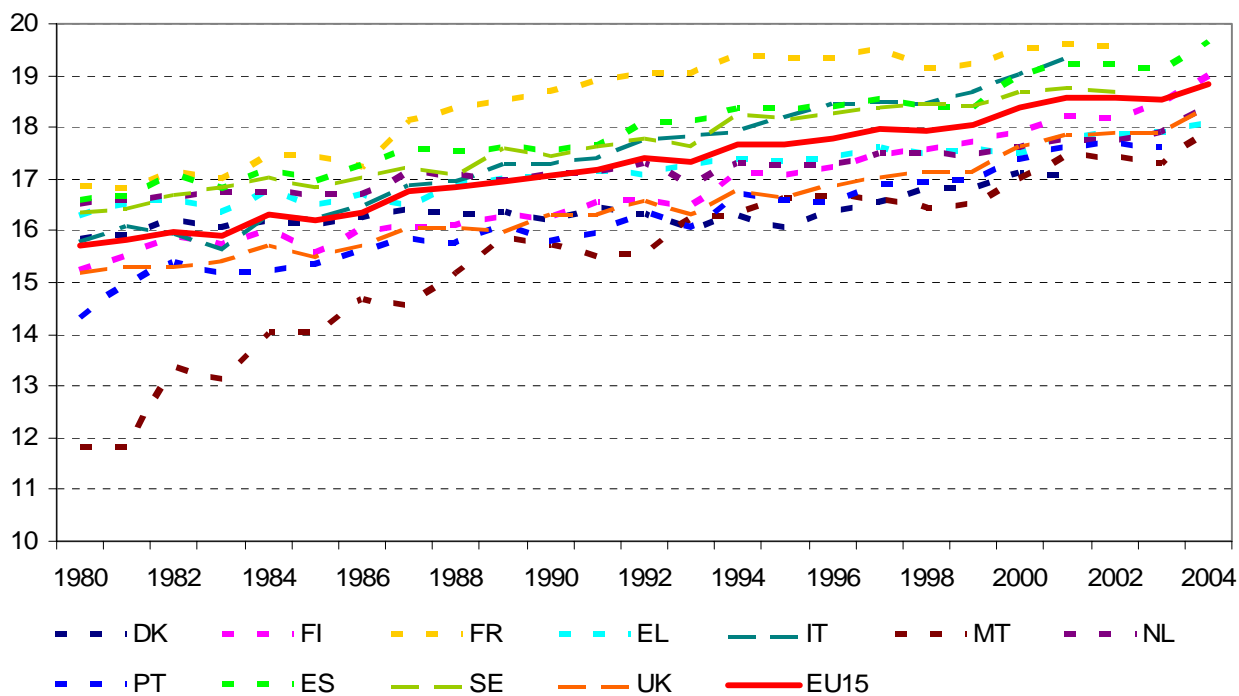
FIGURE 1.4 FEMALE-MALE DIFFERENCES IN LIFE EXPECTANCY AT BIRTH, LATEST YEAR AVAILABLE



Source: WHO Health for All 2006 and Health systems in transition, Belgium, 2006

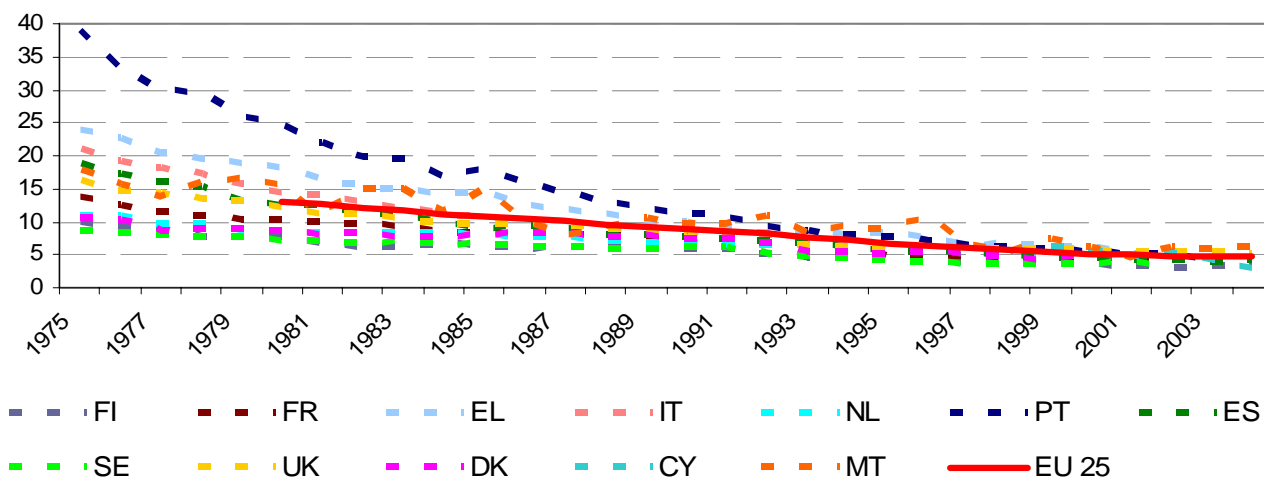
Infant mortality has decreased across the EU-15, Malta and Cyprus in the last 25–30 years because of improvements in living conditions and health care (Figure 1.6). In 1975, infant mortality was as high as 39 deaths per 1000 live births in Portugal and over 20 in Greece, Italy and Austria; while at present, infant mortality ranges between 3 deaths per 1000 live births in Finland and Sweden and 5 in the United Kingdom, Malta, the Netherlands and Portugal. Portugal has seen its infant mortality rate reduced by over 90% since 1970, as it went from the country with the highest rate in Europe to one among the lowest.

FIGURE 1.5 LIFE EXPECTANCY AT AGE 65, IN YEARS



Source: WHO health for All 2006

FIGURE 1.6 INFANT DEATHS PER 1000 LIVE BIRTHS IN THE EU-15



Source: WHO Health for All 2006

1.2 Health Status in the central and eastern European Member States and Croatia

As explained above, Croatia is grouped with the CEE EU countries in this report because its mortality and morbidity profile is more similar to these countries than it is to the other ACC.

The former Eastern Bloc countries that are now members of the EU experienced stagnating male mortality and only very minor improvements in female mortality in the 1970s and particularly the 1980s. During this time there was considerable variation among the CEE, with standardized death rates among Hungarian men being about two times higher than among men in Slovenia or Czech Republic (Nolte et al. 2005). Overall, death rates among middle-aged men were about 2.5 times higher in CEE than in Western Europe (McKee et al. 2004). Data from the 1970s and the 1980s may be unreliable for some CEE countries and are not available for Croatia and Slovenia, formerly part of Yugoslavia. Croatian data from the early 1990s also need to be treated with caution due to the population movements during the war. By the mid 1980s the population in Slovenia and Croatia had significantly lower life expectancy than countries in Western Europe, though a higher life expectancy than many of their CEE counterparts.

Most countries in the former Eastern Bloc experienced a mortality crisis in the early 1990s after the fall of communism (Nolte et al. 2004). In some countries, this worsening of mortality was short-lived and followed by improvements in health, which was rapid in Poland and the Czech Republic, and delayed in Hungary (Bobak et al. 1997) (see Figure 1.7). Slovenia appears to fall somewhere in between the EU and the other central and eastern European countries.

Today, all five central European member states and Croatia continue to have life expectancies below the EU average, particularly Hungary, where the difference is 6 years. However, in comparison to the Baltic states and other members of the Commonwealth of Independent States (CIS), the countries of central and eastern Europe have made remarkable progress. Adult male mortality has been improving in most of the countries of CEE from the early 1990s. For instance, while both Poland and Russia experienced increases in adult mortality among young adults throughout the 1980s and early 1990s, this rise was only temporary in Poland. In Poland, death rates have fallen to about 30% lower than they were in 1991. In contrast, among young adults in Russia, mortality remains 60% higher than in 1991 in both men and women, and among older adults (aged 35–64) mortality rates increased by 85% in men and 66% in women from 1991 to 1994, while rates have now reduced only slightly and are still 40–50% higher than they were in 1991 (Nolte et al. 2005).

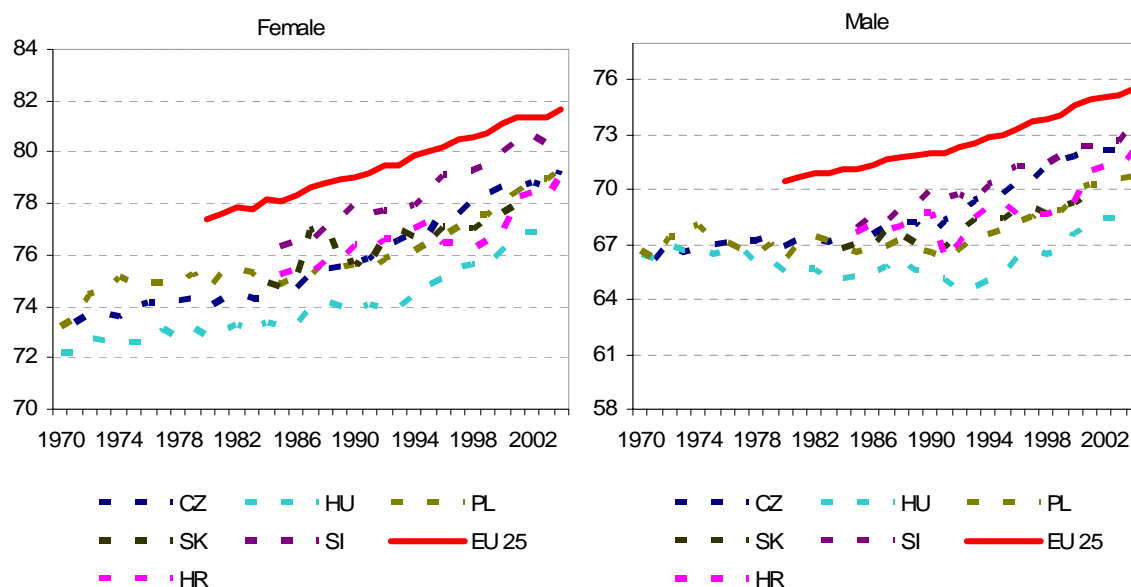
Figure 1.8 shows the life expectancy at age 65 among these countries, demonstrating a significant increase in longevity. The increasing proportion of older people in the population is largely resulting from declining mortality rates among this age group. Central and eastern

European countries have also seen marked falls in birth rates, contributing to the rapid ageing of their population.

In general, the sex difference in life expectancy of CEE countries is high in comparison to western Europe, although Czech Republic and Croatia have smaller sex differences than France. The sex difference in Hungary was as high as 9.5 years in the mid-1990s, the recent decline probably being attributable to female mortality from smoking (lung cancer) which has been steadily increasing for the last 20 years, while male mortality from the same cause has decreased or attenuated in the last ten years.

Reported presence of long-standing illness is also quite high in the countries of CEE compared to the western countries, but it reveals a different gender effect than mortality data. For, in all of the countries of CEE but the Czech Republic, women report greater prevalence of long-standing illness, reaching over 30% of the population in Hungary, Poland, Slovakia, Slovenia and the Baltic countries (McKee et al. 2004). Thus it appears that when considering morbidity measures, surviving women fare worse than men.

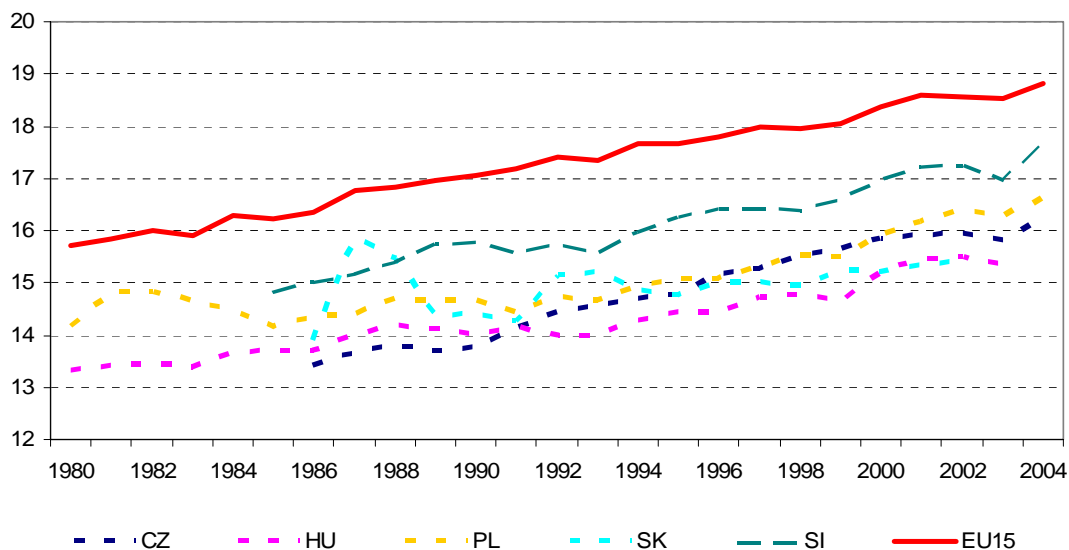
FIGURE 1.7 LIFE EXPECTANCY AT BIRTH IN SELECTED CENTRAL AND EASTERN EUROPEAN COUNTRIES AND THE EU-25



Source: WHO Health for All 2006

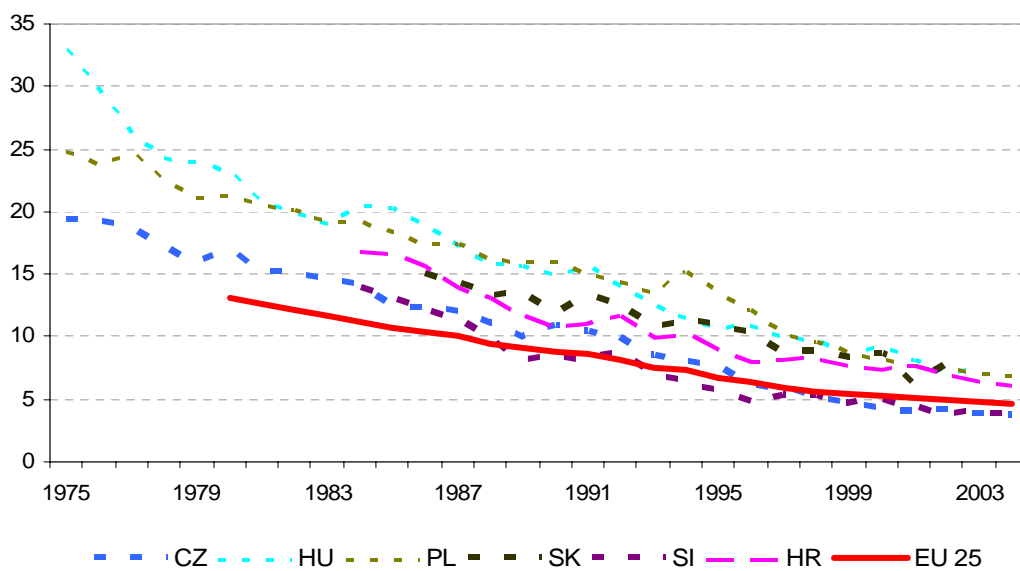
While generally higher than the EU average, infant and child mortality rates in central and eastern Europe have been falling since the 1980s, and accelerated in the 1990s (Figure 1.9). The Czech Republic and Slovenia are in fact now among the countries with the lowest infant deaths per 1000 live births in Europe. This has been attributed to improvements in quality of health care (McKee et al 2004). The Czech Republic and Slovenia also have lower under-5 mortality rates than the EU average.

FIGURE 1.8 LIFE EXPECTANCY AT AGE 65, IN YEARS



Source: WHO Health for All 2006

FIGURE 1.9 INFANT DEATHS PER 1000 LIVE BIRTHS IN SELECTED CENTRAL AND EASTERN AND SOUTH EASTERN EUROPEAN COUNTRIES AND THE EU-25



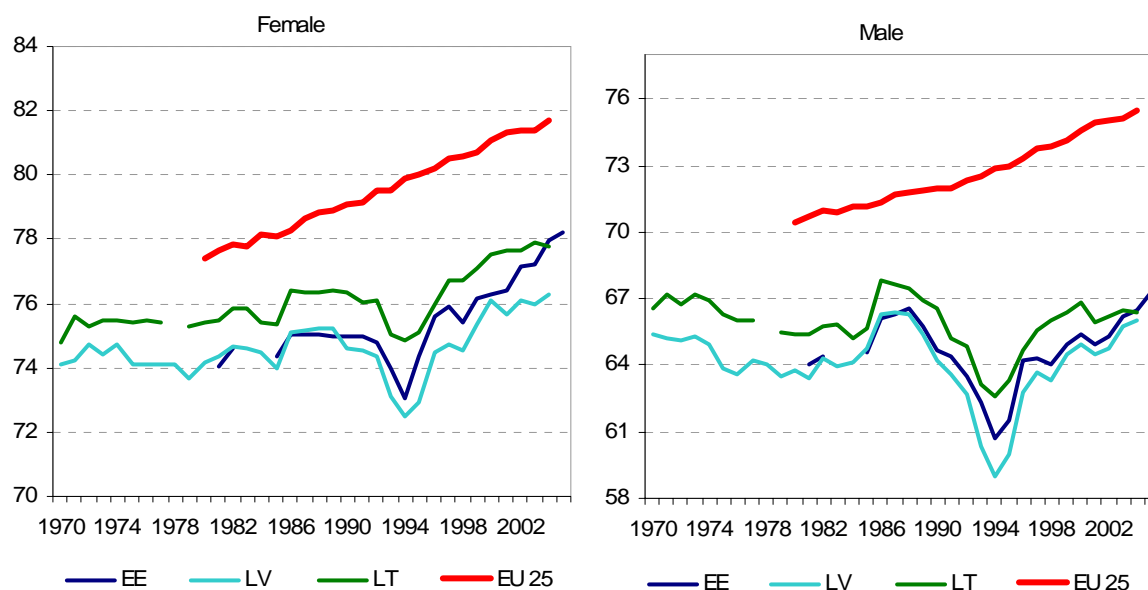
Source: WHO Health for All 2006

1.3 Health Status in the Baltic Member States

Of the new Member States, the Baltic countries (Estonia, Latvia, and Lithuania, all part of the Soviet Union until 1991) face the greatest health challenges. The political and economic transition in the former communist countries was associated with a significant worsening of population health among these nations.

Since the mid- 1980s, the three Baltic countries experienced a fluctuating life expectancy that mirrored that of other ex-Soviet countries. For example, Russia and Ukraine saw an actual decline in the Human Development Index in the 1990s, reflecting an inability to reduce income and human poverty (Bobak et al. 1997). From 1994 the Baltic countries showed signs of improvement though, so that by 2000 mortality among adults had generally fallen back to the 1991 level, (see Figure 1.10) or in some cases, such as, among women aged 55–84, even below those rates (Nolte et al 2005). The other ex-Soviet states such as Russia, on the other hand, have once again deteriorated (McKee et al. 2004).

FIGURE 1.10 LIFE EXPECTANCY AT BIRTH (IN YEARS) IN THE BALTIC STATES AND THE EU-25

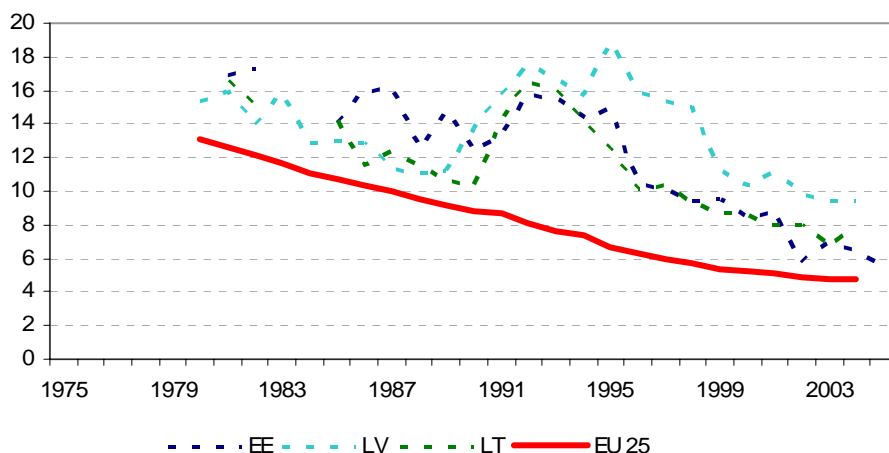


Source: WHO Health for All 2006

Recent health trends among these countries can be better understood by disaggregating mortality figures. When comparing male and female mortality rates, it is apparent that men have been especially vulnerable to the political and economic instability, as they have experienced a significant deterioration in health, probably associated with excessive alcohol consumption (McKee et al. 2004, Nolte et al 2005). Reflecting this, the Baltic countries have the highest sex differences in life expectancy in the EU (Figure 1.4).

Age-specific mortality rates provide further insight into the source of the health gap between the Baltic countries of the EU and Western Europe. While childhood survival has been improving in the Baltic countries as in the central and eastern European countries, the former experienced significant, short term increases in child mortality in the early 1990s, contributing to the drop in life expectancy at this time. There have been improvements since the mid-nineties though; infant mortality in the Baltic states halved, with the greatest reductions taking place between 1995 and 2000 (Figure 1.11). There has also been a significant drop in under 5 mortality in the last ten years, again with the greatest improvements occurring in the late 1990s. While the decline in childhood mortality in Latvia and Lithuania has attenuated in recent years, in Estonia it has continued falling. For example, in Latvia under 5 mortality only fell from 12.36 per 1000 in 2000 to 11.33 in 2004, while in Estonia it fell from around 8.5 per 1000 in 2000 to 5.5 per 1000 in 2005 and is now lower than in Hungary and Poland.

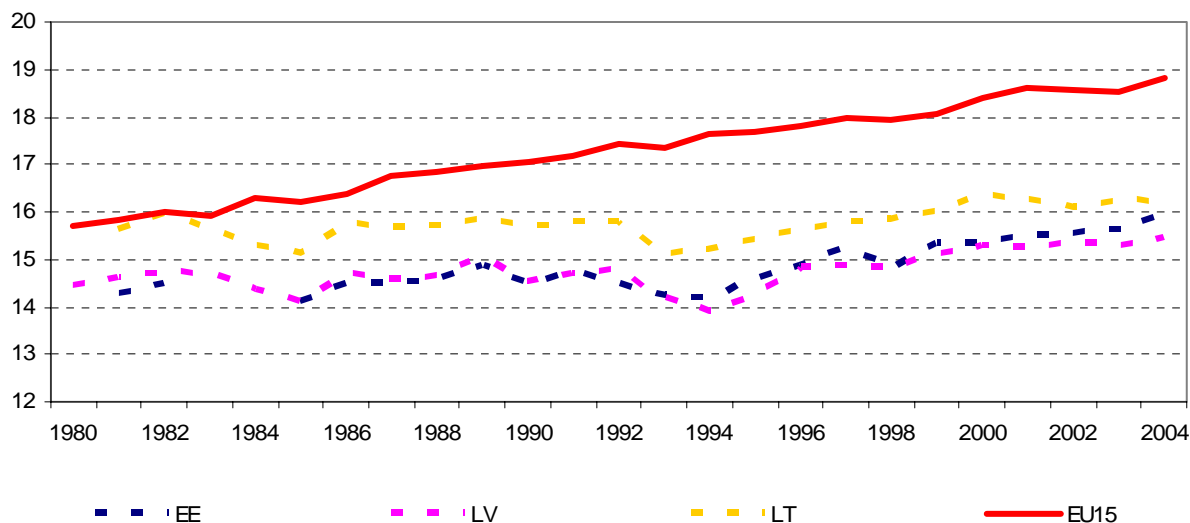
FIGURE 1.11 INFANT DEATHS PER 1000 LIVE BIRTHS IN THE BALTIC MEMBER STATES AND THE EU-25



Source: WHO Health for All 2006

In the Baltic countries, as in central and eastern Europe, there was a decline in old age mortality, in the late 1990s (Figure 1.12), a few years later than in countries such as Poland and Czech Republic. However, old age mortality still remains significantly higher than in the Western countries (Nolte et al. 2005).

FIGURE 1.12 LIFE EXPECTANCY AT AGE 65, IN YEARS



Source: WHO Health for All 2006

1.4 Health status in south eastern Europe: Bulgaria, Romania, Turkey and TFYR Macedonia

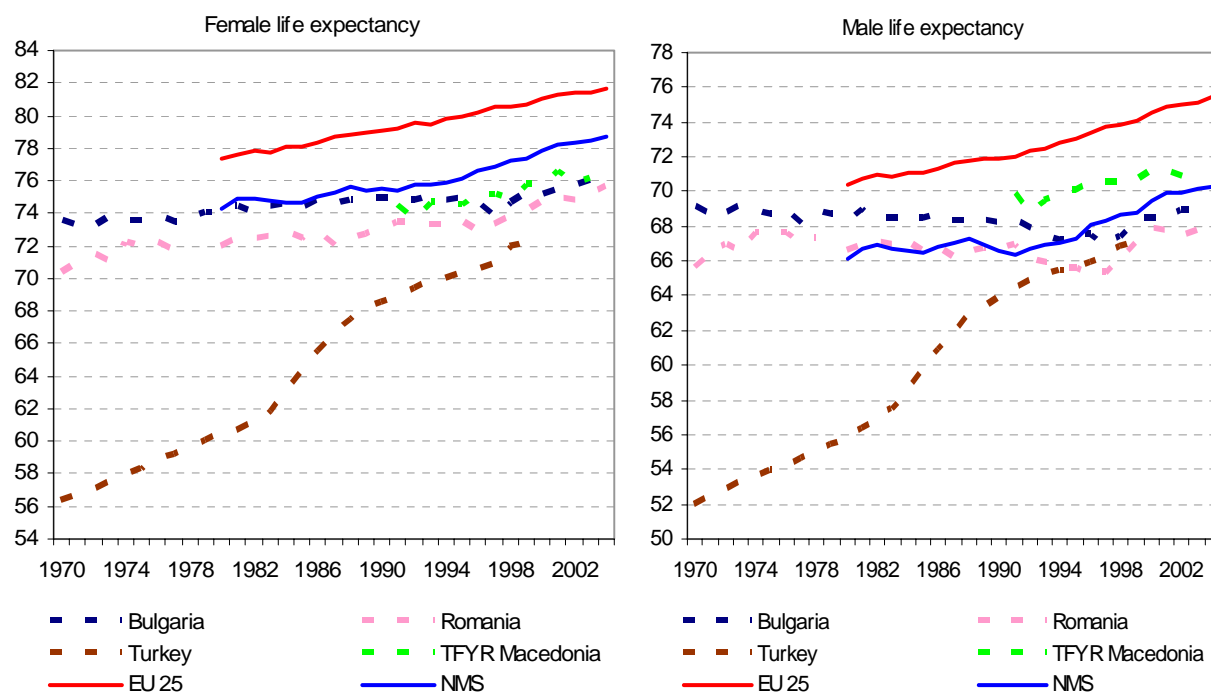
Life expectancy at birth in Turkey, Bulgaria and Romania has been increasing since 1970, and more rapidly since the 1980s although as most countries of the former Soviet Union, Bulgaria and Romania experienced a mortality crisis in the early 1990s. After the fall of communism, men in these two countries experienced a steady deterioration in mortality and women had no improvements (Nolte et al. 2005). Indeed, the trend in life expectancy in these two countries is similar to that in central and eastern Europe.

For TFYR Macedonia reliable mortality data are only available from 1990 onwards. Life expectancy has improved since that time, by around two years for women and one year for men. In TFYR Macedonia life expectancy is longer than in Turkey, Bulgaria and Romania. Indeed, for the last fifteen years Macedonian male life expectancy has been higher than the average for the new member states. The sex difference in life expectancy, at five years, is two years lower in TFYR Macedonia than in Bulgaria and Romania. In fact it is amongst the lowest in Europe (Figure 1.4). In this TFYR Macedonia is similar to Turkey, where the difference is lower than in most of the EU.

Mortality rates in Turkey have been very different to the three other countries in this region though. In 1980, the average life expectancy for Turkish women was relatively low; 60 years for women and 56 years for men against the averages of 77 and 70 years in the 25 states that now constitute the EU. This health disadvantage has been attributed to high levels of cardiovascular

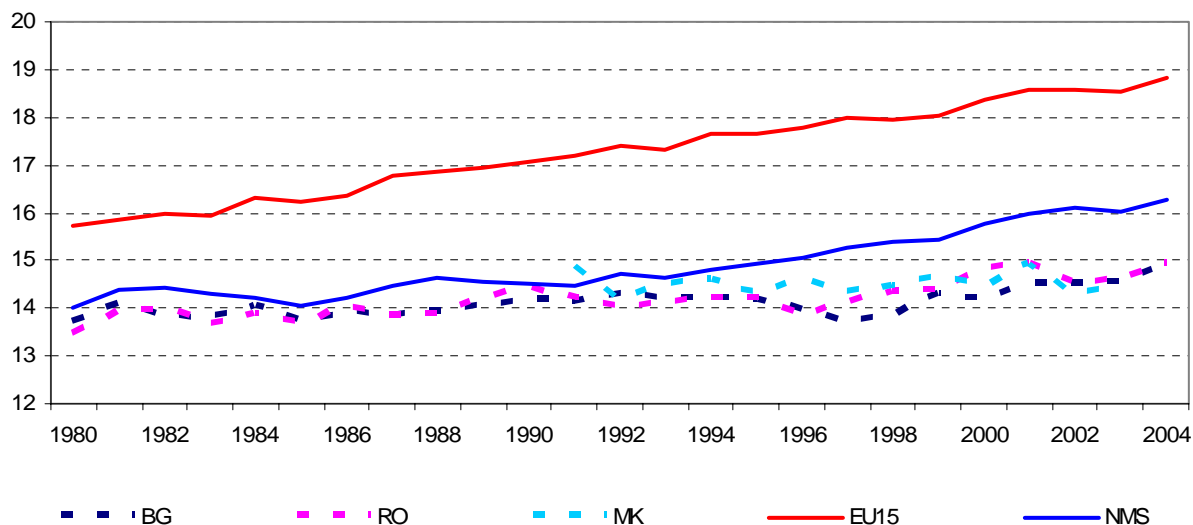
disease (Onat 2001; Razum et al. 2000), and high rates of infant and child mortality (Demographic and Health Survey 1998). In the 1970s and 1980s Turkey experienced a sharp increase in life expectancy; by 2002 the gap with the EU25 average was 6 years for women and 8 years for men (see Figure 1.5). The early 1990s were witness to increasing rates of smoking-related cancers; however, since then, Turkey has implemented effective, wide-ranging tobacco-control policies, withstanding efforts by the transnational tobacco industry to subvert this progress (Firat, 1996). Overall, Turkey appears to be facing a dual health burden of elevated levels of communicable disease (accounting for high levels of infant and child mortality) and continually rising levels of non-communicable diseases in adulthood.

FIGURE 1.13 LIFE EXPECTANCY IN THE EU-25, NEW MEMBER STATES, TURKEY, TFYR MACEDONIA, ROMANIA & BULGARIA



Source: WHO Health for All 2006

FIGURE 1.14 LIFE EXPECTANCY AT AGE 65, IN YEARS*

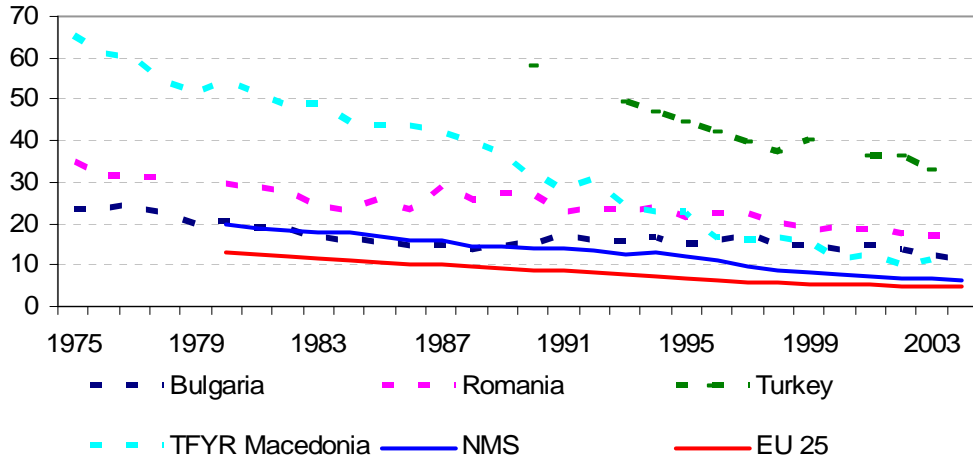


*Source: WHO Health for All 2006 *(data not available for Turkey)*

Although infant mortality has decreased in the last 30 years in all four countries, they still lag behind both the new Member States, including the Baltic states, and the EU average (Figure 1.15). The number of infant death per 1000 live births is around 2 to 3 times higher in TFYR Macedonia, Bulgaria and Romania than the EU average (2.4) and for Turkey the gap is far larger (6 times higher). In Turkey perinatal conditions were the second commonest cause of death (4.5% of the total) in 2002 (WHO Regional Office for Europe 2005). A study found that the most important causes of death were antepartum stillbirths, prematurity and lethal congenital malformations. Reduction in the perinatal mortality rate in Turkey is likely to be possible only with the improvement of prenatal, delivery and postnatal care and prevention of prematurity (Erdem 2003).

Old age mortality has not improved in TFYR Macedonia and has improved only marginally in the two accession countries and, ten years ago, began lagging behind the new member states (Figure 1.14).

FIGURE 1.15 INFANT DEATHS PER 1000 LIVE BIRTHS IN THE EU-25, NEW MEMBER STATES, TURKEY, TFYR MACEDONIA, ROMANIA AND BULGARIA



Source: WHO Health for All 2006

2. Explanations for variation in health status among European countries: disease patterns and their underlying risk factors

Why is there such variety in health status among European countries? In particular, why is there a health divide between western and eastern European countries? There are three potential areas that can be highlighted to offer some explanation:

1. patterns of chronic and communicable disease (Sections 2.2 and 2.3)
2. their underlying “lifestyle” risk factors such as smoking, alcohol consumption, physical inactivity and obesity (Section 2.5);
3. trends in avoidable mortality (Section 2.6)
4. the roots of these risk factors, in particular socioeconomic inequalities (Section 2.7).

The next section reports on disease patterns and risk factors, beginning with an examination of trends in chronic conditions such as cardiovascular diseases, cancer and diabetes, then turning to communicable diseases such as TB and HIV/AIDS, and finally risk factors. Next, socioeconomic inequalities are discussed briefly, although a full exploration of these issues is beyond the scope of this report. Psychosocial factors such as stress caused by a lack of social networks and social support have also been highlighted as a possible determinants for several important causes of mortality (see introduction) (Berkman and Glass 2000, House et al 1988), but the evidence on this is complex and inconclusive and discussion of these issues is beyond the scope of this report.

It is also important to examine the extent to which public health policies and health care services explain variations in health status. Case studies on public health policies make up the Part Two of the report. The role of health services in mortality and morbidity trends is a weighty topic. It is discussed in relation to avoidable mortality in the previous year’s report (Health status and living conditions network 2005) and a summary is provided in Section 2.6.

2.1 Morbidity indicators

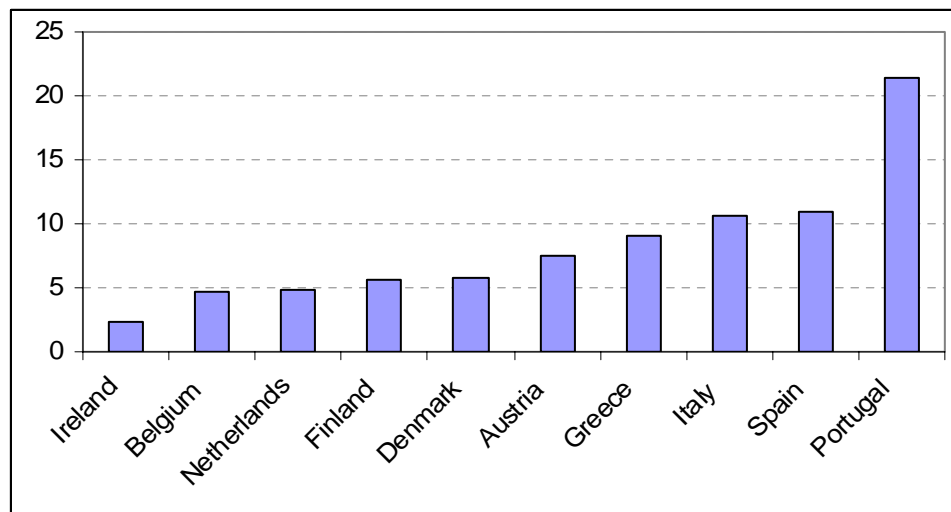
There are many ways of measuring morbidity. The European Community Household Panel measures self-reported ill-health, defined as:

- Either the percentage of people in either bad or very bad health
- Or limitation in daily activity due to health reasons.

On average southern countries report worse self-reported health conditions than northern countries (Figure 2.1). The percentage of people reporting either poor or very poor health is approximately 21% in Portugal, and more than 10% in Spain and Italy; but it is less than 5% in Netherlands, Belgium and Ireland. In interpreting these results is, however, important to take into considerations that these may be spurious differences since individuals with the same

health status may have different perception and expectations of their conditions and large cultural differences both within and across countries may impact the validity of both national and international comparison.

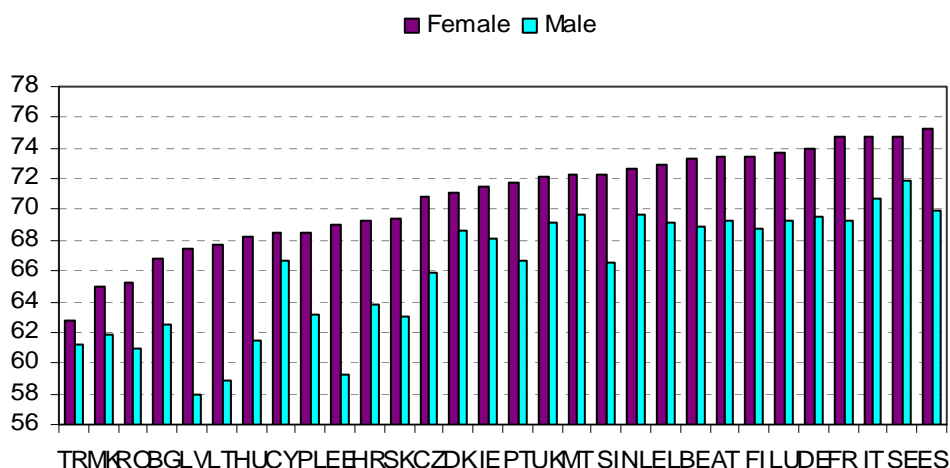
FIGURE 2.1 SELF-REPORTED ILL-HEALTH IN 10 EUROPEAN COUNTRIES, 2000



Source: European Community Household Panel Survey, 2000.

Measures of healthy life expectancy bring together mortality and morbidity experiences. Figure 2.2 outlines the healthy life expectancy estimates for men and women in the EU, and the ACC. These data suggest that not only populations of CEE, south eastern Europe and the Baltic states have a shorter life expectancy, but also shorter expected lifespan in good health than in the west. For the EU-15 average of years spent in good health is approximately 70.12 years, compared to 62.7 years among the countries of CEE, south east Europe and the Baltic states (WHO Regional Office for Europe 2006c).

FIGURE 2.2 ESTIMATES OF HEALTHY LIFE EXPECTANCY AT BIRTH IN EUROPE, 2002



Source: WHO Regional Office for Europe 2006c

It is important to point out that some of the reported variation in healthy life expectancy between countries are probably artefactual, due to problems with harmonization of methods of calculation as well as differences the concepts of disability or health used. Currently, the only harmonized data available are those issued from the European Community Household Panel, and these have been used to calculate disability-free life expectancy (DFLE) for 14 European countries (EHEMU 2005). However, as explained above, even these are unreliable and subject to different cultural perceptions of health. The European survey “Survey on Income and Living Conditions” (SILC) aims to provide harmonized data and therefore will, in the future, give the opportunity of calculating DFLE for the 25 European countries based on the same methods and similar data (EHEMU 2005). Methodological problems aside, the following sections present and interpret data that help explain “real” variations in health status.

2.2 Chronic diseases

The most important causes of the burden of disease in the WHO European Region are noncommunicable diseases (NCDs - 77% of the total). In 2002, NCDs caused 86% of the 9.6 million deaths and 77% of the 150.3 million DALYs in the Region (WHO Regional Office for Europe 2005). The main risk factors to NCDs are eating habits, physical activity, smoking and alcohol consumption. These causes are expressed through the following intermediary risk factors: raised blood pressure, raised glucose levels, abnormal blood lipids (particularly cholesterol), and overweight and obesity. These risk factors (in conjunction with age and heredity) in turn explain the majority of variation in rates of the main chronic diseases: heart disease, stroke, chronic respiratory diseases, diabetes and some cancers (WHO 2005a).

2.2.1 Heart disease and stroke (cardiovascular diseases)

Ischaemic disease was the leading cause of death in all the EU and ACC, except Greece, TFYR Macedonia and Portugal where it was stroke, another cardiovascular disease (WHO Regional Office for Europe 2005). Northern countries such as Finland and the UK have reported the highest rates; double the average of the 25 states that now constitute the EU in the mid-1980s. Southern European countries such as Italy and France have reported relatively low age standardized death rates from ischaemic heart disease for the last 20 years when compared to the rest of Europe. The North-South gradient in myocardial infarction and coronary death rates in western European regions was described by the WHO MONICA Project in the 1990s and has been attributed in part to the Mediterranean diet.

Standardized death rates for heart disease have fallen, in some cases steeply, in the last 20 years in western Europe, both in the north and south, for men and for women. For example, mortality from coronary heart disease in England and Wales fell by 54% between 1981 and 2000 (Unlal et al 2005). In the 1960s, international mortality statistics showed that Finnish men had the highest mortality rate from ischaemic heart disease in the world (Vartiainen et al 2000). The national rate in Finland now approaches the EU average. These favourable trends have been caused by falling rates in the population of high blood pressure, cholesterol and smoking, which countries achieved by implementing public health programmes (for example the North Karelia Project in Finland) and improving diagnosis, prevention and treatment of risk factors at the health service level.

Cardiovascular disease (CVD) has been frequently highlighted as playing an important role in the rise and subsequent decline of adult mortality in the countries of CEE (Mesle' 2002; McKee & Shkolnikov 2001; Zatonski & Boyle 1996). Indeed, the main contributors to differences in health indicators between east and west Europe are vascular diseases and injuries for people below age 60 (Powles et al. 2005). While the standardized death rate for ischaemic heart disease has halved since the fall of communism in some CEE countries such as the Czech Republic and Poland due to improvements in nutrition and health services, particularly medication, narrowing the 'east-west gap', the rate in other countries such as Hungary and Slovakia remains more than double that of the EU average.

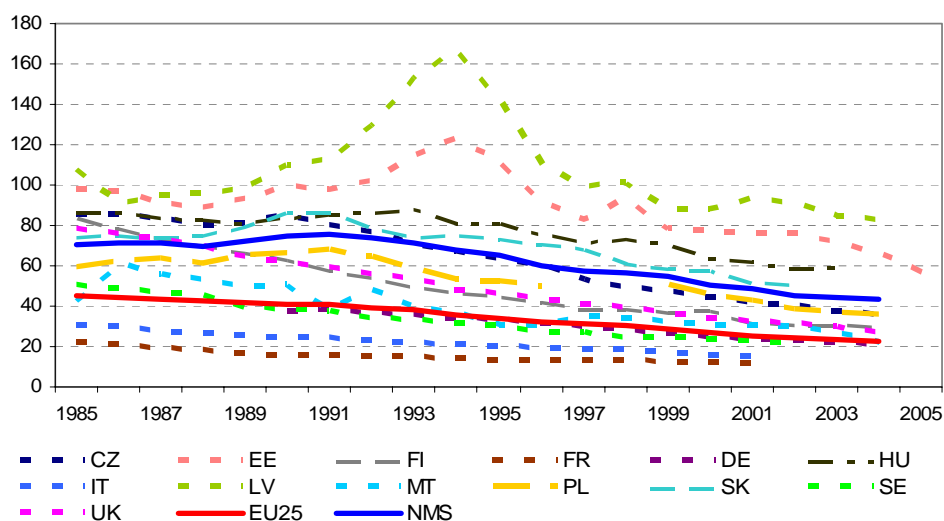
In the countries of the former Soviet Union, such as the Baltic states, the burden of CVD accounted for almost one third of the overall burden of disease, as measured by disability-adjusted life years (Nolte et al. 2005). As Figure 2.3 shows, deaths from ischaemic heart diseases among 0-64 year-olds are around two times higher in the new Member States (44.18 deaths per 100,000 people), and more than three times higher in Lithuania (73.78 deaths per 100,000 people) and Latvia (82.9 deaths per 100,000) than in the EU (22.85 deaths per 100,000 people). In the countries of the Former Soviet Union, in particular in Baltic countries, the risk of death for ischaemic heart diseases and diseases of the circulatory system increased

sharply for men and women at the beginning of the 1990s, immediately after the fall of the Communist system to start decreasing again in the middle late 1990s; but large differences are still present between the East and the west. Traditional risk factors such as smoking, diets rich in saturated fats and low in antioxidants, in addition to alcohol (specifically binge drinking) largely account for the elevated levels in CVD in the East compared to the West (Bobak et al. 1997; Britton & McKee 2000; Pomerleau et al. 2001). Of the Baltic countries, Estonia is the only country to have shown signs of improvement; whereas rates of heart disease deaths have fluctuated in Lithuania and Latvia since 2000, the rate of deaths from ischaemic heart diseases among 0–64 year-olds in Estonia has decreased from 77.46 in 2000 to 56.92 in 2005.

There is an enormous gender gap in age standardized death rates from heart disease. The EU average for men aged 0–64 is 38 per 100,000 while for women it is just under 9 per 100,000. On average, the gap is larger in CEE than in western European countries.

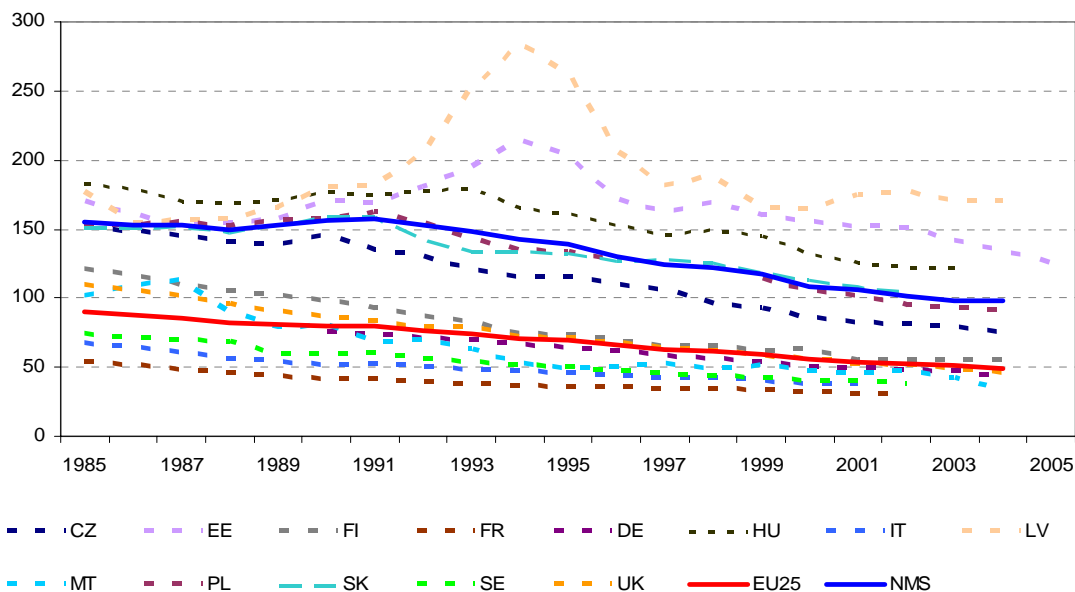
The ‘east-west gap’ in mortality rates is also evident when the standardized death rates for diseases of the circulatory system are observed (Figure 2.4). The mortality rate for diseases of the circulatory system is, indeed, twice as high in the new Member States than it is for the EU average, and more than three times higher in Latvia.

FIGURE 2.3 SDR, ISCHAEMIC HEART DISEASES , 0–64 PER 100,000



Source: WHO Health for All 2006.

FIGURE 2.4 SDR, DISEASES OF CIRCULATORY SYSTEM, 0-64 PER 100,000



Source: WHO Health for All 2006

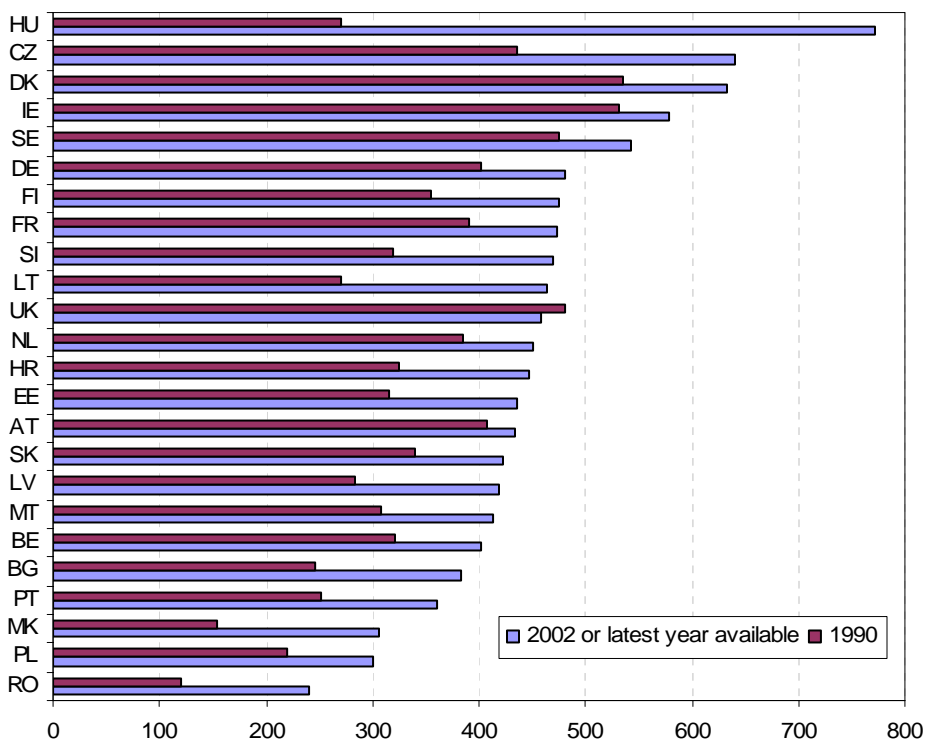
As demonstrated above, between the late 80s and the late 90s, in the central European countries favourable trends which were observed in western Europe as long ago as the early 1970s spread to the countries of central Europe. It is still difficult to assess the main determinants of such a reversal. The progress probably results from the combination of several factors, such as changes in diets, the growth of systematic prevention and screening, the spread of new forms of treatment, and cardiac surgery (Mesle 2004). At the same time, countries of the former USSR experienced very marked fluctuations in mortality, related to the social and economic traumas which these countries have undergone over the past fifteen years. Up to the mid-1990s, the trends were completely parallel in all the European republics of the former USSR. However, more recently, they have begun to diverge. While the Baltic countries show signs of improvement in mortality from heart disease, and mortality trends could soon begin to mirror those of central European countries, Russia and Ukraine are experiencing a fresh rise in mortality from infectious diseases, circulatory diseases and violence (Mesle 2004).

2.2.2 Cancer

There were over two million (2 060 400) incident cases of cancer in 2004 and over one million cancer deaths (1 161 300) recorded in the 25 Member States that now constitute the European Union (Boyle and Ferlay 2005). Between 1990 and 2000, cancer incidence rose across all 25 European countries for which data are available, by an average of 63 new cases per 100,000 inhabitants. The only country that reported falling incidence is the UK (where it reportedly fell by 20 per 100,000 in that decade) although this is probably an artifact caused by

underestimates of cancer incidence in the early 1990s (Boyle and Ferlay 2005). There are large variations in rates of cancer across Europe (Figure 2.5). In Hungary, cancer incidence is more than 700 per 100,000 inhabitants; in Czech Republic and Denmark it is over 600. The lowest rates of cancer are found in Cyprus, Romania and Poland, with less than 300 per 100,000 inhabitants.

FIGURE 2.5 CANCER INCIDENCE PER 100,000, 2002 OR LATEST YEAR AVAILABLE, 1990*



Source: WHO Health for All 2006. * Portugal 1991, Malta 1992, Ireland 1994

The commonest incident form of cancer in Europe in 2004 was colorectal (279,200 cases), followed by breast cancer (275,100 cases) and lung cancer (258,100 cases). However, in terms of cancer mortality, lung cancer was by far the most important, accounting for around 234,300 deaths. Prostate cancer was the commonest form of cancer in men in the EU (202,100 incident cases, 18.1% of total for men), while lung cancer was the most common form of cancer death (178,400, 27.3% of total for men). Women in the EU had an 8% lifetime risk of developing breast cancer, which was the most common incident form (275 100 cases, 29% of all incident cases). Breast cancer was also the leading cause of cancer mortality in women the European Union in 2004 (88 400 deaths, 17.4% of total) (Boyle and Ferlay 2005).

Between 1985 and 2000, the number of cancer deaths increased in both men (+12%) and women (+9%) in the EU. However, on a positive note, there was a 10% reduction in number of

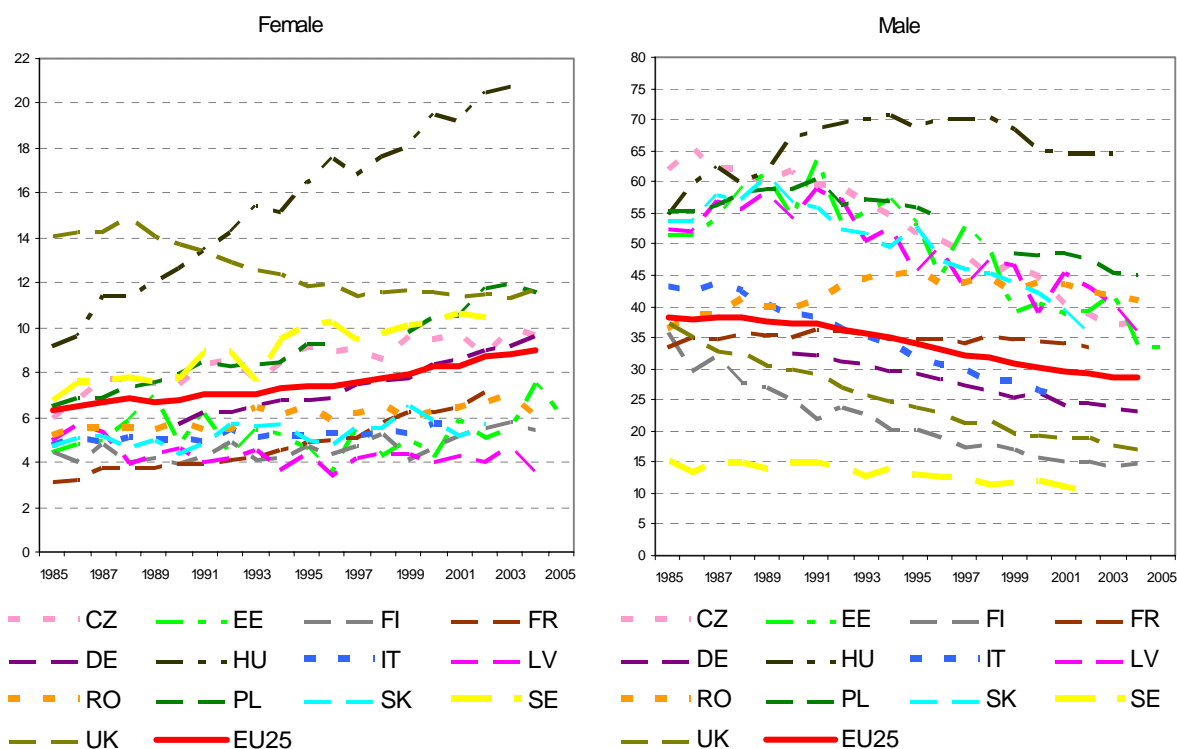
deaths *expected* in men and 8% in women, along with a 11% reduction in *risk* of cancer death in men and a 10% reduction in women. Hence although cancer deaths in the EU were expected to rise from 850 194 in 1985 to 1 033 083 in 2000, there were in fact an estimated 940 510 cancer deaths that year, due to the decline in risk observed since 1985 (Boyle et al 2003). Using population projections, if the age-specific death rates remain constant, the absolute numbers of cancer deaths in 2015 will increase to 1 405 000 (Boyle and Ferlay 2005).

Lung cancer was the commonest cause of death after CVD in more than half the EU and ACC in 2002, making it an important public health challenge for Europe. In Belgium, Croatia Czech Republic, France, Germany, Greece, Hungary, Italy Luxembourg, Netherlands, Poland, Slovenia and Spain lung cancer accounted for more than 5% of total mortality (WHO Regional office for Europe 2005).

As Figure 2.7 shows, Hungary has the highest rates of male lung cancer in Europe and in the world (Novotny et al. 1999), followed in western Europe by Belgium. The lowest rates for men are observed in Sweden and Portugal. For women, the highest rates are registered in Denmark, Hungary and the United Kingdom; while, the lowest incidence rates are found in Spain, Malta and Portugal. Age-standardized incidence rates of lung cancer are markedly higher in the east than in the west.

Age standardized male death rates for lung cancer have been steadily decreasing in most western European countries over the last 20 years, except in France, Spain and Portugal where they remained largely stable or even rose slightly during this period. New Member States except for Hungary have also experienced overall decreases in male lung cancer deaths over the last twenty years, albeit with temporary increases in the late 1980s / early 1990s. Of the ACC, TFYR Macedonia, Romania and Bulgaria reported markedly increasing lung cancer mortality rate for men aged 0–64 in the last two decades although these have begun to plateau in recent years. Data are unavailable for Turkey. Unfortunately, mortality for lung cancer among women is increasing almost everywhere, except the UK and to some extent Ireland and Denmark (Didkowska et al. 2005). The leading contributors of lung cancer are the number of cigarettes smoked per day, the degree of inhalation and the initial age of smoking (Tyczynski et al. 2002; Didkowska et al. 2005). The relative risk of developing lung cancer is 20–30 times higher for smokers than for non-smokers.

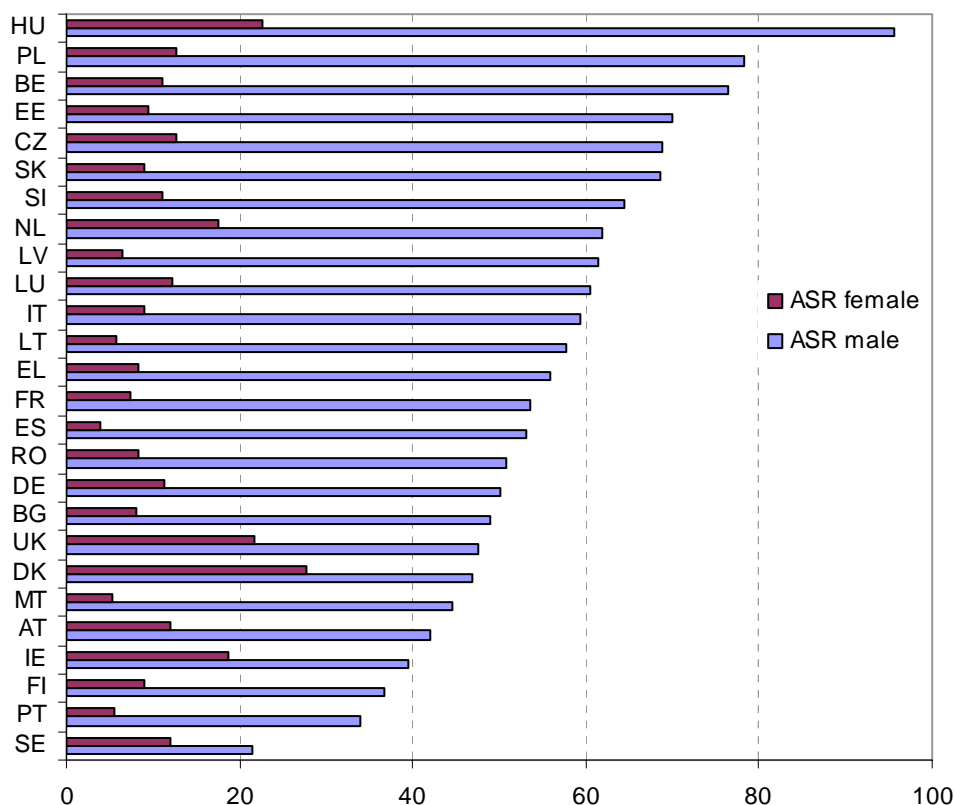
FIGURE 2.6 SDR, TRACHEA/BRONCHUS/LUNG CANCER, 0–64 PER 100000



Source: WHO Health for All 2006

There is a great deal of variation between the EU countries in breast cancer incidence (see Figure 2.8). In most countries incidence is rising, in some cases quite dramatically; for example Finland, Sweden, the UK and Poland have experienced 30% or greater increases in the last 20 years. Other countries such as Italy, Germany and the Netherlands reported a stabilization or even slight decrease in breast cancer incidence during this time. It is thought that this unfavorable trend is due in part to increases in risk factors: decreased childbearing and breast-feeding, increased exogenous hormone exposure, and detrimental dietary and lifestyle changes, including obesity and less physical activity (Parkin and Fernandez 2006). However, there continues to be uncertainty on the causes of breast cancer; it has been argued that the failure to prevent the incidence from continuing to rise represents the failure to understand the precise mechanisms of breast carcinogenesis and the role of risk determinants whose alteration in society could lead to a reduced risk of developing the disease (Boyle 2005).

FIGURE 2.7 AGE-STANDARDIZED LUNG CANCER INCIDENCE RATES / 100,000 IN EUROPE, 2000

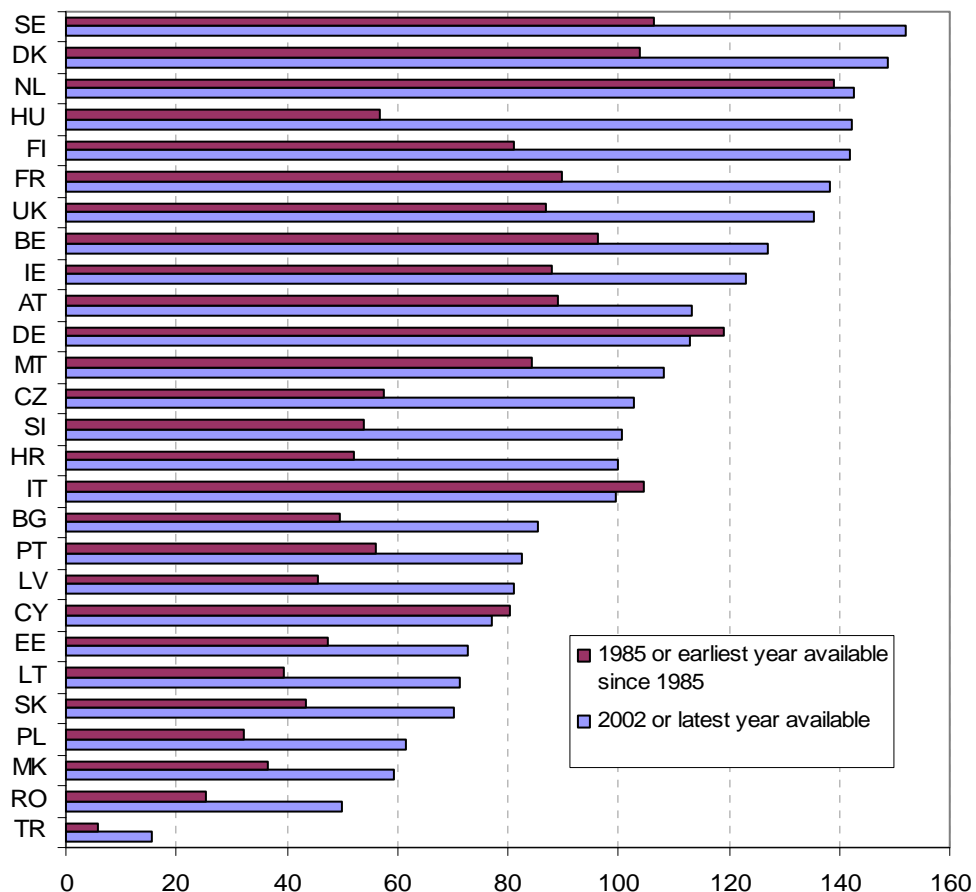


Source: Tyczynski et al. 2002.

Until the mid-1980s, breast cancer mortality rates were increasing or stable in Europe, except for Sweden, where they have been decreasing since the 1960s. Since then, rates have plateaued or decreased. In the UK and the Netherlands, which reported particularly high rates of breast cancer mortality, achieved dramatic decreases in the late 1980s and now approach the EU average. This favourable trend has been associated with increased breast awareness, earlier detection, for example through the introduction of screening and the delivery of the most appropriate therapy to women with the disease (Boyle 2005). Other countries such as Slovakia and Spain also experienced declines from the mid-1980s but did not introduce screening, highlighting the importance of improvements in treatment (Botha et al 2003).

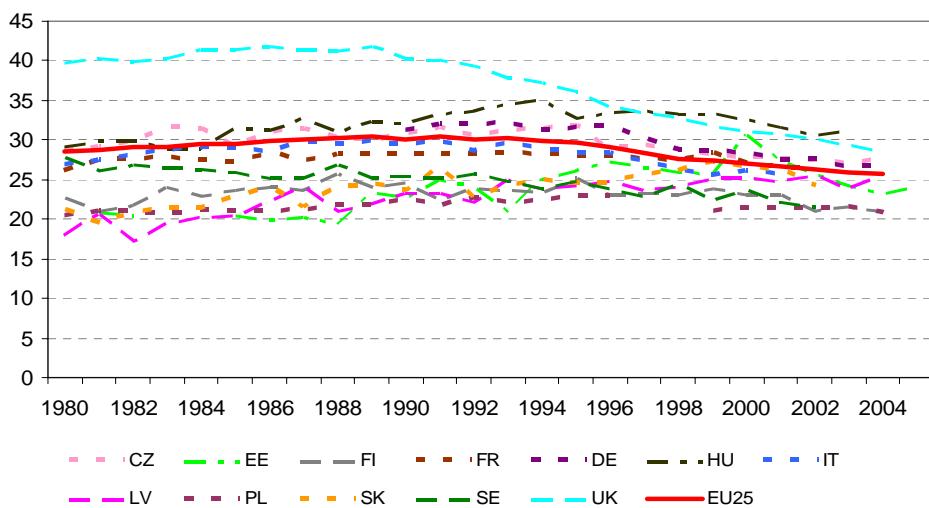
In general, the level of breast cancer mortality in eastern Europe is lower than the EU25 average, although there is significant heterogeneity in the level of mortality between these countries (Figure 2.9). Hungary has breast cancer mortality rates higher than EU average, Latvia and Estonia had low rates of breast cancer mortality but have experienced increases and now approach the EU average, while in Poland, mortality rates have remained comparatively low and are nearly 20% lower than the European average. As well as earlier diagnosis and improved treatment, changes in levels of fertility have been proposed as possible explanations for the trends observed in eastern Europe (Tyczynski et al 2004).

FIGURE 2.8 BREAST CANCER INCIDENCE PER 100,000, LATEST YEAR AVAILABLE



Source: WHO Health for All 2006

FIGURE 2.9 SDR, MALIGNANT NEOPLASM FEMALE BREAST, ALL AGES PER 100,000



Source: WHO Health for All 2006

Alongside incidence and mortality, information on the survival of all patients after a cancer diagnosis is a key indicator of cancer control. The EURO CARE-3 study measured survival up to 5 years after diagnosis for 1.8 million adults and 24 000 children who were diagnosed with cancer during the period 1990–1994 and followed up to the end of 1999. The 20 participating countries included 11 of the EU-15 and six of the NMS (Malta, the Czech Republic, Estonia, Poland, Slovakia and Slovenia). Overall, there was considerable variation in survival rates between countries. Survival was generally below the European average in the five eastern European countries, and in Denmark, England, Scotland, Wales, Malta and Portugal among the western European countries. For the UK and Denmark, melanoma of the skin, testicular cancer and Hodgkin's disease were notable exceptions to this pattern. Sweden tended to have the highest survival rates among the five Nordic countries, and Poland the lowest among the five eastern European countries, whilst French and Swiss populations often had the highest survival rates among western European countries (Coleman et al 2003).

Among the most lethal and common cancers, lung cancer survival varied by more than two-fold across Europe (Austria having the highest rate, Poland the lowest), but the highest 5-year survival rate for men diagnosed during the period 1990–1994 was still <15%. The patterns for women were similar. The poor survival rate is thought to be because most patients were still diagnosed with metastatic disease where treatment of curative intent is rarely possible. The reported low survival rate in Denmark may be due to particularly late stage at diagnosis (Coleman et al 2003).

For breast cancer, differences in survival at 5 years were narrower. Survival was highest in the Nordic countries and in most southern and central European countries (~80%), and lowest in all five eastern European countries (60–70%). Survival was below the European average in Denmark, England, Scotland and Wales. Differences in western Europe are likely to be due to an advanced stage of disease at diagnosis in the countries with lower survival rates, while in eastern Europe, differences in treatment are also likely to play a role. Relative survival from breast cancer improved steadily in all European countries in the 1980s and 1990s, but at different rates. Improvements were more marked for western Europe than in the Nordic countries and as a result, the range of breast cancer survival rates between the Nordic countries and western Europe was greatly reduced. There is some evidence of a more rapid improvement in survival in the UK, with a gradual reduction of the survival deficit relative to other western European countries. This is reflected by a fall in mortality of some 20% among women aged 20–69 years in the 10 years to 1997; better treatment and mammographic screening probably both contributed. Conversely, improvements in survival were less marked for eastern European countries, and the gap between eastern and western European countries increased (Coleman et al 2003).

Evidence that health services affect cancer survival is provided by analysis of the EURO CARE data which suggests that although survival was related to the wealth (GDP), this was only up to a certain level, after which survival continued to be related to the level of health investment

(both TNEH and TPEH). The study concludes that cancer survival depends on the widespread application of effective diagnosis and treatment modalities, but that the availability of these depends on macro-economic determinants, including health and public health investment. However, analysis of the relationship between health system organization and cancer outcome is complicated and requires more information than is at present available (Micheli et al 2003).

Cancer is rare before age 20 years. In European populations, about 1% of all malignant neoplasms arise in patients younger than 20 years. Over the last three decades, overall incidence increased by 1.0% per year in children and by 1.5% in adolescents (15–19 years). Overall 5-year survival for children in the 1990s was 64% in the east and 75% in the west, with differences between regions for virtually all tumour groups; 5-year survival was much the same in adolescents. Survival has improved dramatically since the 1970s in children and adolescents, more so in the west than in the east. Differences between the two regions of Europe are present for virtually all tumour types, and the rate of improvement in survival is slower in the east than in the west. The explanation could lie in earlier presentation, better referral, or greater availability of complex and expensive treatment regimens for childhood cancer cases in western Europe (Steliarova-Foucher et al 2004)

2.2.3 Diabetes

Diabetes is the fourth leading cause of death in Europe (International Diabetes Federation 2004), as well as being a risk factor for other diseases, notably cardiovascular diseases. The INTERHEART case-control study estimated that 15% of heart attacks in Western Europe and 9% of heart attacks in Central and Eastern Europe were due to diabetes (Yusuf 2004). On average, those with Type 2 diabetes will die 5–10 years before those without diabetes (International Diabetes Federation 2005); 70–80% of people with diabetes die of cardiovascular disease. It is also a leading cause of kidney failure and neuropathy (International Diabetes Federation 2004). The contribution of diabetes to mortality rates is probably underestimated because although people may live for years with diabetes, their deaths are usually recorded as being caused by heart disease or kidney failure (WHO 2005a). Type 2 diabetes constitutes about 85 to 95% of all diabetes in developed countries. Type 2 diabetes is now a common and serious global health problem, which, for most countries, has evolved in association with rapid cultural and social changes, ageing populations, increasing urbanization, dietary changes, reduced physical activity and other unhealthy lifestyle and behavioural patterns (International Diabetes Federation 2004).

Unfortunately, in Europe, no national registry is available to establish the numbers of patients with type 1 or type 2 diabetes. Therefore, it is difficult to definitively describe diabetes trends in Europe. However, approximate estimations of diabetes trends may be made using data available from the following sources: population-based studies on small or large cohorts of subjects

representative of the general population in a particular country, European co-operative studies obtaining data from diabetes centres, and sales figures for insulin and oral hypoglycemic agents that allow extrapolation of the number of pharmacologically treated diabetic patients (Passa 2002).

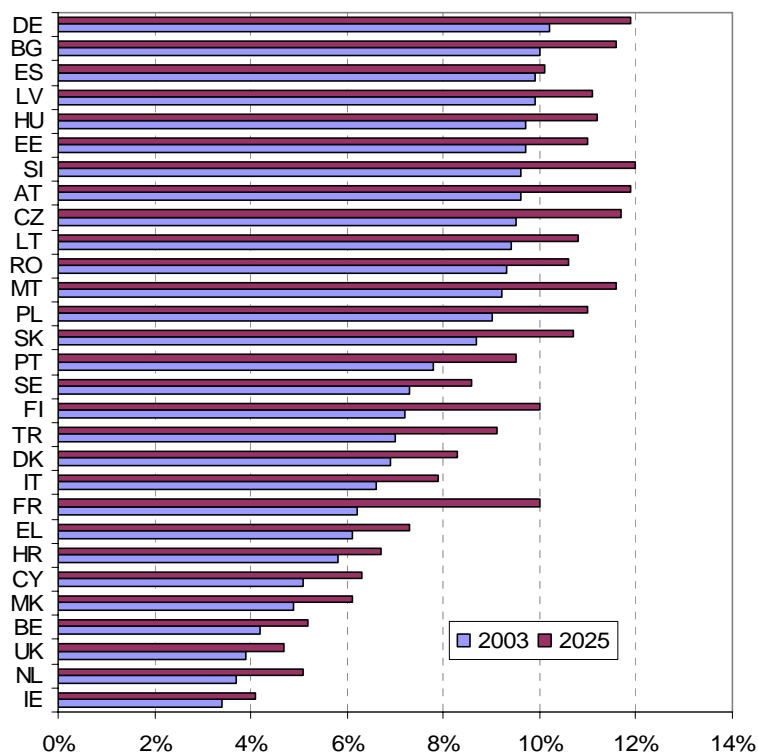
There are over 25 million people living with diabetes within the 25 EU member states. The current EU average prevalence rate is estimated to be 7.5% of the total population aged 20 and above with indications pointing to an increase of 16% in the next 20 years. Prevalence rates in the new member states lie around 9% and beyond (International Diabetes Federation 2005). Diabetes mainly affects the elderly population, and the risk of developing the disease increases with age (Fagot-Campagna et al 2005). However, a great concern is that whereas Type 2 diabetes has traditionally been an adult-onset disease children and adolescents are developing it due to increasing levels of childhood and adolescent obesity among Caucasian and ethnic minority groups (Wiegand et al 2004) (see section 2.5.3 on obesity and overweight).

It is estimated that more than 50% are unaware of their condition though, which means that evidence compiled from national diabetes registers only is likely to underestimate the true burden of the disease. The International Diabetes Federation publishes an atlas of diabetes non-age standardized estimated prevalence rates combining data from registers and specific studies. According to this, the highest rates in the EU are in Germany (10%) and the lowest are in Ireland at 3%. CEE and Baltic countries are generally reported to have higher rates than western Europe though (International Diabetes Federation 2004).

A review of the literature in 1997 estimated the prevalence of type 2 diabetes for the years 1995 and 2000 for seven European countries. The authors predicted a moderate decrease in diabetes prevalence in Finland and moderate increases in prevalence in Denmark and Spain. A very significant increase in type 2 diabetes prevalence was predicted for the UK, Germany, Italy, and France (Amos et al 1997). More recent studies performed in England and Wales (Lusignan et al 2005, Harvey et al 2002), France (Ricordeau et al 2003), the Netherlands (Ubink-Veltmaat 2003), Norway (Stene et al 2004) and Germany (Hauner et al 2003) confirm that type 2 diabetes prevalence is increasing in Europe. Studies from CEE are less common but one from Poland also reports an increasing trend (Fabian et al 2005).

Estimates and projections suggest an epidemic expansion of diabetes incidence and prevalence in Europe (Figure 2.10). This has been calculated by applying current age and gender specific prevalence rates to age and urban/rural distribution of the populations estimated for 2025. However, since it is likely that the age specific prevalence rates (the prevalence at any given age) will rise due to increasing obesity (see section 2.5.3), the figures are probably underestimates (International Diabetes Federation 2004).

FIGURE 2.10 PREVALENCE ESTIMATES OF DIABETES MELLITUS, 2003 AND 2025



Source: Diabetes Atlas, International Diabetes Federation 2006

2.2.4 Respiratory diseases

Lung cancer, pneumonia and chronic obstructive pulmonary disease (COPD) are the main respiratory causes of death in Western Europe, as well as in Central and Eastern Europe. In both parts of Europe, lung cancer ranked third in 1990 (after ischaemic heart and cerebrovascular diseases), followed by pneumonia in the fourth position, and COPD in positions five and eight, respectively. It is already estimated that in 2010, COPD will have risen to fourth place (Loddenkemper et al 2004). A sign of the recognition of the continuing importance of lung disease is the recent launch of *The European Lung White Book* in 2003. It is the first comprehensive survey of respiratory health in Europe.

Overall, there is considerable variation among European countries in the age-standardized death rates per 100,000 population from respiratory diseases, with a broad range between 30 and 165 for the European region, and an European Union (EU) average of approximately 57. Ireland and the UK are among the leading countries with 120 and 105 deaths, respectively, whereas other Western, as well as most Central European countries, remain below the European average. The reasons for these discrepancies are not clear (Loddenkemper et al 2004).

This section proceeds with a discussion of COPD, as well as one other important cause of morbidity, asthma are presented. Data on pneumonia and influenza, communicable diseases, are presented in the following sections. Information on lung cancer can be found in section 2.2.2.

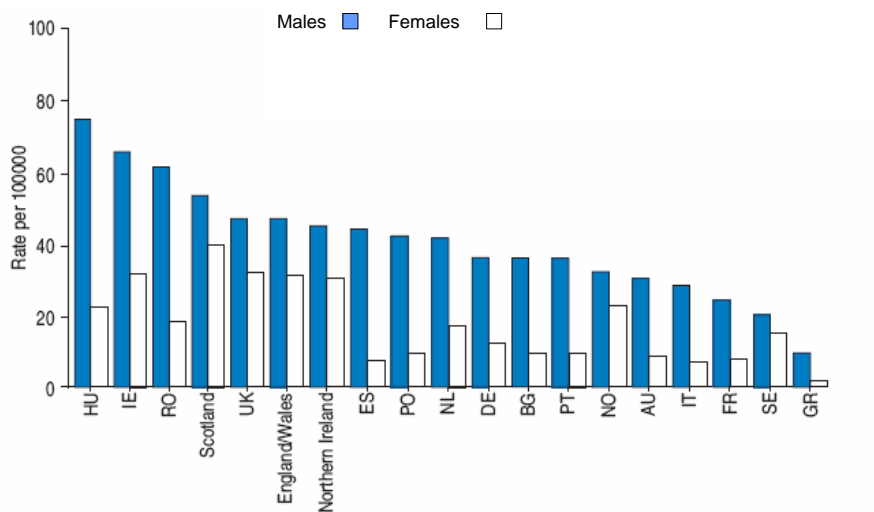
Chronic obstructive pulmonary disease (COPD)

COPD, along with chronic bronchitis, emphysema, and asthma, is a chronic lower respiratory infection. The main cause for developing COPD is tobacco smoking (see section of tobacco above). Worldwide, chronic respiratory diseases caused over 4 million deaths in 2005, including over 3 million deaths from COPD. This number is predicted to increase. COPD is still one of the main causes of mortality in western Europe. The worst affected by COPD in 2002 were Denmark (7% of total mortality), the Netherlands (5.2%) and Ireland (5%). In Austria, Belgium, France, Italy, Spain, UK COPD accounted for between 3–5% of total mortality. Eastern and south eastern European countries are less affected, with the exception of Turkey, where COPD accounted for 4.2% of deaths (WHO Regional Office for Europe 2005).

Mortality rates for COPD are two to three times higher for males than for females. The countries with the highest rates for men in the EU and ACC (more than 80 per 100,00) are Ireland and Romania while the highest for females (more than 30 per 100,000) are these two countries and Denmark. The least affected (less than 20 per 100,000) for men are Greece, Sweden and Ireland and Greece, Finland and Sweden for women (less than 10 per 100,000) (European Respiratory Society 2003).

There were considerable differences in mortality trends from 1980–1990 among European countries. While there has been an overall moderate decrease in mortality from COPD in most west European countries, including France, Finland, Italy and Portugal, there has been a considerable increase in mortality among females aged over 55 years in some northern European countries such as Denmark and the UK. For example in the UK the age adjusted death rate for women rose from 155 per million in 1981 to 214 per million in 2004, while the death rate for men fell from 606 to 363 in the same years (ONS 2006). In the countries of CEE such as Bulgaria, Hungary and Romania there was a dramatic decrease in COPD during this time, although the rate in these countries started from a higher base (European Respiratory Society 2003).

FIGURE 2.11 AGE-ADJUSTED DEATH RATES FOR COPD FOR MALES AND FEMALES



Source: Reproduced from European Respiratory Society 2003. Data from unpublished WHO statistics, from the year 2000

Asthma

Over the last three decades, the prevalence of allergic diseases and asthma has risen throughout the European Region. It is now the most frequent chronic disease in children. Prevalence varies widely, though. In children it varies from <1% to >15%. In adults, prevalence ranges from <5 % to >10%, with a wide range of variation of reported mortality rates (Loddenkemper et al 2004). Rates of asthma symptoms in western countries are ten times those in eastern countries. In Western Europe as a whole, asthma doubled in the last 20 years (UCB Institute of Allergy 2004). Prevalence estimates in children aged 13–14 years range from under 5% in countries such as Greece and Romania (Masoli et al 2004) to over 30% in the United Kingdom. Part of the difference is likely to be attributable to environmental factors. Exposure to indoor air pollutants, environmental tobacco smoke, outdoor air pollution and suboptimal immune responses are all believed to increase the risk of asthma attacks and to have an adverse impact on respiratory health. The influence of many environmental factors on the natural history of asthma and allergies is not well understood, though, and this makes it difficult to select preventive measures (WHO Regional Office for Europe 2005).

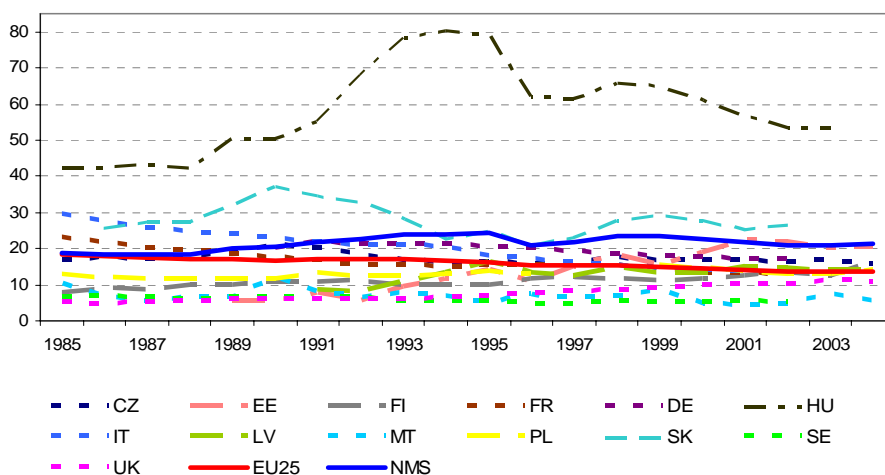
2.2.5 Chronic liver disease and cirrhosis

While the EU as a whole has experienced declines in mortality from chronic liver disease and liver cirrhosis, Eastern European countries report a steady increase, peaking during the early post-communist period (Figure 2.12). While some countries such as the Czech Republic have returned to pre-transition rates, others, such as Hungary, Romania and to some extent Slovakia, experienced very large peaks in alcohol related liver disease mortality and continue to be particularly badly affected. Data from the 1980s are unreliable for the Baltic states, but since 1990 they have reported dramatic increases that are almost as sharp for women as they are for men.

In western Europe, the UK and Finland have report nearly two-fold increases in death rates from chronic liver disease and liver cirrhosis in men and women in the last ten years, while Italy and France experienced a steady decline since 1980. This could be explained by the culture of more daily light drinking integrated into everyday life in the Mediterranean countries and more heavy episodic drinking connected with weekends and celebrations in the North (Mäkelä et al 2005), the latter being considered to have a particularly bad effect on health.

In all countries men have much higher rates of alcohol related diseases of the liver than women, reflecting their greater consumption rate. Liver cirrhosis is the most frequently used and reported indicator of alcohol related harm on the individual level. Research shows that it is quite a reliable indicator and that it usually varies with the level of alcohol consumption, although often with a time lag (WHO Regional Office for Europe 2001).

FIGURE 2.12 SDR, CHRONIC LIVER DISEASE AND CIRRHOSIS, ALL AGES PER 100,000



Source: WHO Health for All 2006

2.2.6 Mental health problems

Mental health problems have been estimated to account for approximately 20% of the total burden of ill health across Europe (WHO 2004a). Unipolar depressive disorders accounted for the highest proportion of total DALYs in Austria (9.8% of the total), Belgium (9.7%), Cyprus (6.9%), Denmark (8.1%), Finland (10.8%), France (10.3%), Ireland (8.3), Italy (6.8%), the Netherlands (7.8%), Norway (8.9%), Slovenia (9.5%), Spain (5.6%), and Sweden (9.7%). In Finland and Sweden the most prevalent cause of death after CVD was Alzheimer's and other dementias (WHO Regional Office for Europe 2005). Mental health problems affect all; one in four people experience a significant episode of mental illness during their lifetime. Data from the Global Burden of Disease Study indicate that four of the six leading causes of years lived with disability are due to mental health problems: depression, schizophrenia, bi-polar disorders and alcohol use disorders (WHO 2004a). Depressive disorders are most common, making up nearly one third of all mental health problems. According to this study only cardiovascular disease contributes more to the burden of illness in Europe.

Although there have been many epidemiological studies on the prevalence of mental disorders across Europe there has been little work undertaken to synthesise such information at an EU level. Moreover there is little tradition, unlike the US, in most EU countries of national epidemiological studies. Nor is there any standardization of approaches used in the conduct of such studies whether conducted at national or regional level across Europe. Such information is vital to the development of EU wide policy on the promotion of mental well-being and preventative strategies to reduce the level of mental health disorders.

One recent attempt to address this deficit was a systematic review of all available epidemiological studies on a variety of mental disorders, affecting individuals between 18–65, conducted at a community level across the EU–28, Norway, Iceland and Switzerland (Wittchen 2005) (Table 2.1). The review identified 24 country specific and 3 cross national studies; one striking finding being that no population based data at all were available from 12 countries (Cyprus, Estonia, Greece, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia, and Slovenia), representing 54.8 million inhabitants (17.5%) in the age range under study. The most commonly found specific 12 month diagnostic conditions found were major depression, specific phobias and somatoform disorders. Six studies looked at psychotic disorders reporting a 12 month prevalence ranging between 0.2 and 2.6% (median 0.8) while for 12 studies looking at alcohol abuse these figures ranged from 0.1% to 6.6% (median 2.4%). Using these data the study estimated that 82.7 million people (27% of population) across the EU, (including Iceland, Norway and Switzerland) are affected by a mental disorder during a 12 month period.

TABLE 2.1 EUROPEAN PREVALENCE RATES FOR MENTAL DISORDERS AND ESTIMATED NUMBER OF INDIVIDUALS AFFECTED

ANNUALLY		
Diagnosis	12 month prevalence median and range (%)	Number of EU individuals affected in any one year (millions)
Alcohol Dependence	2.4 (0.1 – 6.6)	7.2
Illicit Substance Dependence	0.5 (0.1 – 2.2)	2.0
Psychotic Disorders	0.8 (0.2 – 2.6)	3.7
Major Depression	6.9 (3.1 – 10)	18.4
Bipolar Disorder	0.9 (0.2 – 1.1)	2.4
Panic Disorder	1.8 (0.7 – 3.1)	5.3
Agoraphobia	1.3 (0.1 – 10.5)	4.0
Social Phobia	2.3 (0.6 – 7.9)	6.7
General Anxiety Disorder	1.7 (0.2 – 4.3)	5.9
Specific Phobias	6.4 (0.8 – 11.1)	18.5
Obsessive Compulsive Disorder	0.7 (0.1 – 2.3)	2.7
Somatoform Disorders	6.3 (1.1 – 11.0)	18.9
Eating Disorders	0.2 – 0.7	1.2
Any mental disorder	27	82.7

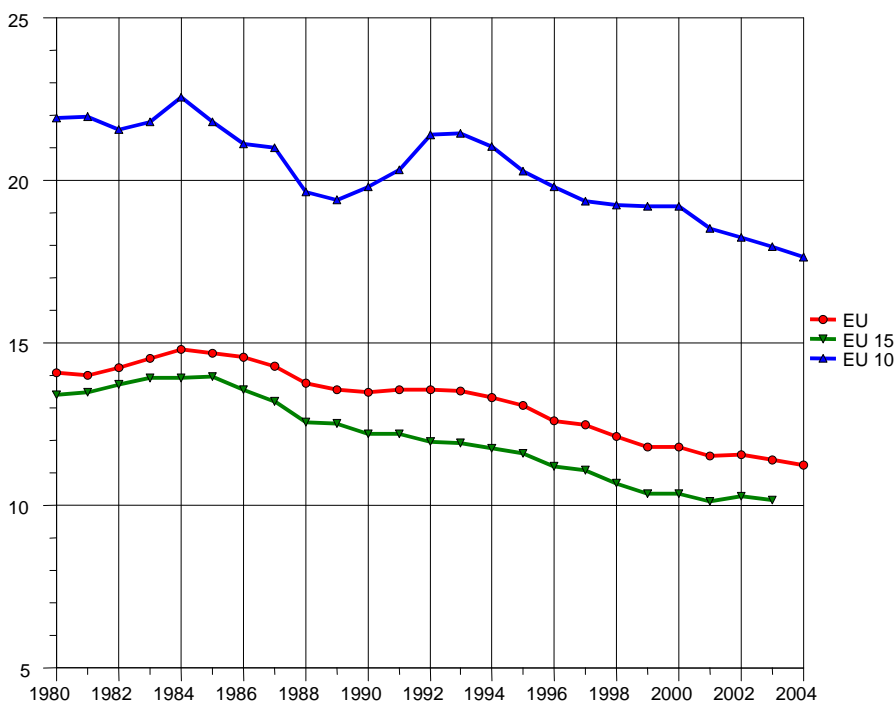
Source: Wittchen et al 2005

Suicide is the one of the top ten leading causes of premature death in Europe, contributing an additional 2% to overall burden of illness (WHO Regional Office for Europe 2006c). In itself it is not a mental disorder but may be a consequence of many mental health problems, as key risk factors include social isolation and a lack of self worth. The rate of suicide is much higher in men than in women and after traffic accidents it is the principle cause of mortality among 15–35 year old males in the region.

Suicide rates have generally been falling over the last quarter century as indicated in Figure 2.13, but there remains a marked difference in the rates found in most of the new EU countries (Malta and Cyprus are exceptions). In the EU–15 rates have fallen for both men and women in most countries over the last twenty years, exceptions being Ireland, Luxembourg and Spain. (Commission of the European Communities, 2004)

The five highest suicide rates are all found in the new Member States of Lithuania (38.92), Slovenia (25) , Hungary (24.81), Estonia (23.66) and Latvia (22.34) respectively. Among the EU–15 high rates can be found in Finland 32.3, Austria 30.5, Luxembourg 28.6 and France 26.1. The lowest deaths rates are reported in Greece (3.07), Malta (5.38) and Italy (5.92) but it is possible that cultural factors and a reluctance to record deaths as suicides may mean that underreporting occurs in some countries.

FIGURE 2.13 TRENDS IN AGE ADJUSTED STANDARDISED DEATH RATES PER 100,000 ALL AGES FOR SUICIDE AND SELF INFLICTED INJURY IN THE EU FROM 1980 – 2004

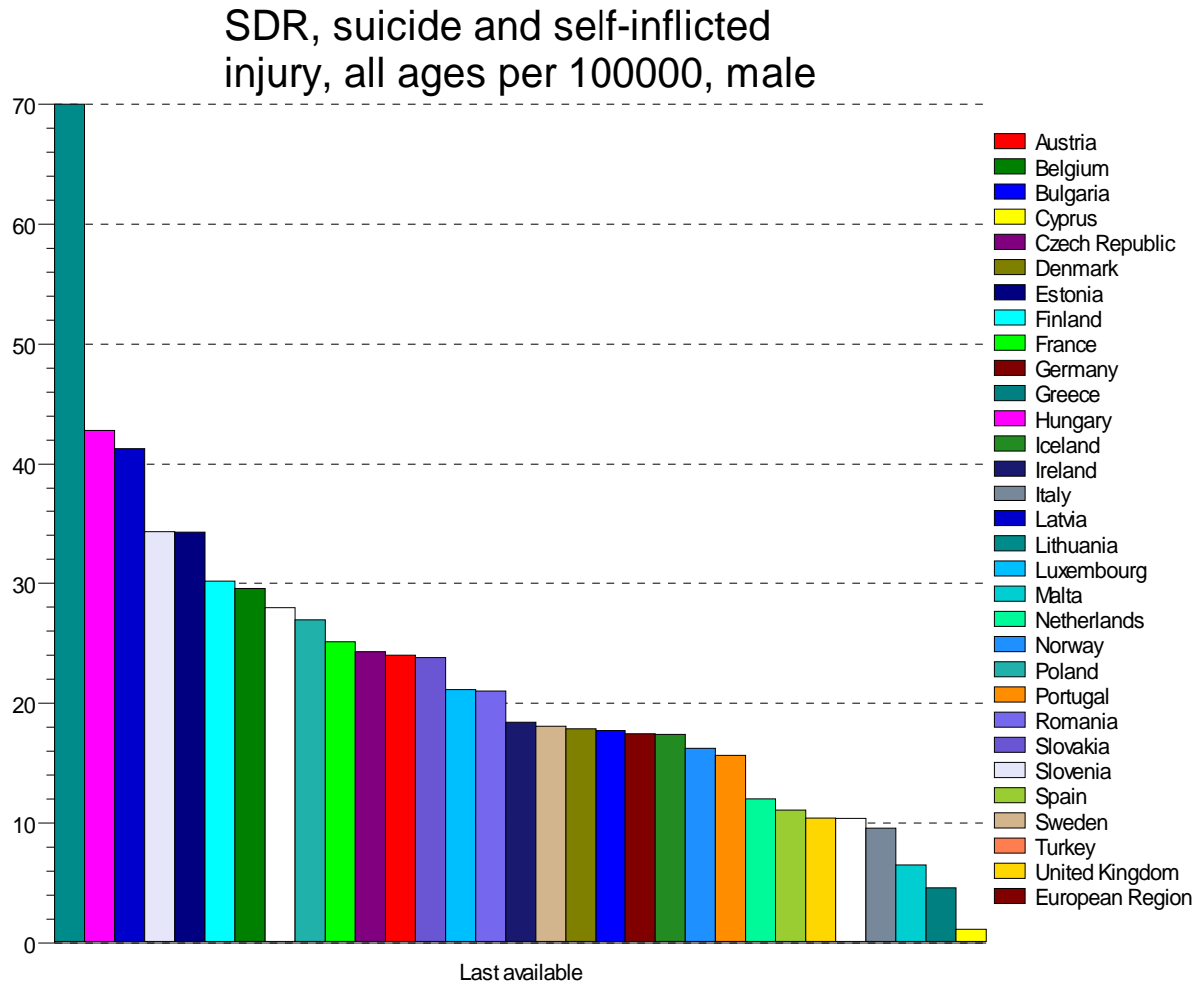


Source: WHO Health For All Database 2006

Figures 2.14 and 2.15 also provide suicide rates by gender. While the rates of suicide are much lower for women than for men, similar patterns can be seen, with the majority of high rates found in new Member States. Lithuania continues to have the highest reported suicide rate for men in the world at 70 suicides per 100,000 in 2004. It also has the highest suicide rate for women, albeit much lower at 12.3 suicides per 100,000 population.

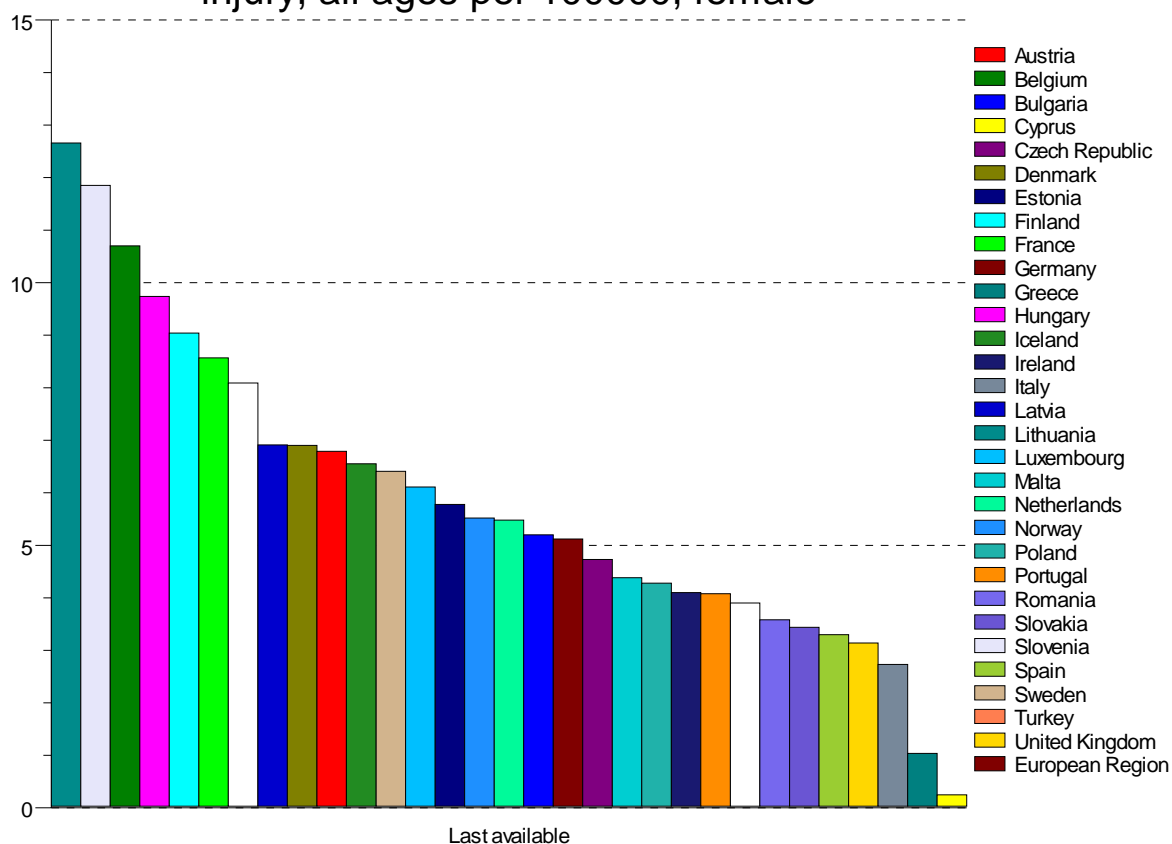
Age standardized suicide rates have fallen in the majority of Western European countries over the last two decades, but there are some exceptions. One country whose overall suicide rate appears at first glance to be low is Ireland; however suicide rates have continued to rise steadily over the last 40 years, both before and during the current period of rapid economic growth. (Lucey et al., 2005) Young men have been most affected by rising suicide rates in the country; between 1980 and 2000 alone the suicide rate for the 15–34 age group increased fourfold from 6.4 to 25.3 per 100,000.

FIGURE 2.14 COMPLETED SUICIDES FOR MEN PER 100,000 POPULATION (LATEST AVAILABLE YEAR USED)



Source: WHO Health for All 2006

FIGURE 2.15 COMPLETED SUICIDES FOR WOMEN PER 100,000 POPULATION (LATEST AVAILABLE YEAR)
SDR, suicide and self-inflicted injury, all ages per 100000, female

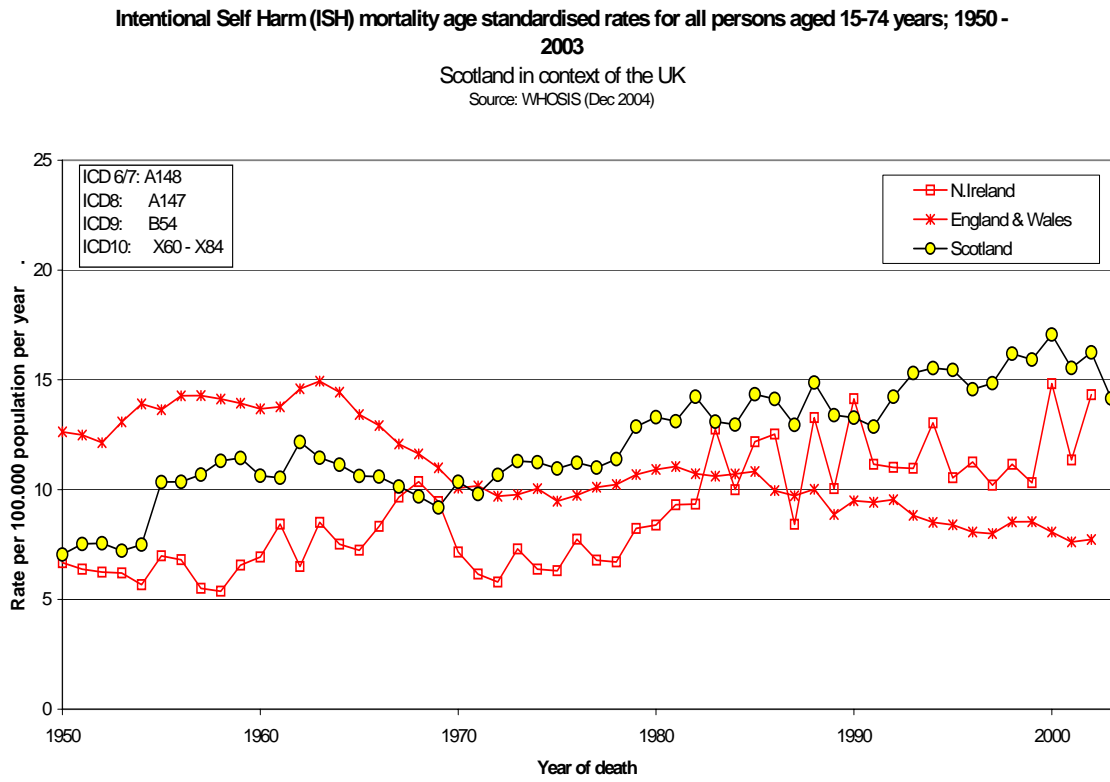


Source: WHO Health for All 2006

National statistics can also mask important regional variations. One good example of this can be seen in the UK. As Figure 2.16 illustrates while suicide rates in the UK as a whole have been falling, in Scotland and Northern Ireland there have been significant increases in recent years. The burden of suicide is of course further compounded by deliberate self harm events which do not end in death.

In tackling mental health problems in Europe, there are both continuing and new challenges to face, including the consequences of rapid economic and societal change, which as observed in central and eastern Europe, have been accompanied by a decline in population mental health, with increasing rates of alcohol use disorders, violence and suicide. Another is to meet the needs of those displaced through conflict or persecution and economic migration. As the population ages, the incidence of both dementia and other mental health problems, most notably depression, are likely to increase yet further.

FIGURE 2.16 REGIONAL VARIATION IN SUICIDE RATES OVER TIME: AN EXAMPLE FROM THE UK



Source: WHOSIS 2004

However, mental health promotion continues to be a low priority in many countries; instead the emphasis is placed on treating the clinical aspects of the relatively small number of individuals with severe mental health problems with much less attention paid to the broader environmental and social consequences that impact on the mental health of all.

2.3 Communicable diseases

Communicable diseases account for 9% of the disease burden in the WHO European region measured in DALYs, a little over half of which is related to HIV and tuberculosis (TB), but this should not be the main criterion for judging their public health importance. Communicable diseases should remain an important issue in the EU, due to: the high rates of TB and growing rates of HIV infection in several member states and bordering countries particularly in the CIS; the continuing threat from other, mainly epidemic-prone, communicable diseases; and the emergence of new diseases (WHO Regional Office for Europe 2005). In eastern Europe, infectious diseases were effectively tackled during the Soviet model of monitoring and compulsion. However, the breakdown of control systems in these areas may threaten this success (Markina et al. 2000).

Of increasing concern is the recent rise in sexually transmitted diseases, HIV and tuberculosis, particularly in the Baltic States (Stern 1999). A particular concern is the high rate of drug-resistant disease and the co-existence of HIV and resistant tuberculosis, with no effective policy responses to date (Farmer et al. 1999). Cervical cancer is relatively common among the new Member States, reflecting high rates of sexually transmitted diseases, infrequent use of barrier contraceptives, and ineffective, mostly opportunistic, screening (McKee et al. 2004; Levi et al. 2000).

2.3.1 Sexually transmitted infections

This section builds on the Health status and living conditions network (2006) policy brief No 3. It will be limited to presenting data on four important STIs seen in the European Union – chlamydial and gonococcal infections, syphilis and HIV/AIDS. Other infections such as genital warts and herpes are not covered but the trends are similar to the diseases to be covered.

Data for a limited selection of countries is provided since clear trends can be seen from those selected. Adequate data is not available for many countries. The availability of data also varies across diseases in any given country, precluding the use of one set of countries in this section. The availability of services and surveillance/notification systems vary between European countries and thus affect our understanding of the epidemiology. There is no comprehensive information and surveillance system or uniform service provision within the European Union. These differences in service provision and capture of the data make it difficult and unwise to compare numbers and rates of STIs between countries within the European Union. For this reason data is not age standardized. At best the data gives some indication of trends within countries.

In most countries genital chlamydial infection is the commonest diagnosed STI with very marked increases in western Europe (Table 2.2). This increase reflects changing sexual behaviour and increased partner change. But importantly some countries are implementing national screening programmes and using non-invasive, more acceptable urinary based assays which will give rise to an increased prevalence but not necessarily incidence, even though most experts feel that both are occurring. Even in Sweden, credited with the having the most extensive Chlamydia screening in the world, incidence is rising (Low 2004). Chlamydia has declined in eastern Europe, though from a very high rate.

In the early to mid 1970s most European countries saw a peak in cases of gonorrhoea. It is thought that the advent of HIV infection in 1980 led to safer sex and accelerated the reduction in gonorrhoea. However, this has not been sustained in all countries. Since the mid 1990s most west European countries have seen an increase in gonorrhoea rates and numbers of cases (Nicoll and Hamers 2002) (Table 2.3).

Syphilis was a major problem during the first half of the 20th century but declined dramatically with the widescale use and availability of penicillin in the late 1940s and 1950s. In many EU countries it virtually disappeared in the late 1980s and mid 1990s. It was thought that this was largely due to the advent of HIV infections and changed sexual behaviour. However, this has not been maintained and many EU countries have shown an increase since the mid 1990s, particularly in men who have sex with men (Nicoll and Hamers 2002) (Table 2.4).

There are concerns that the reported declining numbers of cases of STIs in CEE and the Baltic states may not reflect a true reduction in incidence but a decline in notification, as treatment is increasingly being provided privately (Platt and McKee 2000). In fact a survey of European STI policies concluded that there is a non-availability of affordable high quality STI services, including STI treatment and condoms in these parts of Europe (Dehne et al 2002).

TABLE 2.2 NUMBER OF CASES OF CHLAMYDIA IN SELECTED COUNTRIES EUROPEAN COUNTRIES

Country	Year						
	1995	2000	2001	2002	2003	2004	2005
Belgium	939	689	790	1064	1468	1653	–
Croatia	100	773	963	928	–	902	737
Denmark	13038	–	–	16203	18406	21624	23854
Estonia	5348	3805	4187	4107	2094	2679	2541
Finland	–	11731	12142	13681	–	–	12720
Poland	2741	1884	1811	1767	1744	1572	–
Sweden	13785	19284	22266	24688	26794	32076	33060
United Kingdom	30404	63037	–	82206	89431	–	–

Source: Centralized information system for infectious diseases (CISID), WHO Regional Office for Europe, 2006

TABLE 2.3 NUMBER OF CASES OF GONORRHOEA IN SELECTED EUROPEAN COUNTRIES

Country	Year						
	1995	2000	2001	2002	2003	2004	2005
Czech Republic	2036	888	880	911	1007	948	744
Denmark	290	335	304	230	186	414	444
Estonia	2882	867	658	537	532	475	288
Ireland	91	290	349	214	186	270	-
Romania	5605	4907	4529	3806	2526	2119	1678
Spain	4599	1048	805	833	110	866	1138
Sweden	246	590	529	505	596	569	691
United Kingdom	9835	20520	-	24958	24157	24157	-

Source: Centralized information system for infectious diseases (CISID), WHO Regional Office for Europe, 2006

TABLE 2.4 NUMBER OF CASES OF SYPHILIS IN SELECTED EUROPEAN COUNTRIES

Country	Year						
	1995	2000	2001	2002	2003	2004	2005
Denmark	42	54	51	35	79	114	117
Finland	169	204	159	127	133	-	144
Germany	1138	1135	1629	2275	2932	3351	3207
Ireland	11	93	341	275	196	324	-
Latvia	2357	1021	594	679	784	584	443
Poland	1566	968	1057	1165	969	860	-
Spain	1010	706	700	749	244	1051	1312
Sweden	69	99	78	128	178	194	109

Source: Centralized information system for infectious diseases (CISID), WHO Regional Office for Europe, 2006

The high level of stigmatization attached to HIV/AIDS has created a challenge to the traditional name-based system of infectious disease surveillance and case reporting. Unlike HIV diagnosis, AIDS treatment and care precluded anonymity, so AIDS case reporting was introduced in almost all European countries early on. However, HIV case reporting remained incomplete until recently in many countries. For example, Greece introduced national HIV case reporting only in 1999, Portugal in 2000, the Netherlands in 2002 and France in 2003, while two of the most affected western European countries – Italy and Spain – still do not have it in place (Matic 2006).

In the European Union (EU), 24,184 newly diagnosed cases of HIV infection were reported in 2004 in 23 countries (excluding Italy and Spain), representing a rate of 68 HIV infections per million population. Over a third of cases (36%) were reported among females and 13% were among young people 15–24 years of age. The highest rates were reported in Estonia and Portugal, but rates of between 100 and 200 new diagnoses of HIV infection per million

population were reported by three EU countries: Latvia (141); Luxembourg (131); and United Kingdom (126) (EuroHIV 2005).

In the region WHO classifies 'eastern Europe' (mostly the countries of the FSU, including the Baltic states) the HIV epidemic has been concentrated amongst injecting drug users, although in 2004 the number of new diagnoses amongst drug users had declined. For example in Latvia it declined from 665 in 2001 to 145 in 2004. In contrast, the number of infections in the FSU that were reported as heterosexually acquired has nearly doubled, from 2001 to 2004 (EuroHIV 2005). However, the slowly decreasing proportion of IDUs among all new HIV cases reported could be the result of changing testing patterns among IDUs, rather than any real decline in incidence. Furthermore, even among heterosexually transmitted infections in the FSU, at least 35% occurred in the sexual partners of HIV-positive IDUs (Matic 2006). While the prevalence of heroin use is estimated at less than 0.6% in most west European countries, it has been estimated that between 0.9% and 2.3% of the adult populations in Estonia, Kazakhstan, Kyrgyzstan, Latvia, the Russian Federation, Tajikistan and Ukraine inject heroin (World Drug Report 2005). The extremely high prevalence of injecting drug use in the area, the widespread sharing of injecting equipment there and the high efficacy of HIV transmission through such sharing made the HIV epidemic in the FSU in late 1990s the fastest growing the world had yet seen (Matic 2006).

In central Europe, the epidemic remains at low levels, with only 1,585 new cases of HIV infection being reported in 2004, representing a rate of 8.5 per million population. Thirty per cent of newly diagnosed cases were female and 21% in young people (aged 15–24 years old). The epidemic is characterised in central Europe by its heterogeneity, with different transmission modes predominating in different countries, for example homosexual contact in Hungary, injecting drug use in Poland and heterosexual contact in Romania (EuroHIV 2005).

In the West, 23,246 new cases of HIV infection were reported in 2004, a rate of 77.9 per million population. Over a third (36%) of new cases of HIV infection in 2004 were female, but the proportion amongst young people (15–24 years old) was very low (10%). The predominant transmission mode is heterosexual contact. The number of cases in this transmission group has nearly doubled from 2001 (5,968 cases) to 2004 (11,126). Of the 14 countries with complete data, increases of more than 50% in heterosexual transmission in the period 2001 to 2004 were reported in four countries reporting more than 50 cases in 2000: United Kingdom (from 2,342 to 4,369), Sweden (from 143 to 259), Switzerland (from 276 to 433) and Portugal (from 921 to 1,411). The proportion of heterosexually acquired cases of infection in persons known to originate from countries with generalized HIV epidemics is high in many countries, but varies across Europe – from 22% in Portugal to 71% in Belgium and Sweden. Although this reinforces the need to ensure that prevention and care services are adapted to reach migrant populations in affected countries, targeting these populations only would be by no means sufficient. The number of HIV reports among men who have sex with men (MSM) from the 14 western European countries also increased, so that by 2004 they were 56% higher than in 2001 (3,148

in 2001 to 4,914 in 2004) (EuroHIV 2005). Furthermore, the number of diagnoses of HIV infection in people who are thought to have acquired their infection through heterosexual intercourse in the autochthonous European population may also be rising. For example, heterosexually transmitted infections among people born in the UK continued to rise steadily, from 227 in 2000 to at least 498 reported in 2004 (The UK Collaborative Group for HIV and STI Surveillance 2005).

TABLE 2.5 NUMBER OF REPORTED NEW HIV INFECTIONS IN SELECTED EUROPEAN COUNTRIES

Country	Year						
	1995	1998	2000	2001	2002	2003	2004
Belgium	767	753	950	963	990	1048	984
Estonia	11	10	390	1474	899	840	743
Germany	2174	2219	1707	1349	1886	1912	1979
Poland	539	637	630	564	574	610	656
Portugal	–	–	4127	2435	2517	2272	2825
Russia	199	3969	58786	87144	47715	36379	33969
Sweden	248	249	242	269	278	365	426
UK	2828	2967	3499	4300	6024	7076	7258

Source: Centralized information system for infectious diseases (CISID), WHO Regional Office for Europe, 2006

2.3.2 Tuberculosis

In most European countries, tuberculosis morbidity among the native population has declined dramatically in the twentieth century although notification data indicate that the regular decline previously observed slowed down or was halted in several low-incidence countries in Europe in the 1990s, such as the Netherlands (Broekmans et al 2002); see Figure 2.17.

In the 25 countries of the EU, and in Andorra, Iceland, Israel, Norway, San Marino and Switzerland, 60,266 TB cases were notified in 2004, an overall notification rate of 12.6 per 100,000, being highest in the Baltic States (44–73). Of all cases, 23% were over 64 years, 63% were men and at least 29% were of foreign origin, reaching 40% or more in 16 countries. Of these, 30% were from Africa, 21% from Asia and 37% from countries in CEE and FSU. In 2004, 81% of the cases had no history of anti-TB treatment (they were new cases). The overall notification rate in 2004 was 26% lower than in 1997. Average annual rates decreased between 2000 and 2004 in all the countries surveyed except Greece, Ireland, Norway, and the United Kingdom. In Greece, rates increased in all age-groups most likely a result of improved reporting. In Norway and the United Kingdom, notification rates have been increasing progressively in cases aged 15–44 years, most of whom were of foreign origin in 2004. In most countries, trends in notifications over time differed markedly between nationals and nonnationals. In 16 countries with consistent data, between 1998 and 2004 the average annual

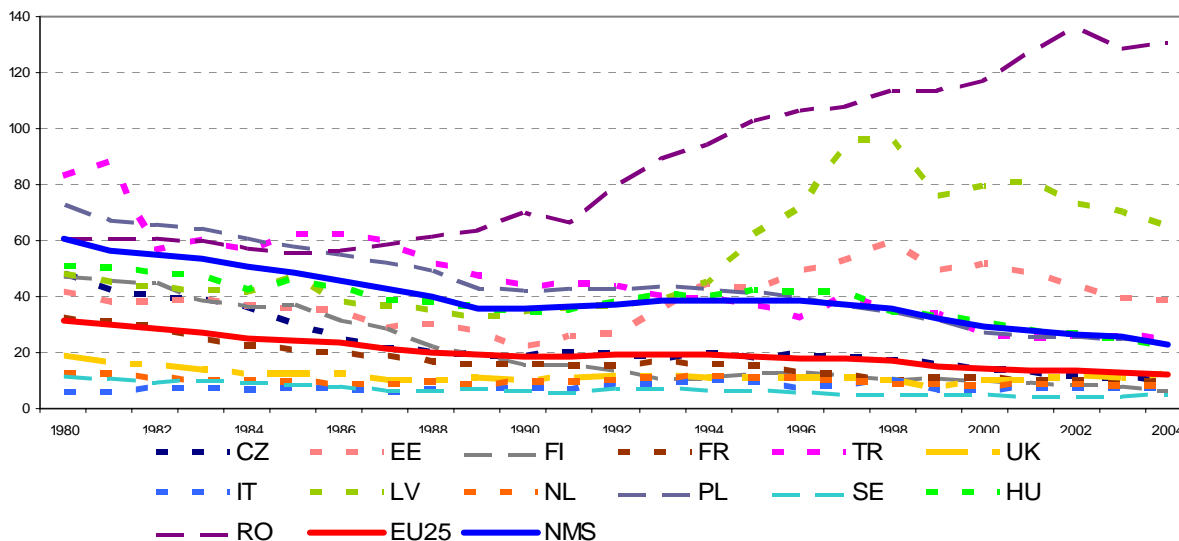
decrease in the numbers of cases was more marked in nationals (-7.6%) than in cases of foreign origin (-0.2%), resulting in an increase in the proportion of cases of foreign origin from 30% to 40% (EuroTB 2006).

Resurging TB in low incidence countries can be explained by the gradually increasing relative and absolute importance of the importation of latent tuberculosis infection and tuberculosis from other countries; the emergence of groups at particularly high risk of tuberculosis (e.g. HIV- infected patients, homeless persons, prisoners in certain settings, etc.); and the importation of drug-resistant and, particularly, multidrug-resistant tuberculosis from eastern European countries (Broekmans et al 2002).

Estonia, Latvia, Lithuania and Romania are considered high burden countries with high priority for TB control by the WHO Regional Office for Europe for the prevention and control of TB (Veen and Godinho 2006). In the region WHO classified 'eastern Europe' (mostly the countries of the FSU), the rate of increase reached nearly 14% annually by 1995, but the increase appears to have halted around year 2000, and incidence is once again in decline. The resurgence of TB in eastern Europe during the 1990s has been associated with (but primarily not caused by) relatively high rates of multidrug resistant TB among new and previously treated patients (WHO 2006b). Poland, Portugal, Spain, Turkey Croatia, Hungary and the former Yugoslav Republic of Macedonia are considered intermediate priority (Veen and Godinho 2006).

Almost 3% of all new TB cases that occurred in Europe in 2000 had HIV coinfections. About 28% of people living with AIDS in the European Region in 2004 were also coinfecting with TB. However, cases of dual infection are unevenly distributed through Europe. As an AIDS indicator disease among adolescent and adult cases, the TB rate among PLWHA was 24% in western Europe, 19% in central Europe and 56% in the FSU (Veen and Godinho 2006).

FIGURE 2.17 TUBERCULOSIS INCIDENCE PER 100,000



Source: WHO Health for All 2006

2.3.3 Pneumonia and influenza

In Cyprus, Ireland, Malta, Portugal and UK the second or third most common cause of death was lower respiratory infection (excluding COPD) such as influenza, pneumonia, acute bronchitis, accounting for 6.6, 8.5, 7.8, 5.7 and 10.9% of all cause mortality respectively (WHO Regional Office for Europe 2006c).

Crude mortality from pneumonia ranges from <15 to >45 per 100,000, and its incidence from <250 to >1,000 per 100,000 inhabitants. The UK and Ireland have the highest overall mortality rates in the EU while Macedonia, Greece and Hungary have the lowest. However, the huge variation in mortality rates suggests that under-reporting may be a problem. Also, the age structure of populations in different countries may vary. The incidence of pneumonia is higher at the extremes of age, both in very young children and in elderly adults. Disaggregated by age, limited data suggests that east European countries have much higher rates of pneumonia mortality in children aged less than one year than west European countries (European Respiratory Society 2004).

Influenza is an important public health problem in Europe. Children are efficient transmitters of influenza viruses and those 5–9 years of age typically manifest the highest rates of infection and illness. However, severe morbidity and mortality are more common among elderly people and in specific high-risk groups (WHO 2005b). Influenza is associated with increased hospital admissions and excess deaths in the winter influenza season (Fleming, 2000). Since influenza may be confused with other respiratory infections and its most common complication is

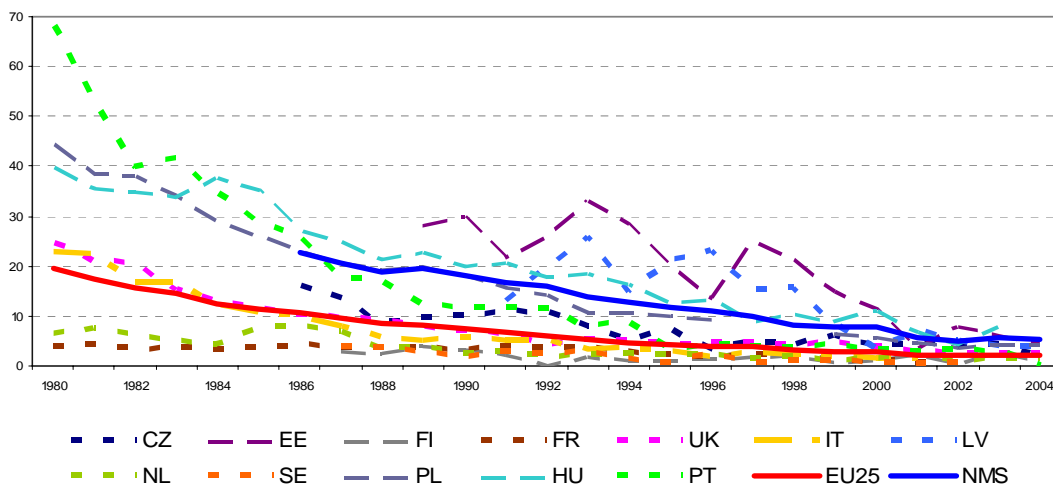
pneumonia, the mortality of influenza is often expressed as excess deaths caused by pneumonia though.

Influenza outbreaks occur every year and in Europe are monitored by influenza surveillance networks that have co-operated and shared information since the mid-1980s. In 2004/2005 a total of 15,295 specimens were positive for influenza virus across the 26 European countries participating in the surveillance network (EISS 2006).

Recorded since the middle of the 18th century, new influenza virus subtypes have caused major global outbreaks at unpredictable intervals. Of these pandemics, the “Spanish flu” in 1918 was the most severe, causing an estimated 20–40 million or more deaths worldwide. Less severe pandemics occurred in 1957 and 1968 (WHO 2005b). Therefore, another important aspect of influenza is the threat of the emergence of a potentially high-pathogenic novel virus subtype capable of causing an influenza pandemic. An avian influenza virus named H5N1 is presently considered the most likely virus to ignite the next human pandemic (WHO 2005b).

WHO reports combined mortality data for acute respiratory infections, pneumonia and influenza in children under 5 years (Figure 2.18). From this it is evident that countries in CEE and the Baltic states as well as Portugal have made significant progress in dramatically lowering death rates from these diseases over the last 25 years, so that the rate for the new member states now almost converges with the EU average. Romania, Bulgaria and TFYR Macedonia have also experienced falling trends, although particularly in the first two countries death rates from these diseases remain incredibly high (111.67, 47.55 and 13.66 per 100,000 respectively).

FIGURE 2.18 SDR, ACUTE RESPIRATORY INFECTIONS, PNEUMONIA AND INFLUENZA IN CHILDREN UNDER 5 YEARS, PER 100,000



Source: WHO Health for All 2006

2.4 Other causes of mortality and morbidity

2.4.1 Injuries

In the WHO European region, injuries are the leading cause of death in people aged 1–44 years. When all age groups are taken together, injuries rank third after cardio vascular diseases and lung cancer, and in 2002 were estimated to cause about 800 000 deaths (8.3% of the total) (WHO Regional Office for Europe 2006a). The three leading causes of injury death in the Region were road traffic accidents, poisoning and self-inflicted injuries, (WHO Regional Office for Europe 2006a). Among all deaths and DALYS lost due to injuries, road traffic accidents accounted for 16% of deaths and 17% of DALYS lost, self-inflicted injuries accounted for 21% of deaths and 16% of DALYS and poisoning 14% of deaths and 10% of DALYS (WHO Regional Office for Europe 2006a).

Injuries disproportionately affect males and younger people. There are also significant disparities across Europe. Injuries accounted for 20% of the burden of disease in the former Soviet Union, 11% in the rest of CEE, compared to 8% in West Europe (Nolte et al. 2005). Russia, in particular, stands out with death rates from injury among the highest anywhere recorded in the world (Chervyakov et al. 2002). If the countries in CEE and the Baltic region that are now member states had childhood injury rates of the EU average level, 2000 deaths among children aged 1–14 would have been prevented between 1991 and 1995 (McKee et al 2004).

The remainder of section of the report focuses on road traffic accidents. Deaths from self-inflicted injuries are discussed in more depth above, under the mental health problems section (XX). As regards, poisoning, this is mainly discussed in this report in the context of alcohol abuse, discussed in section xx .The evidence suggests that acute alcohol poisoning contributes to much of the premature death from poisoning, particularly in the Baltic countries where it accounts for 70%. A range of other toxins has also been implicated in poisoning, including harmful chemicals, pesticides, pharmaceuticals and paraffin. Children are particularly at risk of accidentally consuming these, but information on the nature of the toxins and circumstances in which they were consumed is often lacking (WHO Regional Office for Europe 2006a).

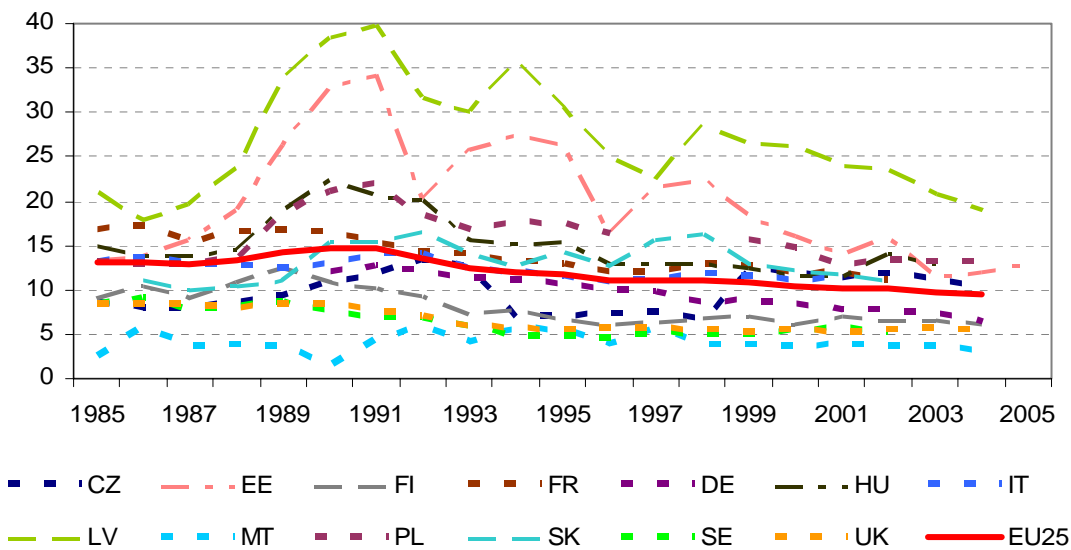
2.4.2 Road Traffic Accidents

Since the 1960s and 1970s there has been a decrease in the numbers and rates of fatalities in high-income countries, including Germany, the Netherlands, Sweden, the United Kingdom in Europe. The reductions in road traffic fatalities in high-income countries are attributed largely to the implementation of a wide range of road safety measures, including seat-belt use, vehicle crash protection, traffic-calming interventions and traffic law enforcement. However, fatality

rates are now stagnating in several countries (Figure 2.19) and new initiatives are therefore needed (WHO Regional Office for Europe 2004). Also, according to the International Road Traffic and Accident Database (IRTAD), pedestrian and bicyclist fatalities have decreased more rapidly than have fatalities among vehicle occupants (WHO Regional Office for Europe 2004). Furthermore, although rates of fatality have fallen, the rates of accidents and casualties appear to have declined only marginally over the last 30 years in west European countries (Figure 2.20) (Short 2001).

While mortality from road traffic accidents has been falling in western Europe, in the rest of the world there has been a pronounced rise in numbers and rates in many low-income and middle-income countries. In Europe, all the countries of new Members States, especially the Baltic States, experienced a significant, although transient, increase in deaths from injuries in the late 1980s and early 1990s. Road traffic accidents, in addition to homicide and suicide, constitute a large part of this increase in deaths from injuries in the new Members States, in particular in Latvia and Estonia.

FIGURE 2.19 SDR, MOTOR VEHICLE TRAFFIC ACCIDENTS, 0-64 PER 100,000



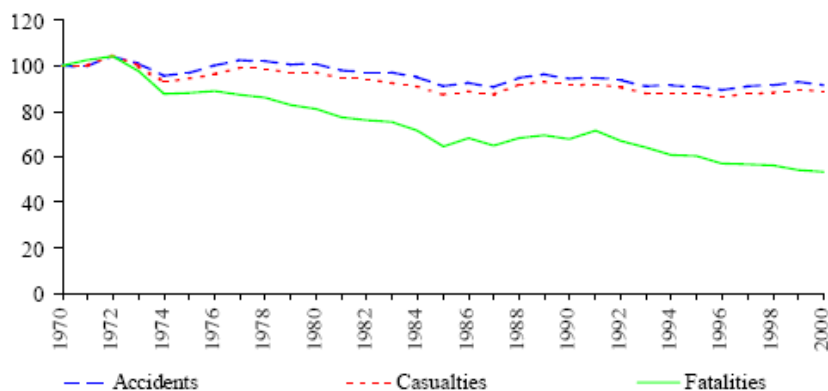
Source: WHO Health for All 2006

Using ECMT (European Conference of Ministers of Transport) transport statistics, one report divides the developments in the CEE countries into three periods since 1985. In the first period from 1985 to 1990, the number of fatalities rose in all the countries – by almost 50% in the EU-10 (with the smallest increase in Slovenia and the greatest in Estonia). However, it is worth noting that even amongst the then EU member states, the number of fatalities rose in the same period by 7%. The second period, 1990-1995, shows a clear decrease of 12% in the EU-10 and of 18% in the EU-15. Hungary and the Baltic States enjoyed the greatest decreases. The third period, 1995-2000, is likewise marked by a general decrease (with the exception of Latvia) – a

14% decline in the EU-10 and a 16% decline in the EU. Thus the EU-10 and the EU-15 exhibit similar trends, although those in CEE are far more extreme. However, when considering the entire period from 1985 to 2002 it becomes clear that while the total number of fatalities in the EU 15 declined by 36%, those in the AC 10 rose by 11%. In 2002 Poland, Slovakia, Latvia, Estonia and the Czech Republic experienced figures worse than those of 1985. At the same time Slovenia achieved the greatest success by reducing road fatalities by 45% (Mikulík 2004).

Poor quality roads, lax enforcement of speed limits and alcohol all contribute to the high level of road traffic incidents in CEE, with alcohol also playing a significant role in the other 'external' causes of death (McKee et al. 2004). Transport volume in the countries of central and eastern Europe and Commonwealth of Independent States countries declined sharply after 1989 following economic recession and therefore probably does not account for the sudden increase in deaths. However, in the countries of CEE, freight volume and passenger transport have been rising again since the mid-1990s, following economic recovery (WHO Regional Office for Europe 2004).

FIGURE 2.20 ROAD TRAFFIC ACCIDENT TRENDS, SELECTED EUROPEAN COUNTRIES*



Source: Short 2001 * Austria, Germany, France, Iceland, Norway, Portugal, Spain, Switzerland, Sweden, UK

According to the transport-related database of the United Nations Economic Commission for Europe, 1.9 million road crashes resulted in nonfatal or fatal injury in the WHO European Region in 2001, with the overall number of injuries 2.4 million. Three fourths of the people involved in crashes were male. This gender difference is especially pronounced among people 15-29 years old: males represent 80% of the total number of victims in that age group. This has been related to a combination of differences in exposure and in risk-taking attitudes. Men have greater average access to motor vehicles, including those with the highest fatality rates, such as motorbikes, than do women. Further, they are more likely to engage in risky behaviour, such as speeding and driving under the influence of alcohol, which increase both the likelihood of crashes and their severity (WHO Regional Office for Europe 2004).

Around the world, older persons (aged 60 years and above) accounted for 16% of the global total for mortality from road traffic accidents (WHO Regional Office for Europe 2004). In some European countries, the over-60 years age group accounts for a higher proportion of all road traffic deaths than the global average. For example, the OECD (2001) found that in 1997, pedestrian fatalities among those aged 65 years and above accounted for 49% of all road traffic fatalities in Norway and the 48.8% in the United Kingdom. However, in the Netherlands the figure was only 5.5%.

There are differences in estimates of mortality and morbidity from road traffic accidents between WHO and other organizations such as the United Nations Economic Commission for Europe and the EU. These result from the original sources of data. WHO uses mortality and health statistics records other organizations use transport and road police authorities' records (WHO Regional Office for Europe 2004). Police reports provide little information on health effects because their purpose is legal, not medical. In particular, systematic misinformation about mild injuries underestimates the real burden of road accidents. The underestimate has been calculated to be between 4 and 5 times lower than the incidence estimated through health-based statistics. Police data on injuries also suffer from conflicting definitions of injury severity. The information gathered on mortality suffers from conflicting definitions, in particular, the lack of distinction between road users. Mortality records, on the other hand, may be hampered by differences in the classification of the cause of death depending on the number of days after which death occurs following the accident (Farchi et al 2006).

Furthermore, efforts to analyse the determinants of differences in road traffic accidents are hampered by the limited international comparability among "risk exposure data". There are incompatibilities among the national definitions (road network, vehicle categories etc.) and/or characteristics (different use of various transport modes in different countries e.g. mopeds and motorcycles). Consequently, the different definitions between travel surveys and accident databases often create problems when travel surveys are used for road safety analyses purposes.

2.5 Preventable risk factors

The causes of the main chronic disease epidemics are well established and well known. The most important modifiable risk factors are:

- tobacco use
- unhealthy diet, including excessive alcohol consumption and excessive energy intake
- physical inactivity

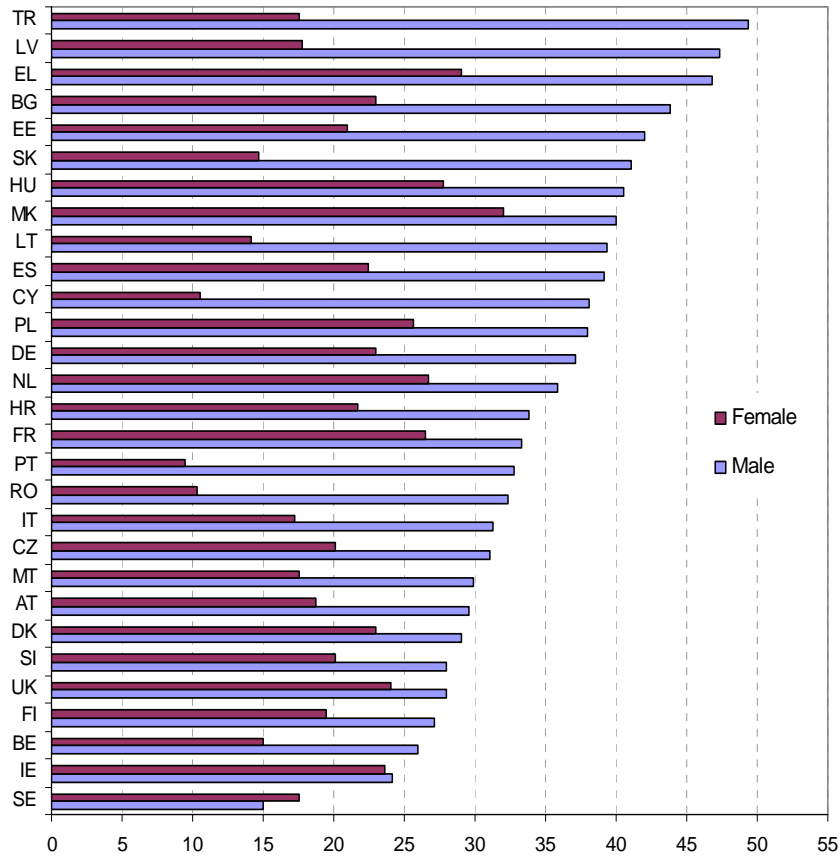
These causes are expressed through the intermediate risk factors of raised blood pressure, raised glucose and cholesterol levels and overweight and obesity. The major modifiable risk factors, in conjunction with the non-modifiable risk factors of age and heredity, explain the majority of new events of heart disease, stroke, chronic respiratory diseases and some important cancers (WHO 2005a).

2.5.1 Tobacco use

In industrialized countries, approximately 80–90% of deaths from COPD and 80–85% of lung cancer deaths are due to tobacco smoking. Smokers have a ten times greater risk of suffering from lung cancer than non-smokers (European Respiratory Society 2003).

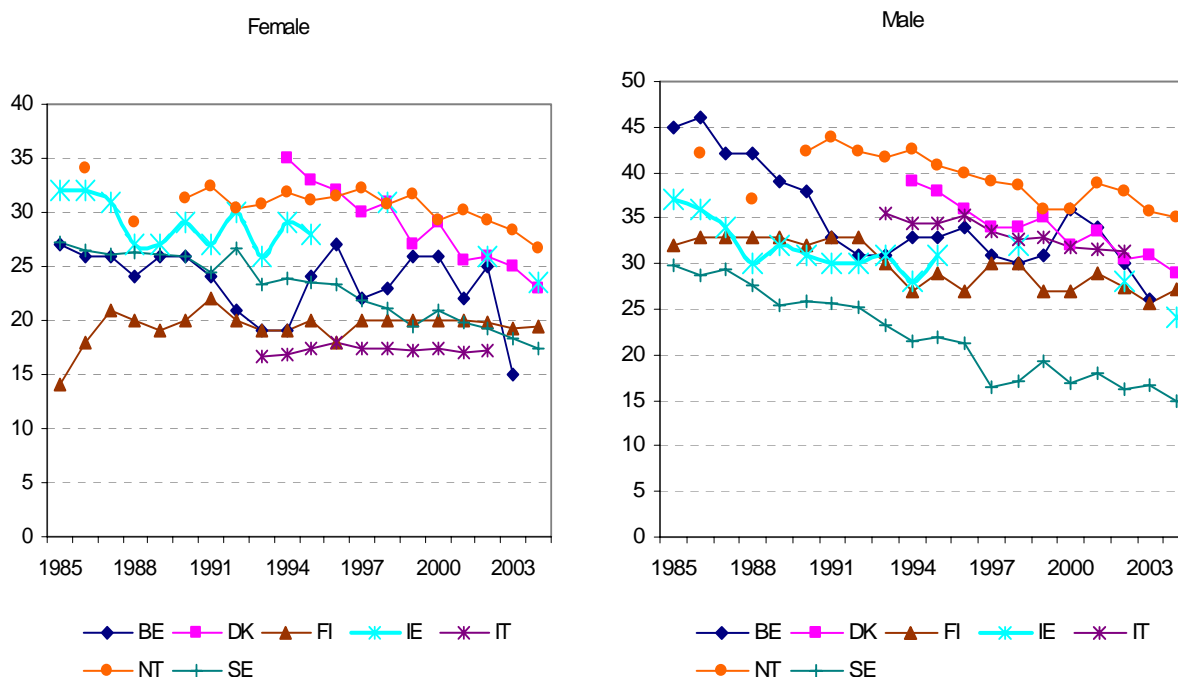
The prevalence and consumption of tobacco is not equally distributed across the European Union. The prevalence of smoking among Turkish, Latvian, Greek men is the highest in Europe, at over 45%. In western Europe, Spain has particularly high rates of male smokers (See Figure 2.21). TFYR Macedonia, Greece, Hungary, Poland, Netherlands and France have the highest rates of female smoking. Sweden is the only EU country with data available where more women now smoke than men. In Ireland the rates are nearly equal. Smoking rates are incredibly high in the countries of CEE (Pudule et al. 1999). While the policy response to tobacco was initially weak, more recently several countries, particularly Poland, Hungary and the Baltic States, have enacted tobacco programmes that are stronger than in many other EU countries (Fagerstrom et al. 2001).

FIGURE 2.21 REGULAR DAILY SMOKERS IN THE POPULATION (%), AGE +15, 2003 OR LATEST YEAR AVAILABLE



Source: WHO Health for All 2006.

FIGURE 2.22 REGULAR DAILY SMOKERS IN THE POPULATION (%), AGE +15 IN SELECTED EU-10 COUNTRIES



Source: WHO Health for All 2006.

Smoking habits usually spread through populations in four stages (Mackenbach et al. 2004). In stage 1, smoking is exceptional and mainly a habit of men in higher socioeconomic groups. In stage 2, prevalence rates peak at 50%–80%, the difference among socioeconomic groups tend to disappear; a gender lag of approximately 10–20 years was observed in smoking behaviour. In stage 3, prevalence among men decreases and individuals in higher socioeconomic groups gradually stop smoking; while women reach their peak in this stage. In stage 4, prevalence rates for both men and women continue decreasing and smoking becomes mainly a habit of lower socioeconomic classes. Different countries are at different stages.

Northern countries are already in stage 4; both men and women in lower socioeconomic groups (education and income) are more likely to smoke (Huisman et al. 2005). Indeed, the probability of being a smoker is between 2 and 3-fold higher among men and women with a low educational level than for those with higher educational attainment in Denmark, Finland and Ireland.

On the contrary, southern countries such as Italy, Greece, and Portugal are still in stage 3. Education- and income-related inequality in smoking favours the better-off among men but not among women; and the social gradient is larger for people in the age-groups 25–34 years for both men and women.

Reflecting this pattern, all EU countries (no data for Latvia) experienced declines in the percentage of men smoking over the last 20 years except Lithuania, Malta and Slovakia; while in Austria, Cyprus, Estonia, Finland, Germany, Greece, Hungary, Lithuania, Luxembourg, Malta and Spain, the percentage of women smoking rose during this time (Joosens 2004). In Italy the smoking rate has remained level. In other many other EU-10 countries, such as Belgium, Ireland and Denmark, the rate has also declined in women (Figure 2.22).

Although the vast majority of tobacco-related death and disability occurs in middle-aged and older adults, smoking behaviour is most commonly established in childhood and adolescence. Worryingly, smoking among young people is increasing in many countries, both among boys and girls, and in western Europe and CEE (Table 2.6).

The reasons for tobacco use among youth are vast and complex, but predominately relate to the behaviour, attitudes, and expectations of parents, peers, and broader society (Tyas and Pederson, 1999). Young people are more likely to become smokers if they have parents, older siblings, and/or friends who smoke (Eiser et al., 1997; Tyas and Pederson, 1999). While parents serve as important models of smoking behaviour, peers are particularly influential, with peer-pressure or peer-bonding considered a major reason for adolescent smoking (Engles et al., 1998; Loud, 1997). Other determinants for youth tobacco use include cultural and religious norms, availability of tobacco products, tobacco control policies and strategies (e.g., pricing of cigarettes), and tobacco advertising, promotion, and marketing efforts (WHO, 2001; Hastings and Aiken, 1995).

TABLE 2.6 **PERCENTAGE OF 15 YEAR OLDS WHO SMOKE AT LEAST ONCE A WEEK**

Country	Girls			Boys		
	1993/94	1997/98	2001/2002	1993/94	1997/98	2001/2002
Austria	31	36	37	29	30	26
Belgium (Flemish)	18	28	23	32	28	23
Belgium (French)	21		24	23		22
Czech Republic	12	18	31	16	22	29
Denmark	24	28	21	14	20	17
England		33	28		25	21
Estonia	6	12	18	22	24	30
Finland	26	29	32	30	25	28
France	25	31	27	23	28	26
Germany	29	33	34	21	28	32
Greece		19	14		18	14
Hungary	19	28	26	25	36	28
Ireland		25	21		25	20
Italy			25			22
Latvia	14	19	21	33	37	29
Lithuania	4	10	18	15	24	35
Malta			17			17
Netherlands			24			23
Northern Ireland	25	28		23	20	
Norway	21	28	27	20	23	20
Poland	13	20	17	23	27	26
Portugal		14	26		19	18
Scotland	26	28	23	21	22	16
Slovakia	5	18		19	28	
Slovenia			30			30
Spain	27		32	20		24
Switzerland	18	25	24	17	25	25
Sweden	19	24	19	15	18	11
Wales	27	29	27	18	22	16

Source: Reproduced from Joosens, 2004, HSBC 2001/02 survey data

2.5.2 Alcohol

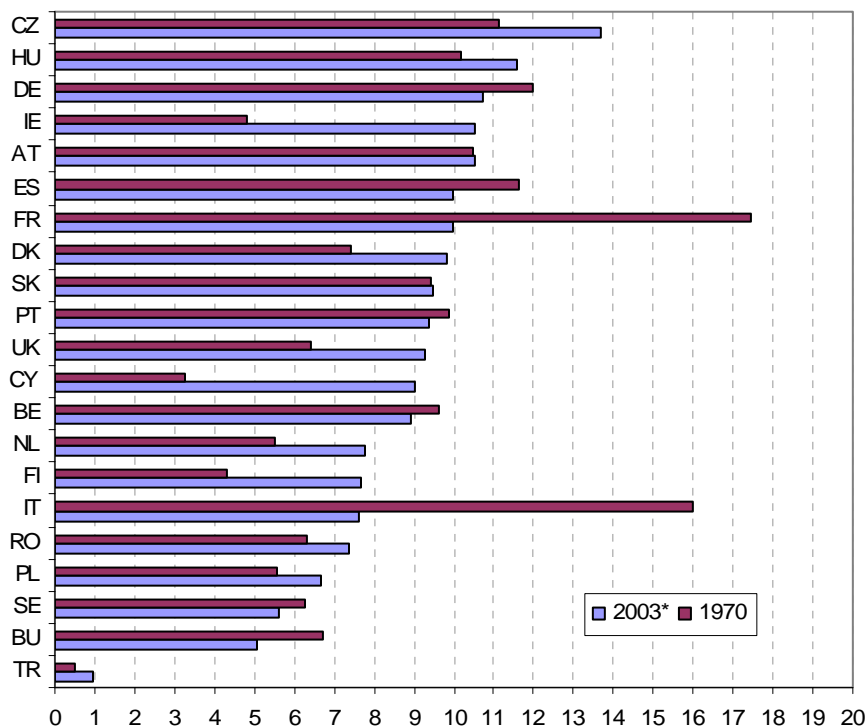
The consumption of alcoholic beverages is estimated to be responsible for about 9% of the total disease burden within the WHO European Region, increasing the risk of liver cirrhosis, certain cancers, raised blood pressure, stroke and congenital malformations. Furthermore, between 40% and 60% of all deaths from intentional and unintentional injury are attributable to alcohol consumption.

On the whole, the European Region has the highest alcohol consumption in the world. Consumption levels for almost all of the countries in Europe greatly surpass the lowest mortality risk level for populations, which has been established at two litres of pure alcohol per person per year (WHO Regional Office for Europe 2001), at 11 litres of pure alcohol drunk per adult each year. This is still a substantial fall from a recent peak of 15 litres in the mid-1970s. The last 40 years have also seen a harmonization in consumption levels in the EU15, where rises in central and northern Europe between 1960 and 1980, were met by a consistent fall in southern Europe (Fig x). Average consumption in the EU10 is also closer to the EU15 than ever before, although substantial variation remains within the EU10 (Anderson & Baumberg 2006).

As a risk factor, alcohol consumption has two dimensions: average volume and patterns of drinking (only the former is expressed in Figure 2.23). Average consumption figures hide wide variations in individual consumption levels and drinking habits. For example research has found that binge drinking of vodka is consistently associated with elevated levels in CVD, especially sudden cardiac death, in eastern Europe (Britton & McKee 2000). Indeed, in the Baltic States, changes in mortality rates and disease patterns can be understood with reference to Gorbachev's anti-alcohol campaign of 1985 (White, 1996). This initially highly effective and wide ranging programme led to an immediate improvement in life expectancy due largely to a decline in cardiovascular disease, injuries, and alcohol-related deaths.

Recently GENACIS, a study of gender related alcohol consumption patterns in 12 European countries (9 EU countries), found that clear gender ratios continue to exist for all drinking measures (except wine drinking) and ratios were larger the more extreme the behaviour (e.g., heavy episodic drinking, abstinence). The divergence between men and women for the frequency of both drinking and drunkenness appears to be lowest in the Nordic countries and the UK, and is also consistently lower in young adults in Europe, where drunkenness is most common (Mäkelä et al 2005). Despite concerns that women are increasingly adopting 'male' patterns of drinking, it is hard to find evidence that the gender gap has decreased for most aspects of drinking due to a lack of longitudinal data, although the gender gap in drunkenness is lowest in young adults (Anderson & Baumberg 2006).

FIGURE 2.23 PURE ALCOHOL CONSUMPTION, LITRES PER CAPITA, 2003* AND 1970



Source: WHO Regional Office for Europe Health for All 2006 *2003 or latest year available

2.5.3 Diet, overweight and obesity

Obesity is a risk factor for a number of conditions, including type 2 diabetes, CVD, joint diseases and cancer. The INTERHEART case-control study estimated that 63.4% of heart attacks in Western Europe and 28% of heart attacks in Central and Eastern Europe were due to abdominal obesity (Yusuf et al 2004). In Europe, 78 000 new cases of cancer each year are estimated to be caused by overweight (International Obesity Task Force 2002).

Obesity in Europe has reached epidemic proportions. Its prevalence has tripled in the last two decades, and if no action is taken there will be an estimated 150 million obese adults (20% of the population) and 15 million obese children and adolescents (10% of the population) in the WHO European Region by 2010 (WHO Regional Office for Europe 2006b).

In Europe, obesity rates range between 9.5 and 27% among men and reach 35% among women (Figure 2.24). It is important to highlight the difficulties in drawing comparisons across countries in obesity, due to potential differences in measurement and lack of standardized

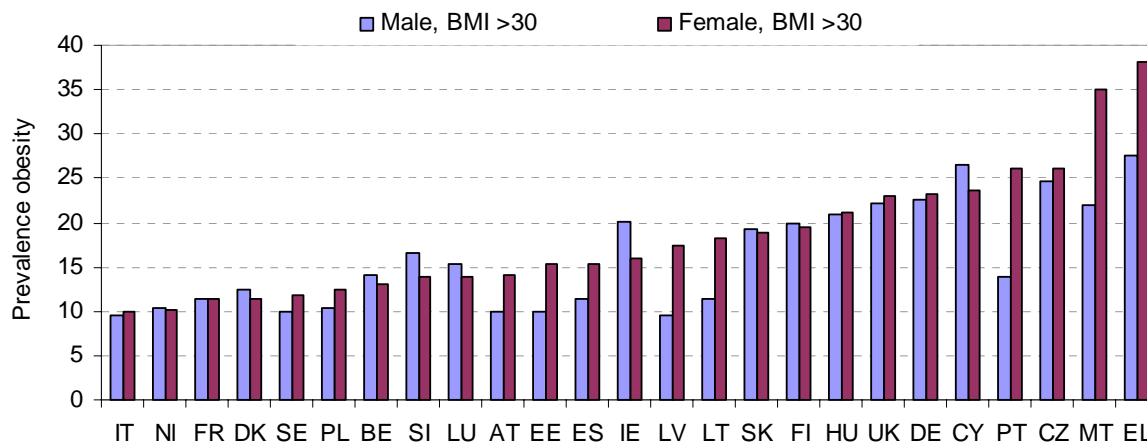
methodology. Italy has the lowest prevalence of obesity both among men and women. Moreover, among men, low rates of obesity can also be found in Latvia, Estonia, Austria and Sweden. Obesity is more common among women than men in the majority of countries. Obesity rates have increased in all countries (International Obesity Task Force, 2005). Central and eastern European countries have experienced a dramatic increase in obesity rates in the last decade (Spritzer 2004). In Hungary, the obesity rate has doubled since 1989. Four-fifths of Latvian women and Czech men have a body mass index greater than 25, therefore are classified as overweight. Compared to the EU average, the prevalence of obesity, particularly among women, is significantly higher in Greece, Malta and Cyprus. An important cause of obesity has been the arrival of fast food and the decrease in physical activity in these countries where the traditional diet is based on meat, fat and non-vegetables.

Of the EU15 countries, Germany, UK and Finland are particularly affected; one in five people in these countries are obese. In France, obesity rates rose from 8% to 11.3% among men and 8.4% to 11.4% among women from 1997 to 2002; in the Netherlands almost doubled among men from the late 1970s to the mid-1990s; and in the UK (between 1993 and 2003) increased from 13.2% to 22.2% among men and from 16.4% to 23% among women.

Obesity not only represents a major public health concern in the EU-25 countries but also in the EU candidate countries. For example, a study of almost 25,000 individuals in Turkey found that 22% of individuals were obese and 7.2% had diabetes while diabetes prevalence increased with Body Mass Index (BMI) score, waste-to-hip ratio and waste girth (Saltman et al. 2002). This study is one of the largest population-based diabetes studies ever performed and looked at both previously diagnosed and undiagnosed cases. In Bulgaria, the 2004 National Nutrition Habits Survey revealed that among those aged 19-60 22% of the males and 17% of the females are obese. For women aged 60-75 those percentages are even higher - 39% are overweight and 32% are obese. The figures of child and adolescent overweight and obesity are also very worrying. The highest percentages are observed for children in the beginning of the puberty - 13 years for boys (25.6% are overweight and 6.9% are obese) and 10 for girls (20.5% and 4.6%, respectively).

Moreover, obesity and its related conditions are unevenly distributed in society. People with lower income tend to consume more meat, fat and sugar; while people with the highest education level, consume more fruit and vegetables (WHO Regional Office for Europe 2005).

FIGURE 2.24 OBESITY RATES IN EUROPEAN COUNTRIES

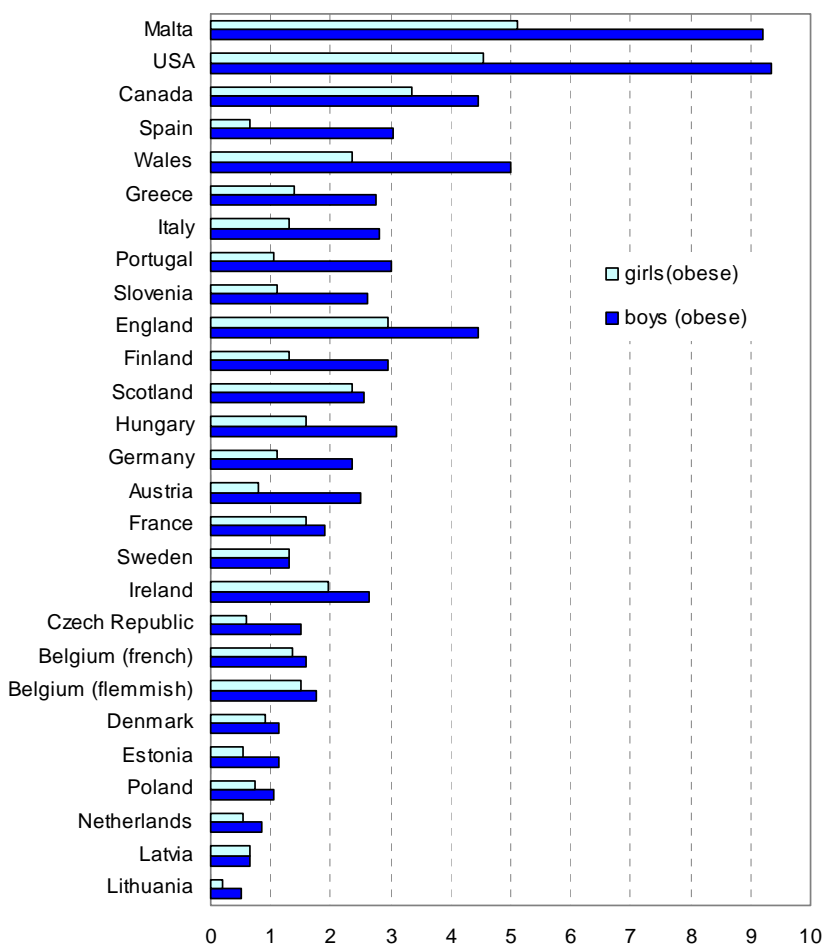


Source: International Obesity Task Force 2005.

Obesity among children is rapidly reaching an epidemic level in many European and North American countries. Countries with the highest percentage of overweight boys and girls (25<BMI<30) are the United States, Malta, Canada, and Wales; while the lowest percentages are observed in Scandinavian countries and central European countries (WHO 2004b). Countries with high prevalence of overweight children tend also to have high rates of obesity (BMI>30). Indeed, obesity rates are highest in Malta and the United States, followed by Canada, England and Wales (Figure 2.25). On the contrary, the lowest rates of obesity are observed in Lithuania, Latvia, the Netherlands, Estonia and Poland. Everywhere, the rate of obesity is larger among boys than among girls, but the difference between genders varies across countries.

The prevalence of childhood obesity and overweight is even larger among the younger population: children aged 7–11 years. It is, indeed, 30% in Malta, Sicily, Spain, Portugal and Italy; and is above 20% in England, Ireland and Cyprus (International Obesity Task Force 2005).

FIGURE 2.25 **PERCENTAGE OF SCHOOL MALE AND FEMALE CHILDREN AGED 13 AND 15, OBESE IN 2001–2002**



Source: HSBC, 2000–2001. (Note: Obesity defined by BMI > 30)

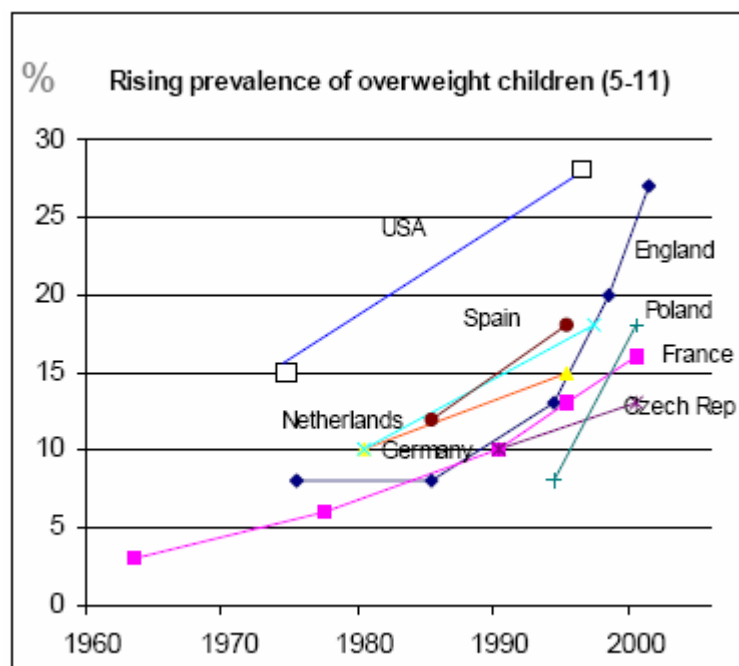
Overweight children have a great risk of becoming overweight adults (WHO 2004b; Parsons et al. 1999) with a higher risk of CVD, diabetes, hypertension and cancer. Type 2 diabetes which until recently was considered a weight-related disease among adults, is now becoming a childhood disease in various European countries such as the UK, Portugal and Sweden (International Obesity Task Force 2002).

Although there are genetic predispositions, an estimated 99% of the factors behind the significant increase in obesity rates among adults and children are environmental. Children are more likely to become overweight if their parents are obese and if they grow up in low income households (International Obesity Task Force 2002). The principal causes of obesity are increased availability and consumption of fast food and decrease in physical activity. A balanced diet and appropriate eating patterns reduce the risk of becoming obese. Children who skip

breakfast are more likely to consume snacks during the day and tend to have a less nutritious diet (WHO 2004b). The consumption of snacks, low consumption of fruit and vegetables, and large intake of sweets and soft drinks are all leading risk factors of childhood and adolescent obesity. Large variations are observed across countries. Eating vegetables among young people is more common in Belgium, France and the Netherlands; and less common in Spain, Hungary, Estonia and Malta. Countries with the highest proportion of young people eating fruit daily are Portugal, Malta and Poland; while eating fruit is less common among young people in the Northern countries. For the consumption of soft drinks and sweets, variations across countries are even larger. In Malta, Scotland and the Netherlands over 40% of young people drink soft drinks and eat sweets, while in Finland and Sweden the proportion is less than 15% (HSBC 200–2001).

Childhood obesity prevalence appears more alarming in southern European countries than in those of Northern Europe. Over 30% of children ages 7–11 are overweight or obese in Malta, Spain, Portugal and Italy while 20% of the same population subset are overweight or obese in England, Ireland, Cyprus, Sweden and Greece (IOTF 2005). Figure 2.26 illustrates the rising prevalence rates that create a sense of urgency in addressing the state of childhood health in Europe.

FIGURE 2. 26 PREVALENCE OF OVERWEIGHT CHILDREN IN SELECTED EUROPEAN COUNTRIES AND THE USA



Source: IOTF 2005

England and Poland display the sharpest rates of increase but the rest of Europe is also facing growing prevalence rates of overweight children. Although the US remains the country with the highest rates of childhood obesity and has traditionally been 10–15 years ahead of Europe in

this public health trend, England has almost caught up with the US in percentage prevalence of overweight children aged 5–11 (IOTF 2005). Annual increases in the percentage of European children becoming overweight were 0.6% in the 1980s, 0.8% in the early 1990s and about 2.0% by the 2000s (IOTF 2005).

It is important to note that several issues are present when interpreting data on BMI. Measures of weight and height are self-assessed in the Health Behaviour in School-aged Children Survey, and underestimation of real BMI is possible because of subjective perception of overweight, dissatisfaction with the body size and feeling of insecurity. Moreover, a large proportion of BMI data is missing in particular among countries with the highest proportion of obese young people, and this missing data are more likely to come from children from high socioeconomic groups, to be physically active, to consume fruit and vegetables; and are more likely to feel the need to lose weight (WHO 2004b).

2.5.4 Physical inactivity

Although the effects of diet and physical activity on health are strongly correlated, physical activity can also be beneficial independently from nutrition and dietary habits, being a fundamental means for improving physical and mental health of individuals (WHO 2004c). Physical activity reduces the risk of cardiovascular diseases and diabetes and has beneficial effect on health. It reduces blood pressure and high concentration of cholesterol in the blood, and reduces the risk of colon cancer and breast cancer among women. Moreover, physical exercise reduces the risk of depression and improves psychological well-being.

Levels of physical activity vary across the EU. On average, in 2004, 47% of citizens of 25 European countries reported exercising or participating in sport at least one or three times a month; 38% at least once a week. Across the EU, the prevalence of individuals who report no physical activity within a month period ranges from 4% in Finland to 66% in Portugal. Scandinavian countries are the most physically active in Europe: more than 90% of Finnish and Swedish citizens reported exercising at least once a month. Relatively high rates of physical activity are also found in Denmark, Slovenia and Ireland. On the contrary, Italians, Hungarians, Greeks and Portuguese lead a more sedentary lifestyle, with 58%, 60%, 57% and 66% of respondents in these countries claiming to never play sport or exercise (European Commission Special Eurobarometer 2004).

Men tend to exercise more often than women. Time spent exercising is inversely correlated with age: 60% of individuals aged 15–25 declared to do sport at least once a week, the proportion decreases to 41% among individuals aged 25–39, to 34% among those aged 40–54, and then to only 28% of individuals over 55 years old.

Physical activity may consist of planned and structural movements or competitive sports, but also routine activities such as household jobs, shopping and work. It is indeed possible to distinguish 4 kinds of physical activities: leisure-time, work, commuting and home.

The Health Behaviour in School-aged Children (HSBC) study measures the number of days in which young people (11, 13 and 15 years) are physically active for at least one hour (the recommended minimum for young people (Biddle et al. 1998; Pete et al. 1998)). On average, young people undertake at least one hour of moderate physical activity for 3.86 days per week but large variations are found between boys and girls and across countries (Table 2.27). In all countries, boys are more physically active than girls. The most active countries are Ireland, Czech Republic and England, while the less active are France, Belgium (Flemish) and Portugal. Moreover, physical activity tends to decline with age but in some countries more than in others (WHO 2004b).

TABLE 2.7 PHYSICAL ACTIVITY (PA) AND SEDENTARY BEHAVIOUR DURING WEEKDAYS AMONG YOUNG PEOPLE, 2000 2001: EUROPEAN COMPARISONS.

Country	Days PA >1 hour		TV >= 4 hours weekdays		Computer >= 3 hours weekdays	
	Boys (%)	Girls (%)	Boys (%)	Girls (%)	Boys (%)	Girls (%)
Austria	4.50	3.87	16.8	13.2	17.07	7.27
Belgium (Flemish)	3.40	2.83	26.4	18.3	18.60	8.83
Belgium (French)			21.1	17.1	17.47	5.97
Czech Republic	4.57	4.00	29.3	22.9	23.40	5.20
Denmark	3.93	3.63	25.5	21.1	27.93	4.63
England	4.63	3.83	31.3	29.7		
Estonia	3.63	3.27	43.3	33.6	28.33	7.17
Finland	3.93	3.67	18.6	19.6	18.27	2.97
France	3.50	2.70	21.4	16.9	11.53	3.90
Germany	3.87	3.33	22.6	18.3	19.07	5.20
Greece	4.33	3.53	21.7	14.5	15.00	3.30
Hungary	4.03	3.37	22.0	18.8	18.63	5.73
Ireland	4.83	4.10	21.5	17.3		
Italy	3.70	3.20	21.1	24.4	11.03	4.53
Latvia	4.07	3.43	43.1	37.1	21.77	7.90
Lithuania	4.63	2.73	38.4	29.3	18.37	5.37
Malta	4.20	3.17	19.4	16.2	20.37	8.37
Netherlands	4.17	3.93	27.0	20.4	23.50	8.93
Poland	4.27	3.80	34.2	24.4	24.70	8.03
Portugal	3.80	3.00	31.5	33.9	23.20	6.57
Scotland	4.47	3.77	31.6	29.7	32.30	13.03
Slovenia	4.53	3.77	20.9	16.9	17.37	3.60
Spain	4.07	3.53	22.8	21.9	13.43	6.63
Sweden	4.03	3.80	18.7	17.0	27.17	7.87
Wales	4.37	3.70	31.1	32.3	22.70	9.97

Source: HSBC 2000–2001.

Note: Physical activity is defined as “any activity that increases your heart rate and makes you get out of breath some of the time. Physical activity can be done in sports, school activities, playing with friends, or walking to school.”

The causes of physical inactivity are varied. Between 1970 and 1997 the amount of automobile passenger km more than doubled (1500 to 3700 km) whereas other methods of transport have remained at low levels (WHO 2003). The number of people who either walk or cycle to schools or offices has dramatically decreased in the last decade. Computers and televisions have also changed peoples lifestyles by encouraging more sedentary behaviours.

The Health Behaviour in School-aged Children study is the main source of data for analysing trends in physical activity, sedentary behaviours, eating habits and obesity at the international level in young populations. However, measuring physical activity among children is not straightforward and comparison across countries are complicated by the role that physical activity plays at school and the amount of free time during the school day dedicated to non-organized activities. Moreover, environmental characteristics such as patterns of travelling to school, availability of leisure facilities and difference in climate might cause geographical variations and different interpretations of the questions (WHO 2004b).

2.6 Avoidable mortality in Europe

Several approaches have been developed in attempts to quantify the contribution of the health system to health improvement. The most widely used to date makes use of readily available mortality data and makes assumptions about certain causes of death that should not occur in the presence of timely and effective medical intervention. This method has given rise to the development of numerous terms including “avoidable mortality” and “mortality amenable to health care”.

Avoidable mortality as a concept was first developed by Rutstein and colleagues as a measure of quality of care in the 1970s (Rutstein, Berenberg et al. 1976). Since then this concept has been commented on, reviewed by and developed by several authors, most importantly, Holland, Charlton, Mackenbach and Westerling (Charlton, Hartley et al. 1983; Holland and Breeze 1985; Holland 1988; Mackenbach, Bouvier-Colle et al. 1990; Holland 1991; Westerling 1992; Holland 1993; Holland, Fitzgerald et al. 1994; Holland 1997) and applied at the country level (French and Jones 2006). Nolte and McKee have updated the analysis using data from the 1980s and 1990s ²(Nolte and McKee 2004).

² Unfortunately the work of Walter Holland in producing the European Community Atlases of avoidable mortality was discontinued in 1997 with the latest available data from 1985–89. The recent work of Ellen Nolte and Martin McKee was incredibly useful, however data were only available at a country (and not region) level.

Analyses of avoidable mortality are essentially based on a list of selected disease groups that are considered to be effectively treatable or preventable by health care services³. This work has focused on differentiating the causes that are responsive to medical intervention through secondary prevention and treatment ('treatable conditions'), and those responsive to interventions that are usually outside the direct control of the health services through inter-sectoral health policies ('preventable' conditions)⁴.

Improved access to timely and effective health care has a significant impact on health, in particular through reductions in infant mortality and in deaths among the middle aged and older people. Studies indicate that improvements in life expectancy can be attributed largely to improvements in mortality from amenable conditions, particularly during the 1980s (Nolte and McKee 2004). These improvements in most countries resulted from falling infant mortality. However, falling mortality among the middle-aged was the main driver of improved amenable mortality in Denmark, the Netherlands, the UK, France (men) and Sweden (women). In the 1990s, while amenable mortality remained an important contributor to improvements in life expectancy in southern Europe (especially Portugal and Greece), its contribution to improvement in health in other countries was less significant, although still accounted for 20% of the total improvement among women.

A recent comprehensive study of avoidable mortality in Europe uses data extracted from the WHO mortality files for the period 1990–2002 (Newey, Nolte et al. 2003). Levels and trends in avoidable mortality are examined by calculating age-standardized death rates with direct standardization to the European standard population. This analysis is restricted to the larger countries of the EU, thus excluding Malta and Luxembourg, and also limited to those with sufficient data for the time period, thus excluding Cyprus, Turkey, Belgium, Slovakia, Denmark and Greece. It is unfortunate that some countries are unable to produce timely mortality data, thus limiting the extent to which these methods can be applied across Europe.

Treatable mortality

Three of the main causes of treatable deaths include infant mortality, cerebrovascular disease, and testicular cancer. As shown in Figure 2.27, treatable mortality was highest in central and eastern European countries (particularly Romania, Bulgaria and Hungary) in both 1990/91 and 2000/02. Portugal is the only EU 15 country to display similarly high levels. Levels were lowest

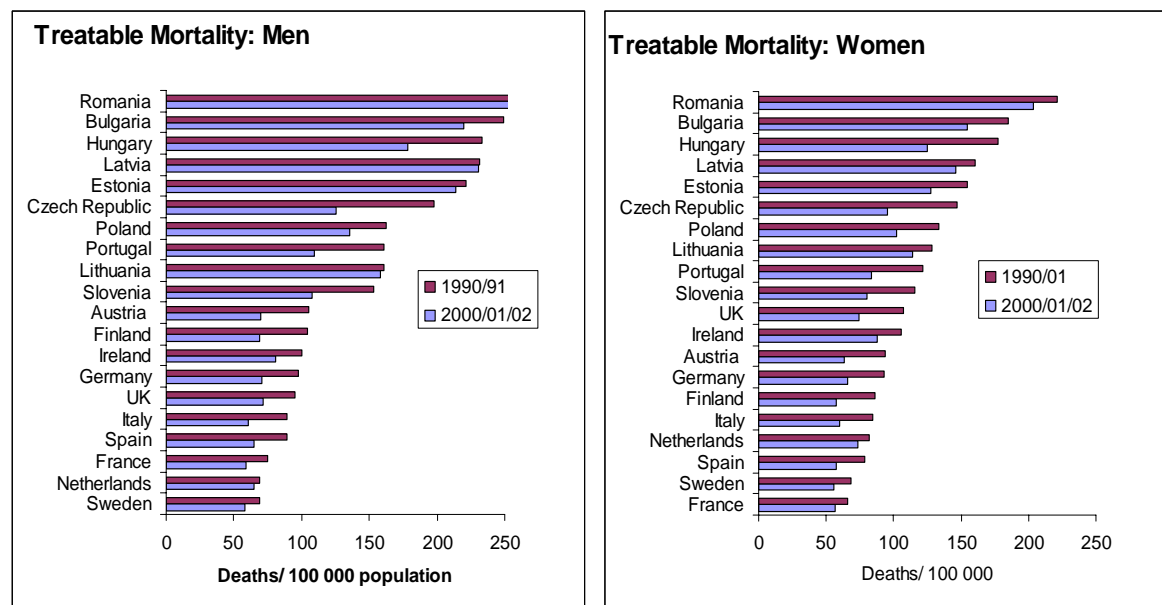
³ It is important to note the methodological difficulties associated with attributing specific risk factors, such as diet and physical activity, to preventable conditions. More work in this area needs to be done to better make the link between risky behaviours and premature, preventable deaths (as noted in the final section).

⁴ There are over 30 conditions considered treatable, some examples are: cancer of the colon, skin, cervix, testis and breast; diabetes mellitus; epilepsy; pneumonia; appendicitis; thyroid disease; measles. Three conditions are considered preventable: deaths from lung cancer, motor vehicle and traffic accidents and cirrhosis of the liver. It is important to note that over time the conditions that are considered treatable may change, therefore it is difficult to draw conclusions about time trends. However cross-country comparisons are not subject to the same methodological limitation, since at one point in time, the same standards in terms of quality of health care should apply to all countries.

in France (women) and Sweden (men). All countries, except Romania (men), experienced declines in treatable mortality during the 1990s, particularly Portugal, Austria and Finland as well as new EU member states (in Czech Republic, rates declined by around one-third). Comparatively less progress was made in the Baltic States Latvia, and Lithuania, declining by only 0.4% and 1% for men respectively, and 9% and 11% for women over the time period.

Analysis of treatable mortality can also reveal the proportion of all cause mortality is from treatable disease. In 1990/91, treatable mortality accounted for between 13% (Netherlands) and 30% (Bulgaria) of mortality under 75 in men and 26% (Sweden) and 44% (Romania) in women. These relative proportions changed very little over time for both men and women. Therefore, it seems that much can be done to reduce overall mortality rates by targeting the health system – even in Sweden, which has one of the healthiest populations in Europe, could cut mortality by a quarter by better treating disease.

FIGURE 2.27 AGE-STANDARDIZED DEATH RATES OF TREATABLE MORTALITY IN 18 EUROPEAN COUNTRIES, 1990/91 AND 2000/02



Preventable mortality

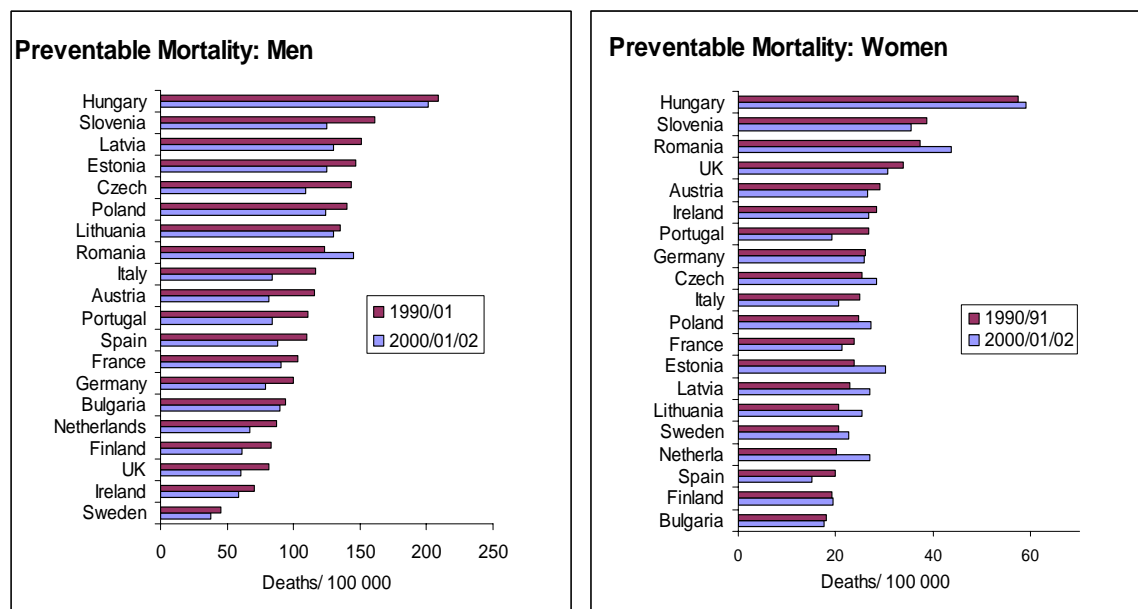
Preventable mortality estimates combine three major causes: deaths from lung cancer, motor vehicle and traffic accidents and cirrhosis of the liver. There is a substantial gap between rates of preventable mortality for men and women in all countries, with death rates among men at least twice those of women (Figure 2.28). This gender gap in preventable mortality is most pronounced in the new Member States of central and eastern Europe, which also show the highest absolute values, especially for Hungarian men. This gap reflects the much greater exposure to risks such as drinking and smoking among men. For women, death rates were again highest in Hungary, followed at some distance by Slovenia and Romania, as well as the United Kingdom.

Unlike the situation with treatable causes, throughout the 1990s men have consistently seen declines in preventable mortality whilst women have not. The declines among men were most prominent in Italy, Austria, Portugal, Finland, the United Kingdom Czech Republic and Slovenia. Preventable mortality among women declined in some countries, particularly those in the Mediterranean region, and increased in Sweden and the Netherlands and all new member states (except Slovenia) and Romania. By 2000/2002, levels of preventable mortality among women were lowest in Spain and Portugal, as well as Bulgaria.

Overall, deaths from preventable causes accounted for between 10% of all-cause mortality (Sweden) and 21% (Italy) for men and between 4% (Bulgaria) and 11% (Hungary) for women in

1990. While for men the share remained fairly stable over the 1990s, it increased for women in all countries except Spain and Portugal, to over 10% in most EU15 countries in 2000/02, with highest proportion in Slovenia and Hungary (13–14%).

FIGURE 2.28 AGE-STANDARDIZED DEATH RATES OF PREVENTABLE MORTALITY IN 18 EUROPEAN COUNTRIES, 1990/91 AND 2000/02



2.7 Socioeconomic inequalities in morbidity and mortality

Although the gap in life expectancy has narrowed in the EU15, there are still differences in health status within and across countries. Health inequalities have surely decreased in absolute terms in the last 30 years, but it is not clear whether inequalities have also declined in relative terms. Income, education and occupational status affect health and life expectancy both directly and indirectly through psychosocial factors. People at the lower end of the social ladder are more likely to report ill health than those near the top, both at the individual and population level. A social gradient is present all along the social spectrum. Eradication of poverty and social exclusion were among the objective of the special European summit in Lisbon in 2000.

Almost all European national surveys and also many international surveys have questions on socioeconomic status (occupational, education, and/or income) and various objective and subjective measures of health. Some of the national and then international results will be reported although we do not aim at covering the full literature on this topic. By analysing the relationship between living condition factors and health, it emerges that everywhere the better-off are more likely to report better health (Mackenback, 2006). Psychosocial factors together

with socioeconomic factors seem also to play an important role in explaining health inequalities in particular in Central–Eastern European countries (Lynch et al, 2001; Mackenbach, 2006). International trends in socioeconomic inequalities are described in only two of the studies reported. The first study found that education inequalities in self-assessed health was quite stable for men but slightly increased for women between the 1980s and the 1990s in 9 western countries (Kunst et al 2005). Increasing socioeconomic inequalities in health were observed in Italy, the Netherlands and Spain, but not in Northern countries. From the second study (Hernandez Quevedo et al, 2005) emerges that income inequalities in daily limitation was larger in the long (between 1994 and 2001) than on the short run (14 western European countries analysed). Countries with higher long-run inequalities are Ireland, Spain and Portugal, while lower inequality was observed in Germany and Finland.

A clear relation between employment grade and health status was found for both men and women in England by the results of the Whitehall studies I, II, and III (Asthana et al. 2000; Marmot et al. 2005). Even after controlling for age differences, the social gradient in health was particularly large for angina symptoms and mental disorders. For each age group, people in higher socioeconomic classes reported better health status, and fewer angina symptoms and mental disorders than individuals in lower social class. Socioeconomic differences in angina symptoms and self-assessed health decreased with increasing age; while, for mental health problems socioeconomic inequalities were largest in the working-age group.

In Finland, metabolic syndrome and CHD were more prevalent in individuals with low education compared with university education (Silventoinen et al. 2005). Household income, education and occupational class were also found to be powerful determinants of inequalities in longstanding illness for both Finnish men and women (Lahelma et al. 2004). The risk of suffering from limiting longstanding illness was much greater among women and men in a lower socioeconomic condition. Education, occupation and income were all found as significant determinants of longstanding illness, although being these socioeconomic factors also correlated with each other; part of the effect of each socioeconomic indicator was explained or mediated through other socioeconomic factors. For example, the effect of income on health can be partly explained by education and occupational status.

In Sweden, a social gradient was found for coronary heart disease (CHD); the relative risk of CHD among non-skilled workers was nearly two-folds higher than for high-level non-manual workers (Hemmingsson and Lundberg 2005).

In Northern Ireland and France (PRIME study), a socioeconomic gradient was found for long-term risks of CHD (Yarnell et al. 2005). Men with CHD were more likely to live in poor material circumstances, be unemployed, or have low education. Among those free of CHD at baseline, socioeconomic differentials in risks factors are evident but only education and unemployment status contributed significantly to risk of CHD at 5-year follow up.

Among Spanish men, job insecurity was associated with a nearly three-fold higher risk of having poor health; and the prevalence of poor self-assessed health status was higher among unskilled workers, semi-skilled, small employers, and petit bourgeoisie than among managers and supervisors (Borrell et al. 2004).

In Latvia, income differences were found to be the main determinants of poor self-assessed health (Monden 2004). Among men in the lowest income quintile the probability of reporting poor health was over five times more likely than for people in the highest quintile; and among women it was over three times higher. Occupational status was also strongly related to health status, with unskilled blue-collar male workers five times more likely (and three times more likely among women) to report bad health when compared with manager and professionals. Low education and unemployment were also associated with poor self-reported health. After adjusting for education, only income differences and economic inactivity remained strong determinants of reported health status. The magnitude of socioeconomic differences was lower for indices of longstanding illness than for indices of poor self-assessed health.

A social gradient in self-reported health was also found in Estonia (Leinsalu 2002). For women and men with low educational level the risk of being in poor health was respectively four-fold and two-fold higher than for those with the highest educational status.

Among Hungarian men, the main risk factors of self reported morbidity were low personal income, alcohol consumption and BMI in 1988 (Kopp et al. 2004); while among women, they were BMI, number of cigarettes per day and wine consumption. No socioeconomic indicators were significantly associated with reported health status among women. By 1995, however the situation had changed; cigarette consumption was a significant risk factor for poor health for men and women. Moreover, among men, morbidity was significantly correlated with educational level; while among women poor health was mainly associated with personal income. After including other psychosocial factors in the regression model, the effects of income and education decreased, and morbidity among men in 1995 was explained by depression (measured by the Beck Score), years of smoking and perceived control in work; and among women, by depression and anxiety.

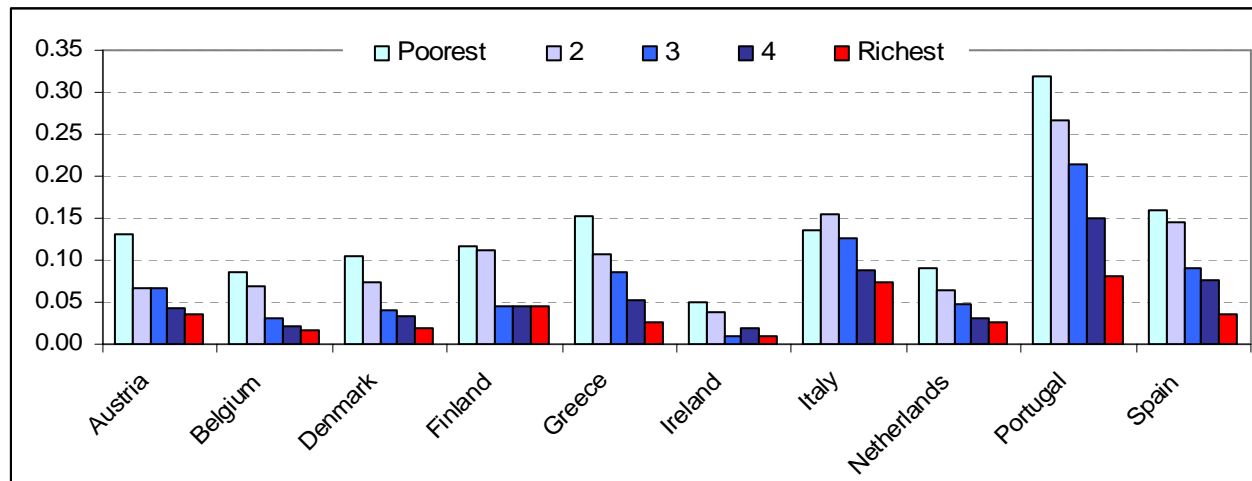
Similarly, in Bulgaria, the probability of reporting poor health increases with age and decreases with educational level (Balabanova and McKee 2002). Self-assessed health is also associated with financial status and this seems to be a much better predictor of health than income, in particular among women.

Education-related inequalities in common chronic diseases were found also in a cross sectional study that covered the following 8 countries –Belgium, Denmark, Finland, France, Great Britain, Italy, the Netherlands, and Spain (Dalstra et al. 2005). Most diseases showed higher prevalence among people with low educational level, only allergy was more common in the high education group. Significant inequalities favouring the better-off were reported for stroke, diseases of the

nervous system, diabetes and arthritis. No statistically significant inequality was found for cancer, kidney and skin diseases. The size of socioeconomic differences in chronic diseases varied largely between men and women. For diabetes, hypertension, and heart diseases inequalities were higher among women; while for back and spinal cord disorders inequality was higher among men.

Moving on to analysing difference in socioeconomic inequalities in self-assessed health in Europe, although there are significant differences in health status across countries (see section 2.1), in the all the 10 countries analysed (Austria, Belgium, Denmark, Finland, Greece Ireland, Italy, Netherlands, Portugal, and Spain) people in the lower socioeconomic status are more likely to report ill-health. Clear education and income gradients are, indeed, present in everywhere (Figure 2.29 and 2.30). People with higher income and better education attainment are less likely to report either poor or very poor health everywhere.

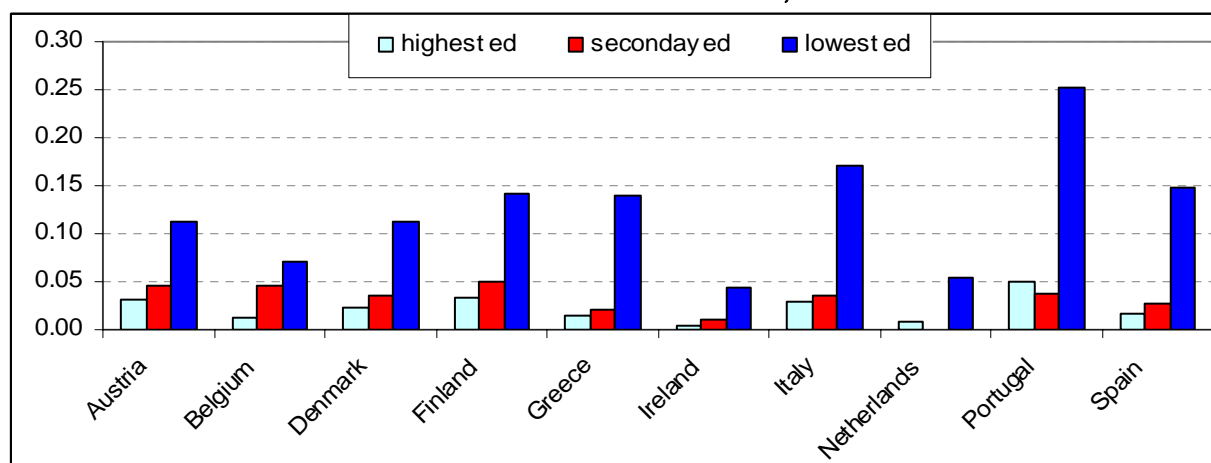
FIGURE 2.29 ILL-HEALTH BY INCOME QUINTILES IN 10 EUROPEAN COUNTRIES, 2000



Source: European Community Household Panel Survey, 2000.

Socioeconomic differences in self-assessed health status are found also in eastern European countries such as Russia, Estonia, Lithuania, Latvia, Hungary, Poland and Czech Republic; and the findings are not dissimilar from those in the EU-15 (Bobak et al. 2000). Education and material deprivation are important determinants of health status; people with higher education are less likely to report poor health. Low perceived control in work was also significantly associated with poor health, even after adjusting not only for age and gender but also for education, deprivation, and inequality.

FIGURE 2.30 ILL-HEALTH BY EDUCATION LEVEL IN 10 EUROPEAN COUNTRIES, 2000



Source: European Community Household Panel Survey, 2000.

According to Kunst et al (2005) education-related inequalities in self-reported health remained, on average, stable for men but slightly increased for women between the 1980s and the 1990s (Table 2.8), in the 9 western European countries. Increasing socioeconomic inequalities in health were observed in Italy, the Netherlands and Spain, but not in Northern countries, suggesting that Northern countries' welfare states had mechanisms to protect people in lower socioeconomic classes from the health effects of the economic crises in the 1990s. However, large socioeconomic inequalities in reported health status still persist in all the 10 western countries analysed.

Hernandez et al (2005) found that long-run⁵ income inequalities⁶ (between 1994 and 2001) in health (defined as hampered in daily activity by any physical or mental health problem, illness or disability) are higher than short-run inequalities in 14 countries (Table 2.9).⁷ The short- and long-run inequalities are negative in all countries, implying that income-related inequalities in ill-health is pro-rich. Poorer people are more likely to be hampered to same extent in daily activity in all 14 countries. Larger long-run inequalities are observed in Ireland, Spain and Portugal, and the lower in Germany and Finland. Although, in all countries, inequality varies widely across waves, only in Germany, Greece, and Spain, inequality is in absolute term greater at the beginning of the reference period than at the end. The largest increases in inequalities

⁵ 8 waves (from 1994 to 2001) of the European Community Household panel were used to construct a long-run measure of health inequality (Jones and Lopez Nicolas, 2004).

⁶ Health inequalities is measured by using concentration indices (short-run CI^s and long-run CI^l). The concentration index (CI) is a derivation of the Gini index. If the CI equals zero there is no inequality, while if the index is negative (positive), the poor (rich) are more likely to report ill-health and the inequality in ill-health is pro-rich (pro-poor). The mobility index (MI^T) measures the difference between long-run and short-run inequality (for a detailed description of the index see Jones, Lopez Nicolas, 2004). The larger the difference, the greater the value of MI^T. If MI^T equals zero, short and long-run inequalities coincide. If MI^T is negative (positive), long-run inequalities are larger (smaller) than the weighted average of short-run inequalities.

⁷ Austria (wave 2-8), Belgium (1-8), Denmark (1-8), Finland (1-8), France (1-8), Germany (1-3), Greece 91-8), Ireland (1-8), Italy (1-8), Luxemburg (1-3), the Netherlands (1-8), Portugal (1-8), Spain (1-8), UK (1-3).

across the available waves are observed in Austria, Finland, and Luxemburg.; while in UK and Germany, CI is quite stable (but there are only 3 waves available in these two countries). Moreover, in all countries the mobility indices are negative. Therefore, income-related inequalities in ill-health is larger in the long than in the short run everywhere. Downwardly income-mobile individuals are more likely to suffer any limitation in daily activity due to their health status than upwardly mobile individuals. The largest difference between short and long-run inequalities is in Ireland and Italy, and the lowest in Germany and the UK.

TABLE 2.8 **MAGNITUDE OF EDUCATIONAL DIFFERENCES IN PAIR/POOR SELF-ASSESSED HEALTH: MEN AND WOMEN AGED 25–69 YEARS (ODDS RATIOS^a, 95% CONFIDENCE INTERVALS)**

Country	Men		Women	
	1980s	1990s	1980s	1990s
Finland	3.15 (2.55–3.88)	2.99 (2.44–3.66)	2.86 (2.28–3.58)	3.29 (2.60–4.18)
Norway	2.37 (1.71–3.29)	2.37 (1.70–3.30)	3.32 (2.37–4.66)	3.06 (2.22–4.23)
Denmark	2.93 (2.16–3.9)	2.30 (1.73–3.04)	3.10 (2.13–4.50)	2.84 (2.10–3.82)
England	3.11 (2.27–4.25)	3.08 (2.57–3.68)	2.08 (1.59–2.71)	2.66 (2.21–3.19)
Netherlands	2.95 (2.46–3.52)	2.81 (2.39–3.30)	1.95 (1.63–2.35)	2.12 (1.81–2.49)
W. Germany	1.50 (1.20–1.88)	1.76 (1.44–2.14)	1.89 (1.43–2.50)	1.91 (1.50–2.44)
Austria	3.39 (2.92–3.93)	3.22(2.79–3.71)	2.75 (2.37–3.19)	2.67 (2.31–3.07)
Italy	2.05(1.79–2.34)	2.94 (2.54–3.40)	1.86 (1.62–2.15)	2.55 (2.20–2.95)
Spain	1.86 (1.56–2.17)	2.58 (1.81–3.67)	1.97 (1.63–2.37)	3.10 (2.18–4.41)
Tot (excl. Italy)	2.61 (2.41–2.83)	2.54 (2.35–2.75)	2.48 (2.28–2.69)	2.70 (2.50–2.92)

^a The reference category in all countries is higher educational level

Source: Kunst et al. 2005.

TABLE 2.9 INEQUALITY AND MORBIDITY INDICES ACROSS 14 EU MEMBER STATES

	1994	1995	1996	1997	1998	1999	2000	2001	CI ^T	MI ^T
DE	-.090	-.076	-.089	-	-	-	-	-	-.089	-.040
DK	-.149	-.187	-.165	-.183	-.155	-.189	-.224	-.175	-.198	-.104
NL	-.064	-.112	-.108	-.103	-.104	-.125	-.113	-.092	-.114	-.120
BE	-.133	-.160	-.118	-.167	-.110	-.163	-.179	-.152	-.163	-.116
LU	-.083	-.138	-.200	-	-	-	-	-	-.155	-.126
FR	-.129	-.139	-.146	-.146	-.141	-.159	-.155	-.168	-.166	-.110
UK	-.167	-.173	-.182	-	-	-	-	-	-.185	-.062
IE	-.153	-.193	-.237	-.250	-.278	-.273	-.275	-.269	-.299	-.240
IT	-.090	-.106	-.107	-.098	-.075	-.087	-.119	-.117	-.119	-.202
EL	-.202	-.218	-.162	-.206	-.197	-.220	-.217	-.167	-.224	-.126
ES	-.188	-.182	-.141	-.131	-.144	-.178	-.174	-.178	-.182	-.100
PT	-.112	-.163	-.194	-.188	-.187	-.172	-.161	-.182	-.190	-.122
AT	-	-.116	-.129	-.136	-.146	-.160	-.163	-.181	-.153	-.038
FI	-	-	-.067	-.093	-.114	-.108	-.108	-.114	-.108	-.061

Moreover, relative socio-economic inequalities in morbidity still persist in older people (Huisman et al, 2003 and 2004). Health status deteriorates when age increases and, although there is wide heterogeneity among western European countries, Southern countries such as Greece, Italy, Portugal, Spain have lower socio-economic inequalities in mortality but higher in morbidity. Huisman et al (2003) found that both relative and absolute in self-reported health, limitations in daily activity, and long-term disability decrease tend to decrease after the age of 60. However, the age pattern of socio-economic inequalities (income, education and house tenure) diverges among men and women. Women have lower level of inequalities in mortality but higher in morbidity than men. Indeed, women are more likely to live longer but have a higher probability of being sick and experiencing chronic illness at later age. Moreover, older women have a higher probability of being in the lowest income quintiles, and to live alone and not to own a house or flat.

Concluding remarks: Part One

Although health status has improved in all EU-15 Member States since the 1970s significant inequalities remain between countries and within countries. The EU-15 countries, Malta and Cyprus have experienced a steady increase in life expectancy over the last 25 years and most of them have high life expectancies when compared to CEE countries. These longevity gains are largely due to a significant fall in mortality rates at advanced ages, although a high degree of heterogeneity can be observed across countries.

The former Eastern Bloc countries that are now members of the EU experienced stagnating male mortality and only very minor improvements in female mortality in the 1970s and particularly the 1980s. Overall, death rates among middle-aged men were about 2.5 times higher in CEE than in Western Europe. Most countries in the former Eastern Bloc experienced a mortality crisis in the early 1990s after the fall of communism. This worsening of mortality was in many cases short-lived and followed by improvements in health. Some new Member States in which the political and economic transition significantly worsened health have experienced noticeable improvements in recent years and in some cases approach or surpass the EU average in health attainment. Like the EU-15, the new Member States and accession and candidate countries are beginning to face emerging health threats: inequalities in health and ageing population.

The Baltic states, Turkey, Bulgaria, Romania and TFYR Macedonia, however, lag behind both the CEE countries and EU-15 averages in many mortality and morbidity indicators.

CEE countries also lag behind in avoidable mortality indicators. Avoidable mortality measures death from certain causes that should be avoided in the presence of timely and effective medical care; therefore providing a link between population health and the effectiveness of the health system. High performers in terms of avoidable (treatable) mortality include France, Sweden, Spain, Italy and the Netherlands, with consistently high levels of avoidable mortality (poor performers) in Romania, Latvia, Estonia, Bulgaria and Hungary. Romania and Bulgaria have the highest level of avoidable mortality among the countries analysed, accounting for almost half of total mortality in men in the former. The data suggests that in these countries, more needs to be done to improve public health policies to address lifestyle related risk factors – such as in the areas of tobacco control – and improve access to and quality of health care services.

Indeed, the east-west health gap has mainly been attributed to three causes of death: injuries and violence, cardiovascular disease, and cancer; combined with underlying social and economic factors. These different mortality patterns across Europe are understood in this report by examining the common risk factors such as cigarette smoking, alcohol consumption and obesity. For example, the incredibly high smoking rates and binge drinking of vodka are identified as risk factors for elevated mortality in certain countries of CEE.

In all of Europe, women are expected to live longer than men. However, there has been a narrowing gender gap in life expectancy among many European countries, both in the east and west, over the past decade. Rising levels of smoking-related mortality among women contributed significantly to this pattern. More positively, age standardized male death rates for lung cancer have been steadily decreasing in most western European countries over the last 20 years though.

Regarding young people, a worrying trend is that smoking among young people seems to be increasing in several countries in western Europe and CEE, both among boys and girls. Furthermore, the rising figures of child and adolescent overweight and obesity are also very worrying.

Disaggregating trends within countries also reveals that by analysing the relationship between living condition factors and health, people at the lower end of the social ladder are more likely to report ill health than those near the top, both at the individual and population level. A social gradient is present all along the social spectrum.

The next part of this report is concerned with the policies pursued by national governments and also the EU and other international organizations to address these health issues.

References: Part One

- Amos AF, McCarty DJ, Zimmet P. (1997) The rising global burden of diabetes and its complications: estimates and projections to the year 2010. *Diabet Med*, 14 (Suppl. 5): S1-S85.
- Anderson, P. & Baumberg, B. (2006) *Alcohol in Europe*. London: Institute of Alcohol Studies.
- Anto, J.M. Vermeire, P. Vestboz, J. Sunyer J. (2001) Epidemiology of chronic obstructive pulmonary disease *Eur Respir J*; 17: 982-994
- Asthana, S., Gibson, A., Moon, G., Brigham, P., Dicker, J. (2004). The demographic and social class basis of inequality in self-reported morbidity: an explanation using the Health Survey for England. *J Epidemiol Community Health* 58: 303-307.
- Barr, N. (1999). Health and health care in the post Communist countries. *Eurohealth* 4 (6).
- Balabanova, D. C., McKee, M. (2002). Self-reported health in Bulgaria: levels and determinants. *Scand J Public Health* 30(4): 306-312.
- Becker, N., Boyle, P. (1997). Decline in mortality from testicular cancer in West Germany after reunification. *Lancet* 350:744.
- Berkman, L.F., and Syme, S.L. (1976). Social networks, host resistance and mortality: a nine years follow-up of Alameda County residents. *Am J Epidemiol*, 109, 186-204.
- Berkman, L.F. and Glass, T.A. (2000) 'Social Integration, Social Networks, Social Support, and Health', in Berkman, L.F. and Kawachi, I. (eds) *Social Epidemiology*. New York: Oxford University Press
- Blane, D. (1999). The life course, the social gradient, and health in Marmot, M. and R.G. Wilkinson eds. *Social determinants of health*. Oxford University Press, Oxford.
- Bobak, M., Marmot, M. (1996). East-West mortality divide and its potential explanations: proposed research agenda. *BMJ*; 312: 421-425.
- Bobak, M., Skodova, Z., Pisa Z., Poledne, R. and Marmot, M. (1997). Political changes and trends in cardiovascular risk factor in the Czech Republic, 1985-92. *J Epidemiol Community Health* 51, 272-7.
- Bobak, M., Pikhart, H., Hertzman C., Rose, R., Marmot, M. (2000). Socioeconomic factors, material inequalities, and perceived control in self-rated health: cross-sectional data from seven post-communist countries. *Soc Sci Med* 51: 1343- 1350.
- Borrel, C., Muntaner, C., Benac, J., Artazcoz. L. (2004). Social class and self-reported health status among men and women: what is the role of work organisation, household, material standards and household labour? *Soc Sci Med* 58: 1869-1887.
- Botha JL, Bray F, Sankila R, Parkin DM. (2003) Breast cancer incidence and mortality trends in 16 European countries. *Eur J Cancer*. Aug;39(12):1718-29.
- Boyle P, d'Onofrio A, Maisonneuve P, Severi G, Robertson C, Tubiana M, Veronesi U. (2003) Measuring progress against cancer in Europe: has the 15% decline targeted for 2000 come about? *Ann Oncol*. Aug;14(8):1312-25.
- Boyle P. (2005) Breast cancer control: signs of progress, but more work required. *Breast*. Dec;14(6):429-38.

- Britton, A., McKee, M. (2000) The relationship between alcohol and cardiovascular disease in Eastern Europe: explaining the paradox. *J Epidemiol Community Health* 54:328–32.
- Broekmans J F, Migliori G B, Rieder H L, et al. (2002) European framework for tuberculosis control and elimination in countries with a low incidence. *Eur Respir J*; 19: 765– 775.
- Charlton, J. R., R. M. Hartley, et al. (1983). "Geographical variation in mortality from conditions amenable to medical intervention in England and Wales." *Lancet* i(691–6).
- Chervyakov, V.V., Shkolnikov, V.M., Pridemore, W.A., McKee, M. (2002). The changing nature of murder in Russia. *Soc Sci Med* 55:1713–24.
- Coleman MP, Gatta G, Verdecchia A, Esteve J, Sant M, Storm H, Allemani C, Ciccolallo L, Santaquilani M, Berrino F; EURO CARE Working Group. (2003) EURO CARE–3 summary: cancer survival in Europe at the end of the 20th century. *Ann Oncol* 14: v128–v149.
- Commission of the European Communities (2004). The State of Mental Health in the European Union. Luxembourg, Commission of the European Communities: 86.
- Cornia, G.A., Addison, T., Kiiski, S. (2003). Income distribution changes and their impact in the post–World War II period. Discuss paper 2003/28. Helsinki: World Institute for Development Economics Research.
- Dalstra, J. A. A., Kunst, A.E., Borrell, C., Breeze, E., Ambois, E., Costa, G., Geurts, J.M.M., Lahelma, E., Van Oyen, H. Rasmussen, N.K., Regidor, E., Spadea, T., Mackenbach, J.P. (2005). Socioeconomic differences in the prevalence of common chronic diseases: an overview of eight European countries. *Int J Epidemiol* 34(2): 316–326.
- Dehne KL, Riedner G, Neckermann C, Mykyev O, Ndowa FJ, Laukamm–Josten U. (2002) A survey of STI policies and programmes in Europe: preliminary results. *Sex Transm Infect.* 78(5):380–4.
- Demographic and Health Survey (DHS) 1998
<http://www.hips.hacettepe.edu.tr/english/1998turkishsurvey1.htm#Tables>
- Diderichsen, F., Evans, T., and Whitehead, M. (2001). The social basis of disparities in health. In: T. Evans et al, eds. *Challenging inequities in health*. Oxford University Press, Oxford.
- Didkowska, J., Manczuk, M., McNeil, A., Powles, J., Zatonski, W. (2005). Lung cancer mortality at age 35–54 in the European union: ecological study of evolving tobacco epidemics. *BMJ* 331: 189–191.
- EHEMU (2005) *Technical report 2. Are we living longer, healthier lives in the EU? Disability–Free Life Expectancy (DFLE) in EU Countries from 1991 to 2003 based on the European Community Household Panel (ECHP)*
<http://www.hs.le.ac.uk/rees/ehemutest/pdf/techrep20507.pdf> Accessed 20.08.06
- EISS (2006) *European Influenza Surveillance Scheme. Annual report: 2004–2005 influenza season*. Utrecht, the Netherlands. NIVEL
- Eiser, JR., Morgan, M., Gammage, P, and Gray, E. (1989). Adolescent smoking: attitudes, norms and parental influence. *British Journal of Social Psychology*, 28: 193–202.
- Engels, R.C., Knibbe, R.A., de Vries, H., and Drop, M.J. (1998). Antecedents of smoking cessation among adolescents: who is motivated to change? *Preventive Medicine*, 27(3): 348–357.

- Erdem, G. (2003) Perinatal mortality in Turkey. *Paediatric & Perinatal Epidemiology* Volume 17 Page 17 – January
- EuroHIV (2005) *HIV/AIDS Surveillance in Europe: Mid-year report, n°72 (draft)* http://www.eurohiv.org/reports/index_reports_eng.htm Accessed 08.08.06
- European Commission (2004). *The citizens of the European Union and sport*, European Commission: Special Eurobarometer.
- European Respiratory Society (2003) *The European Lung White Book: The first comprehensive survey on respiratory health in Europe.*
- EuroTB (2006) *EuroTB and the national coordinators for tuberculosis surveillance in the WHO European Region. Surveillance of tuberculosis in Europe. Report on tuberculosis cases notified in 2004*, Institut de veille sanitaire, Saint-Maurice, France.
- Fabian W, Majkowska L, Stefanski A, Moleda P. (2005) Prevalence of diabetes, antidiabetic treatment and chronic diabetic complications reported by general practitioners. *Przegl Lek.*;62(4):201–5.
- Fagerstrom, K., Boyle, P., Kunze, M. and Zatonski, W. (2001). The anti-smoking climate in EU countries and Poland. *Lung Cancer* 32: 1–5.
- Fagot-Campagna A, Bourdel-Marchasson I, Simon D. (2005) Burden of diabetes in an aging population: prevalence, incidence, mortality, characteristics and quality of care. *Diabetes Metab.* Dec;31 Spec No 2:5S35–5S52. Review
- Farchi, S., Molino, N., Giorgi Rossi, P., Borgia, P., Krzyzanowski, M., Dalbokova, D., Kim R., and the European Road Accident Indicator Working Group (2006) Defining a common set of indicators to monitor road accidents in the European Union *BMC Public Health* 6:183
- Farmer, P. E., Kononets, A. S., Borisov, S. E., et al. (1999). Recrudescence tuberculosis in the Russian Federation. In P. E. Farmer, L. B. Reichman and M. D. Iseman (eds) *The global impact of drug resistant tuberculosis*. Boston MA: Harvard Medical School/ Open Society Institute.
- Firat, D. (1996) Tobacco and cancer in Turkey. *J Environ Pathol Toxicol Oncol*, 15: 155–60.
- Fleming DM (2000) The contribution of influenza to combined acute respiratory infections, hospital admissions, and death in winter. *Communicable Disease and Public Health*; 3: 32–38.
- French, KM and Jones K. (2006) Impact of definition on the study of avoidable mortality: geographical trends in British deaths 1981–1998 using Charlton and Holland's definitions. *Soc Sci Med.* 62(6):1443–56
- Hajdu, P., McKee, M., Bojan, F. (1995) Changes in premature mortality differentials by marital status in Hungary and in England and Wales. *Eur J Public Health* 5:259–64.
- Harvey JN, Craney L, Kelly D. (2002) Estimation of the prevalence of diagnosed diabetes from primary care and secondary care source data: comparison of record linkage with capture–recapture analysis. *J Epidemiol Community Health.* Jan;56(1):18–23.
- Hastings, G.B. and Aitken, P.P. (1995). Tobacco advertising and children's smoking: a review of the evidence. *European Journal of Marketing*, 29(11): 6–17.
- Hauner H, Koster I, von Ferber L. (2003) Prevalence of diabetes mellitus in Germany 1998–2001. Secondary data analysis of a health insurance sample of the AOK in Hesse/KV in Hesse *Dtsch Med Wochenschr.* Dec 12;128(50):2632–7. German.

- Health status and living conditions network (2005) *Health status and living conditions in an enlarged Europe*. Final report.
- Health status and living conditions network (2006) Policy brief No 3. *Are rates of sexually transmitted infections increasing in Europe? What policy action should be taken?*
- Hemmingsson T., Lundberg, I. (2005). How far are socioeconomic differences in coronary heart disease hospitalisation, all-cause mortality and cardiovascular mortality among adult Swedish males attributable to negative childhood circumstances and behaviour in adolescence? *Int J Epidemiol* 34(2): 260–267.
- Hernandez Quevedo, C. A. Jones, A.Lopez Nicolas, and N. Rice (2005) “Socioeconomic inequalities in health: a comparative longitudinal analysis using the European Community Household Panel”. ECuity Project III, Working Paper #31.
- Holland, W. W., Ed. (1988). *European Community atlas of 'avoidable death'*. Commission of the European Communities Health Services Research Series No.3. Oxford, Oxford University Press.
- Holland, W. W., Ed. (1991). *European Community atlas of 'avoidable death'*. Commission of the European Communities Health Services Research Series No.6. Oxford, Oxford University Press.
- Holland, W. W., Ed. (1993). *European Community atlas of 'avoidable death'*. Commission of the European Communities Health Services Research Series No.9. Oxford, Oxford University Press.
- Holland, W. W., Ed. (1997). *European Community atlas of 'avoidable death' 1985–89*. Oxford, Oxford University Press.
- Holland, W. W. and E. Breeze (1985). *The performance of health services*. The Political Economy of Health and Welfare: the twenty-second annual symposium of the Eugenics Society, London, MacMillan Press.
- Holland, W. W., A. P. Fitzgerald, et al. (1994). "Heaven can wait." *Journal of Public Health Medicine* 16: 321–30.
- House, J.S., Landis, K.R. and Umberson, D. (1988) ‘Social Relationships and Health’ in *Science* 241: 540–5
- Huisman, M., A.E. Kunst, J.P. Mackenbach (2003). “Socioeconomic inequalities in morbidity among the elderly; a European overview.” *Social Science and Medicine* 57: 861–873.
- Huisman, M., A.E. Kunst, O. Andersen, M. Bopp, J.K. Borgan, C. Borrell, G. Costa, P. Deboosere, G. Desplanques, A. Dorkin, S. Gadeyne, C. Minder, E. Regidor, T. Spadea, T. Valkonen, J.P. Mackenbach (2004). “Socioeconomic inequalities in mortality among elderly people in 11 European populations.” *Journal of Epidemiology Community Health* 58: 468–475.
- Huisman, M., Kunst, A.E., Mackenbach, J.P. (2005). Inequalities in the prevalence of smoking in the European Union: comparing education and income. *Prev Med* 40: 756–764.
- International Diabetes Federation (2004) *Diabetes in Europe. Towards a European Framework for Diabetes Prevention and Care EU Workshop Proceedings*, Dublin, 8 April 2004 <http://www.idf.org/webdata/docs/DiabetesWorkshopProceedingsJune2004.pdf> Accessed 07.09.06

- International Diabetes Federation (2005) Diabetes: The Policy Puzzle: Towards Benchmarking in the EU 25
- International Obesity Task Force and the European Association for the Study of Obesity (2002). *Obesity in Europe: the case for action*.
- International Obesity task force and the European association for the Study of Obesity (2005). EU Platform on diet, physical activity and health.
- Joosens L. (2004) *Effective tobacco control in 28 European countries*. Brussels: European Network for Smoking Prevention <http://www.ensp.org/files/effectivefinal2.pdf> Accessed 30 May 2006
- Kawachi, I., Kennedy, B.P., Lochner, K., and Prothrow-Smith, D. (1997). Social capital, income inequality and mortality. *Am J Public Health*; 87, 1491–8.
- Kennedy, B. P., Kawachi, I. and Brainerd, E. (1998). The role of social capital in the Russian mortality crisis. *World Development* 26, 2029–43.
- Kessler, R. C., House, J.S., Turner, J.B. (1987). Unemployment and health in a community sample. *J Health Soc Behav* 28(1): 51–9.
- Kopp, M. S., Skrabski, A., Kawachi, I., Alder, N.S. (2005). Low socioeconomic status of the opposite sex is a risk factors for middle aged mortality. *J Epidemiol Community Health* 59: 675–678.
- Kopp, M., Csoboth, C.T., Rethelyi, J. (2004). Psychosocial determinants of premature health deterioration in a changing society: the case of Hungary. *J Health Psychol* 9(1): 99–109.
- Koupilová, I., McKee, M., Holčík, J. (1998). Neonatal mortality in the Czech Republic during the transition. *Health Policy* 46:43–52.
- Kristenson, M., Kucinskiene, Z. (2002) Possible causes of differences in coronary heart disease mortality between Lithuania and Sweden: the LiVicordia Study. In G.Weidner, M.Kopp, M.Kristenson ed. *Heart Disease: Environment, Stress, and Gender*. Amsterdam, IOS Press, pp. 328–340.
- Kunst, A.E., Lahelma, V., Bartly, E., Lissau, M., Regidor, I., Mielk, E., Cardano, A., Dalstra, M., Geurts, J.A.A., Helmert, U., Lennartsson, C., Ramm, J., Spadea, T., Stronegger, W.J., Mackenbach, J.P. (2005). Trends in socioeconomic inequalities in self-assessed health in 10 European countries. *Int J Epidemiol* 34(2): 295–306.
- Lahelma, E., Martikainen, P., Laaksonen, M., Aittomaki, A. (2004). Pathways between socioeconomic determinants of health. *J Epidemiol Comm Health* 58: 327–332.
- Leinsalu, M. (2002). Social variation in self-rated health in Estonia: a cross-sectional study. *Soc Sci Med*, 55(5): 847–861.
- Leinsalu, M., Vagero, D., Kunst, A.E. (2003). Estonia 1989–2000: enormous increase in mortality differences by education. *Int J Epidemiol* 32: 1081–1087.
- Lejeune, P., Yannis, G., Papadimitriou, E., Houwing, S., (2005) *Workshop on statistics on the volume of road traffic (vehicle x kilometers) Developing a common framework for the collection of Risk Exposure Data in Europe within the SafetyNet IP The European Road Safety Observatory* <http://www.unece.org/trans/doc/2005/wp6/AC5-inf01e.pdf#search=%22traffic%20accidents%20%2B%20trends%20%2B%20europe%20%2B%20RTAD%22> Accessed 02.09.06

- Levi, F., Lucchini, F., Negri, E., Franceschi, S. and la Vecchia, C. (2000). Cervical cancer mortality in young women in Europe: patterns and trends. *Eur J Cancer* 36: 2266–71.
- Levi, F., La Vecchia, C., Boyle, P., Lucchini, F. and Negri, E. (2001). Western and eastern European trends in testicular cancer mortality. *Lancet* 357, 1853–4.
- Loddenkemper R. Gibson G.J. Sibille Y. (2004) Editorial: The burden of lung disease in Europe: data from the first European White Book *Breathe* Volume 1 No 1
- Loud, M.L. (1997). Sad or bad: young people's perceptions of peer groups and smoking. *Health Education Research*, 12: 1–14.
- Low, N. (2004) Current status of chlamydia screening in Europe. *Eurosurveillance*. VOL. 9 Issue 10 – 12
- Lucey, S., Corcoran, P., Keeley, H. S., Brophy, J., Arensman, E. & Perry, I. J. (2005). Socio-economic change and suicide. A time series study from the Republic of Ireland. *Crisis*, 26 (2): 90–94
- Lusignan S, Sismanidis C, Carey IM, DeWilde S, Richards N, Cook DG. (2005) Trends in the prevalence and management of diagnosed type 2 diabetes 1994–2001 in England and Wales. *BMC Fam Pract*. Mar 22;6(1):13.
- Lynch, J., Smith, G.D., Hillemeier, M., Shaw, M., Raghunathan, T., Kaplan, G. (2001). Income inequality, the psychosocial environment, and health: comparisons of wealthy nations. *Lancet* 358: 194–200.
- Mackenbach, J. P., M. H. Bouvier–Colle, et al. (1990). "Avoidable" mortality and health services: a review of aggregate data studies." *Journal of Epidemiology and Community Health* 44: 106–11.
- Mackenbach, J. P., Looman, C. W. N., Kunst, A. E., Habbema, J. D. F. and van der Maas, P. J. (1998). Post–1950 mortality trends and medical care: gains in life expectancy due to declines in mortality from conditions amenable to medical intervention in The Netherlands. *Soc Sci Med* 27: 889–9.
- Mackenbach, J. P., Kunst, A.E., Groenhouf, F., Borgan, J.K., Costa, G., Faggiano, F., Jozan, P., Leinsalu, M., Martikainen, P., Rychtarikova, J., Valkonen, T. (1999). Socioeconomic inequalities in mortality among women and among men: an international study. *Am J Public Health* 89(12): 1800–1806.
- Mackenbach, J.P., Bakker, M.J., Kunst, A.E., and Diderichsen, F. (2002). Socioeconomic inequalities in health in Europe: an overview. In J.P. Mackenbach and M.J. Bakker, eds. *Reducing inequalities in health*. Routledge London and New York.
- Mackenbach, J. P., Bos, V., Andersen, O., Cardano, M., Costa, G., Harding, S., Reid, A., Hemstrom, O., Valkonen, T., Kunst, A.E. (2003). Widening socioeconomic inequalities in mortality in six western European countries. *Int J Epidemiol* 32: 830–837.
- Mackenbach, J. P., Huismna, M., Andersen, O., Bopp, M., Borgan, J.K., Borrell, C., Costa, G., Deboosere, P., Donkin, A., Gadeyne, S., Minder, C., Regidor, E., Spadea, T., Valkonen, T., Kunst, A.E. (2004). Inequalities in lung cancer mortality by the educational level in 10 European countries. *Eur J Cancer* 40: 126–135.

- Mackenbach, J. P., Martikainen, P., Looman, C.W.N., Dalstra, J.A.A., Kunst, A.E. (2005). The shape of the relationship between income and self-assessed health: an international study. *Int J Epidemiol* 34(2): 286–292.
- Mackenbach, J.P. (2006) “health Inequalities: Europe in profile”. Report for the UK presidency of the EU 2006. <http://www.dh.gov.uk/assetRoot/04/12/15/84/04121584.pdf>
- Mäkelä, et al P. (2005) ‘Drinking and gender differences in drinking in Europe. A comparison of drinking patterns in European countries’ in Bloomfield et al *Gender, Culture and Alcohol Problems: A Multi-national Study*. <http://www.genacis.org/> Accessed on 08.08.06
- Markina, S.S., Maksimova, N.M., Vitek, C.R., Bogatyreva, E.Y. and Monisov, A.A. (2000). Diphtheria in the Russian Federation in the 1990s. *J Infect Dis* 181(Suppl 1): S27–34.
- Marmot, M. (1999). Introduction. In M. Marmot, and R.G. Wilkinson eds. *Social determinants of health*. Oxford University Press, Oxford.
- Marmot, M. (2005). Social determinants of health inequalities. *Lancet* 365: 1099–1104.
- Marmot, M., Bobak, M. (2000). International comparators and poverty and health in Europe. *BMJ* 321: 1124–1128.
- Marmot, M. and Wilkinson, R.G. (1999). eds. *Social determinants of health*. Oxford University Press, Oxford.
- Macinko JA, and Starfield B. (2002) Annotated Bibliography on Equity in Health, 1980–2001. *Int J Equity Health*. Apr 22;1(1):1.
- Masoli M, Fabian D, Holt S, Beasley R (2004): *Global burden of asthma*. <http://www.ginasthma.com/ReportItem.asp?l1=2&l2=2&intId=94> Accessed 06.09.06
- Matic, S. (2006) Twenty-five years of HIV/AIDS in Europe in *HIV/AIDS in Europe. Moving from death sentence to chronic disease management*. Matic S. Lazarus J. V. & Donoghoe, M. C. (Eds) WHO Regional Office for Europe. Copenhagen
- Micheli A et al (2003) European health systems and cancer care *Ann Oncol*. 14 Suppl 5:v41–60.
- McKee, M., Adany, R., MacLehose, L. (2004). Health status and trends in candidate countries. In M. McKee, L. MacLehose and E. Nolte (Eds.) *Health Policy and European enlargement*. Copenhagen. European Observatory on Health Systems and Policies.
- McKee, M., Shkolnikov, V. (2001). Understanding the toll of premature death among men in eastern Europe. *BMJ* 323:1051–5.
- Meslé, F. (2002). Mortality in eastern Europe and the former Soviet Union: long-term trends and recent upturns. Paper presented at IUSSP/MPIDR Workshop “Determinants of diverging trends in mortality”, Rostock, Germany.
- Meslé, F. (2004) *Demographic research. Research Article Mortality in Central and Eastern Europe: long-term trends and recent upturns*
- Mikulík J. (2004) *The 6th European Transport Safety Lecture Road Safety in an enlarged Europe: challenges and opportunities for the 25 EU member states*. <http://www.etsc.be/documents/Proceedings%2013%2010%2004.pdf#search=%22traffic%20accidents%20%2B%20trends%20%2B%20europe%20%2B%20IRTAD%22> Accessed 02.09.06
- Monden, C. (2004). Socioeconomic health inequalities in Latvia: a cross-sectional study. *Scand J Public Health* 32: 217–223.

- Newey, C., E. Nolte, et al. (2003). Avoidable mortality in the enlarged European Union. Paris, Institut des Sciences de la Santé.
- Nicoll, A. and Hamers, F.F (2002) Are trends in HIV, gonorrhoea, and syphilis worsening in western Europe? *BMJ*;324;1324-1327
- Nolte, E., Hort, A., Koupilová, I., McKee, M. (2000). Trends in neonatal and postneonatal mortality in the eastern and western parts of Germany after unification. *J Epidemiol Comm Health* 54:84-90.
- Nolte, E. and M. McKee (2004). *Does healthcare save lives? Avoidable mortality revisited*. London, The Nuffield Trust.
- Nolte, E., McKee, M., Gilmore, A. (2005). Morbidity and mortality in transition countries of Europe. In Macura M, MacDonald A, Haug W (eds) *The new demographic regime. Population challenges and policy responses*. Geneva: United Nations Economic Commission for Europe: 153-176.
- Novotny, T., Jha, P., Nguyen, S., Huffman, S. (2001). Tobacco control in the former Socialist economies of Europe and Central Asia. *Eurohealth* 4 (6), 1998/1999
- OECD (2001) *Ageing and transport. Mobility needs and safety issues*. Paris.
- Office for National Statistics (ONS) (2006) <http://www.statistics.gov.uk/default.asp> Accessed 02.09.06
- Onat. A. (2001). Risk factors and cardiovascular disease in Turkey. *Atherosclerosis*, 156, 1-10.
- Parkin DM, Fernandez LM (2006) Use of statistics to assess the global burden of breast cancer. *Breast* Jan-Feb;12 Suppl 1:S70-80
- Passa, P. (2002) Diabetes trends in Europe. *Diabetes Metab Res Rev*, 18: S3-S8.
- Pikhart, H. (2001). *Social and Psychosocial Determinants of Self-rated Health in Central and Eastern Europe*. Boston: Kluwer Academic Publishers.
- Platt, L. and McKee, M. (2000) Observations of the management of sexually transmitted diseases in the Russian Federation: a challenge of confidentiality, *Int J STD AIDS*, 11:563-7.
- Pomerleau, J., McKee, M., Robertson, A., Kadziauskiene, K., Abaravicius, A., Vaask, S. (2001). Macronutrient and food intake in the Baltic republics. *Eur J Clin Nut*, 55:200-7.
- Powles, J.W., Zatonski, W., Hoorn, S.V., and Ezzati, M. (2005). The contribution of leading diseases and risk factors to excess losses of healthy life in eastern Europe: burden of disease study. *BMC Public Health* 5: 116.
- Pudule, I., Grinberga, D., Kadziauskiene, K., Abaravicius, A., Vaask, S., Robertson, A., McKee, M. (1999). Patterns of smoking in the Baltic Republics. *J Epidemiol Comm Health* 53:277-83.
- Razum, O., Akgun, S. and Tezcan, S. (2000). Cardiovascular mortality patterns in Turkey: what is the evidence? *Soz Praventivmed*, 45, 46-51.
- Ricordeau P, Weill A, Vallier N, Bourrel R, Schwartz D, Guilhot J, Fender P, Allemand H. (2003) The prevalence and cost of diabetes in metropolitan France: what trends between 1998 and 2000?*. *Diabetes Metab*. Nov;29(5):497-504.
- Roemer, J. (1995). Equality and responsibility. *Boston Review* 22(2)
- Rose, R. (2000). How much does social capital add to individual health? A survey study of Russians. *Soc Sci Med*, 51: 1421-35.

- Rutstein, D. D., W. Berenberg, et al. (1976). "Measuring the quality of medical care." *New England Journal of Medicine* 294: 582–8.
- Saltman, I., Yilmaz, T., Sengul, A. et al. (2002). Population–Based Study of Diabetes and Risk Characteristics in Turkey, *Diabetes Care*, 25(9): 1551–6.
- Shkolnikov, V.M., Leon, D., Adamets, S., Andreev, E., Deev, A. (1998). Educational level and adult mortality in Russia: an analysis of routine data 1979 to 1994. *Soc Sci Med* 47:357–69.
- Shkolnikov, V.M., McKee, M., Vallin, J., Aksel, E., Leon, D., Chenet, L., Meslé, F. (1999). Cancer mortality in Russia and Ukraine: validity, competing risks, and cohort effects. *Int J Epidemiol* 28:19–29.
- Shkolnikov, V.M., Andreev, E., Leon, D., McKee, M., Meslé, F., Vallin, J. (2005). *Mortality Reversal in Russia: the story so far*. Max Planck Institute for Demographic Research.
- Short, J. (2001) *ECMT work on road safety. Presentation given at the International Conference on "Traffic Safety – a Common Task for the Integrated Europe" 3–4 September 2001 Budapest, Hungary.*
<http://www.cemt.org/online/speeches/JSsafe01.pdf#search=%22traffic%20accidents%20%2B%20trends%20%2B%20europe%22>. Accessed 02.09.06
- Silventoinem, K., Pankow, J., Jousilhti, P., Hu, G., Tuomilehto, J. (2005). Educational inequalities in the metabolic syndrome and coronary heart disease among middle–aged men and women. *Int J Epidemiol* 34(2): 327–334.
- Spritzer, D. A. (2004). Obesity epidemic migrates east. *CMAJ* 171 (10).
- Steliarova–Foucher E, Stiller C, Kaatsch P, Berrino F, Coebergh JW, Lacour B, Parkin M. Passa, P. (2004) Geographical patterns and time trends of cancer incidence and survival among children and adolescents in Europe since the 1970s (the ACCIS project): an epidemiological study *Lancet*. 2004 Dec 11–17;364(9451):2097–105.
- Stene LC, Midthjell K, Jenum AK, Skeie S, Birkeland KI, Lund E, Joner G, Tell GS, Schirmer H. (2004) Prevalence of diabetes mellitus in Norway. *Tidsskr Nor Laegeforen*. Jun 3;124(11):1511–4.
- Stern, V. (1999). *Sentenced to die. the problem of TB in prisons in Eastern Europe and central Asia*. London: International Centre for Prison Studies, Kings College London.
- The UK Collaborative Group for HIV and STI Surveillance (2005) *Mapping the Issues. HIV and other Sexually Transmitted Infections in the United Kingdom*.. London: Health Protection Agency Centre for Infections
- Tyas, S.L. and Pederson, L.L. (1998). Psychosocial factors related to adolescent smoking: a critical review of the literature. *Tobacco Control*, 7: 409–420.
- Tyczynski, J.E., Bray, F., Parkin, D.M. (2002). Lung cancer in Europe. European Network of Cancer Registries (ENCR); *International Agency for Research on Cancer* Vol.1.
- Tyczynski JE, Plesko I, Aareleid T, Primic–Zakelj M, Dalmas M, Kurtinaitis J, Stengrevics A, Parkin DM. (2004) Breast cancer mortality patterns and time trends in 10 new EU member states: Mortality declining in young owmen but still increasing in the elderly *Int. J. Cancer*: 112, 1056–1064

- Ubink-Veltmaat LJ, Bilo HJ, Groenier KH, Houweling ST, Rischen RO, Meyboom-de Jong B. (2003) Prevalence, incidence and mortality of type 2 diabetes mellitus revisited: a prospective population-based study in The Netherlands (ZODIAC-1). *Eur J Epidemiol*;18(8):793-800.
- UCB Institute of Allergy (2004) *European Allergy White Paper* Unal, B., Critchley J. A., and Capewell S. (2005) Modelling the decline in coronary heart disease deaths in England and Wales, 1981-2000: comparing contributions from primary prevention and secondary prevention. *BMJ* 331;614
- Unal B, Critchley JA, Capewell S. (2005) Modelling the decline in coronary heart disease deaths in England and Wales, 1981-2000: comparing contributions from primary prevention and secondary prevention. *BMJ* Sep 17;331(7517):614.
- UNDP (2003) Human Development Report 2003. United National Development Programme, New York/Oxford: Oxford University Press.
- Vartiainen, E., Jousilahti, P., Alfthan, G., Sundvall, J., Pietinen P., and Puska P., (2000) Cardiovascular risk factor changes in Finland, 1972-1997 *International Journal of Epidemiology*; 29:49-56
- Velkova, A., Wolleswinkel-van den Bosch, J. H. and Mackenbach, J. P. (1997). The east-west life expectancy gap: Differences in mortality from conditions amenable to medical intervention. *Int J Epidemiol* 26: 75-84.
- Veen J. and Godinho J. (2006) HIV and TB: a critical coinfection in *HIV/AIDS in Europe. Moving from death sentence to chronic disease management*. Matic S. Lazarus J. V. & Donoghoe, M. C. (Eds) WHO Regional Office for Europe. Copenhagen
- Walberg, P., McKee, M., Shkolnikov, V., Chenet, L. and Leon, D. A. (1998). Economic change, crime, and mortality crisis in Russia: regional analysis. *BMJ* 317, 312-318.
- Westerling, R. (1992). ""Avoidable" causes of death in Sweden 1974-85." *Quality Assurance in Health Care* 4: 319-28.
- White, S. (1996). *Russia goes dry*. Cambridge: Cambridge University Press.
- Wiegand S, Maikowski U, Blankenstein O, Biebermann H, Tarnow P, Gruters A. (2004) Type 2 diabetes and impaired glucose tolerance in European children and adolescents with obesity - a problem that is no longer restricted to minority groups. *Eur J Endocrinol*. Aug;151(2):199-206.
- Wilkinson, R., and Marmot, M. (2005). *Social determinants of health. The solid fact*. Second edition. WHO, Europe.
- Wittchen H-U. (2005) Size and burden of mental disorders in Europe - a critical review and appraisal of 27 studies. *European Neuropsychopharmacology*. 15: 357-376.
- World Drug Report (2005) Vienna, United Nations Office on Drugs and Crime (UNODC) http://www.unodc.org/unodc/en/world_drug_report.html, accessed 08.08.06
- WHO (2001). *What in the world works?* International Consultation on Tobacco and Youth. Singapore, 28-30 September 1999.
- WHO Regional Office for Europe (2001) *Alcohol in the European Region - consumption, harm and policies*. Copenhagen
- WHO Tobacco or Health Programme. Tobacco or health: a global status report. Country profiles by region. <http://www.cdc.gov/tobacco/who/cyprus.htm>

- WHO (2004a) Changing History. The World health Report 2004. Geneva, World Health Organization
- WHO (2004b). *Young people's health in context*. Health Behaviour in School-aged Children (HSBC) study: international report from the 2001/2002 survey. Health Policy for Children and Adolescent, No,4.
- WHO Regional Office for Europe (2004) *Preventing road traffic injury: a public health perspective for Europe*. Copenhagen
- WHO (2005a) *Preventing chronic diseases : a vital investment : WHO global report*. Geneva
- WHO (2005b) *Weekly Epidemiological Record* 19 AUGUST No. 33, 2005, 80, 277-288
<http://www.who.int/wer> Accessed 20.08.06
- WHO Regional Office for Europe (2005) The European health report 2005: public health action for healthier children and populations. Copenhagen
- WHO Regional Office for Europe (2006a) *Injuries and violence in Europe: why they matter and what can be done*. Copenhagen
- WHO Regional Office for Europe (2006b) *10 Things you need to know about obesity*. Copenhagen. Available at
http://www.euro.who.int/Document/NUT/ObesityConf_10things_Eng.pdf
- WHO Regional Office for Europe (2006c) Health for All database. Copenhagen
- WHO (2006a) *Global Alliance Against Chronic Respiratory Diseases fact sheet*
http://www.who.int/respiratory/gard/GARD_Fact_Sheet.doc Accesses 06.09.06
- WHO (2006b) *Global tuberculosis control: surveillance, planning, financing. WHO report 2006*. Geneva, WHO (WHO/HTM/TB/2006.362).
- Yarnell, J., Yu, S., McCrum, E., rveiler, D., Haas, B., Dallongeville, J., Montaye, M., Amouyel, P., Ferrieres, J., Ruidavets, J-B., Evans, A., Bingham, A., Ducimetiere P.; for the PRIME study group (2005). Education, socioeconomic and lifestyle factors, and risk coronary health diseases: the PRIME Study. *Int J Epidemiol* 34(2): 268-275.
- Yusuf S, Hawken S, Ounpuu S, Dans T, Avezum A, Lanus F, McQueen M, Budaj A, Pais P, Varigos J, Lisheng L; INTERHEART Study Investigators (2004) Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. *Lancet*, 364: 937-52
- Zatoński, W.A., Boyle, P. (1996). Health transformations in Poland after 1988. *J Epidemiol Biostat* 1:183-7.
- Zatonski, W., Smans, M., Tyczynski, J. and Boyle, P. (1996). Atlas of Cancer Mortality in Central Europe. *IARC Scientific Publications* No. 134. Lyon, France, International Agency for Research on Cancer.

PART TWO: NATIONAL PUBLIC HEALTH POLICIES IN THE EU

Part Two of this report is concerned with the policies pursued by EU governments to address the health issues described in the previous section. The first two sections explore policies designed to control two underlying risk factors for chronic diseases: tobacco control and obesity. Next, policies addressing mental health problems are presented. The following section discusses screening for TB and HIV, two communicable diseases that are resurging in some parts of Europe. The last section describes and analyses policies aimed at reducing socioeconomic inequalities in health.

The aim of the following sections is to present new information on national policies in the EU, and to draw contrasts and comparisons between these in order to highlight possible areas of policy that are particularly successful, unsuccessful or underdeveloped. Policies at the EU level are also considered. Public health experts from 14 EU countries (Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Poland, Slovakia, Slovenia and Spain) and Turkey, Romania and Bulgaria were consulted in order to obtain topical and current information. Information on the UK was obtained directly by the authors. This has been supplemented with comprehensive literature review of published reports, academic papers and grey literature. This section presents only cursory statistical information on the health topics discussed, as this is covered in the first part of the report.

1. Tobacco–Control Policies in Europe

Key points:

- Smoking is the largest cause of avoidable death and disease in the European Union
- Since 1989, several tobacco control policies have been introduced in Europe.
- The WHO Framework Convention on Tobacco Control came into force 2005 – the first legally–binding public health treaty – imposes regulations for advertising bans, warning labels, smuggling, cigarette taxes, and addiction treatment options.
- Evidence suggests that increases in cigarette prices and taxes and the passage of comprehensive clean air laws have been successful in reducing smoking rates.
- Ireland was in the forefront regarding the prohibition of smoking in public areas, followed by Norway, Malta, and Italy.
- Ireland, the UK, Norway, and Iceland were the most effective in reducing national smoking rates between 1985–2005, where prevalence declined by 20% to 25%; the least successful were Luxemburg, Romania, and Latvia.
- Youth smoking is a significant problem, with many countries showing increasing rates of smoking among youths and adolescents. Further policy action targeted to youth and evaluations of the impact of recent tobacco control measures aimed at children and adolescents are needed.
- In light of the strong link between socioeconomic status and smoking, policies should target the more disadvantaged groups, and the affect of tobacco–related interventions on health inequalities across the EU should be assessed. Initial evidence suggests that recent tobacco control measures have reduced health inequalities.
- While the last 10 years have seen importance progress in tobacco control in the EU, much needs to be done to achieve a smoke–free Europe. Further improvements can be made by increasing research capacity, improving adherence to legislation, e.g. smoking bans, targeting youth and lower socio–economic groups, improving public education campaigns, ensuring adequate warning labels, and harmonizing regulations across the EU.

1.1 Overview of Tobacco Use in the EU

As evidenced in Part One of this report, the prevalence and effects of tobacco use on individual and population health across Europe are significant. Smoking continues to be the largest cause of avoidable death and disease in the European Union (EU), despite the progress that has been made in tobacco control. Over 650,000 Europeans die every year due to smoking, constituting one in seven of all deaths across the EU (European Commission, 2004). Moreover, a further 13 million people suffer from a serious, chronic disease caused by smoking (European Commission, 2004). Beyond the direct health implications of smoking, tobacco smoke is a

serious environmental health hazard, killing around an additional 100,000 non-smoking Europeans a year, with millions more having illnesses exacerbated by inhaling passive smoke (PAHO, 2001).

Smoking harms nearly every organ in the human body, causing a broad range of diseases, including lung cancer, stroke, and heart and respiratory disease. In fact, according to the World Health Organization (WHO), tobacco use is a known or probable cause of approximately 25 diseases (WHO, 2003). In addition, the mortality impacts of smoking are substantial. It is estimated that approximately half of all continuing regular smokers will be killed by their tobacco use (European Commission, 2004). In fact, if current smoking patterns continue, it will likely cause nearly 10 million deaths each year by 2020 (Murray & Lopez, 1996). For smokers that die in middle age, premature mortality results in an average loss of 22 years of life, with a significant proportion of the shortened life span being spent in ill health (Peto et al., 1998).

Although the tobacco epidemic is at various stages in different countries across the EU, it is likely the mortality and morbidity impacts of smoking will continue to affect Europeans over the ensuing decades. While smoking prevalence is declining in some countries, in the majority of Member States, the proportion of adults who smoke account for greater than one-quarter of the population (Action on Smoking and Health, 2006). Moreover, smoking-related deaths among females⁸ are still increasing and the full extent of the epidemic among youth has yet to be realized. In terms of the latter, the vast majority of smokers begin using tobacco products well in advance of 18 years old (US DHHS, 1994). In Europe, approximately one-third of young people use tobacco products and will likely continue into adulthood (WHO, 2002). Pierce and Gilpin (1996) found that half of all adolescent smokers will smoke for at least 16 years. Smoking is also becoming increasingly associated with poverty, serving as a significant contributing factor to the widening gap in health inequalities across the EU (WHO, 2006; European Commission, 2004). Further statistics on smoking prevalence are presented in section 2.5.1 on tobacco use in *Part One*.

In addition to the health impacts of tobacco use, the EU bears a considerable economic burden due to smoking. Conservative estimates project the costs of tobacco use to range between €98–130 billion a year or 1.04–1.39% of Domestic Product (GDP) for 2000 (European Commission, 2004). The true costs are undoubtedly higher, and will continue to escalate if appropriate measures are not taken. Presumably, some of the cost growth will result from higher smoking rates in the new EU10 Member States, healthcare improvements, and increasing demand for healthcare services (European Commission, 2004). Consequently, tobacco consumption represents a significant cost burden for national budgets, even after accounting for collected tobacco tax and savings in social security payments due to premature mortality among smokers. In order to address the epidemic, the European community, both at EU- and national-level, is actively engaged in developing comprehensive tobacco control policies.

⁸ Even among males, lung cancer mortality rates are still rising in EU.

1.2 Framework for EU Policies to Prevent and Control Tobacco Use

Fighting tobacco use has been a public health priority in Europe since the mid-1980s, with the launch of the “Europe Against Cancer” (EAC) Programme. In 1987, the EAC put forth the first European action plan covering prevention, health education, training of health personnel, and cancer research (European Commission, 2004). Specific to tobacco, several proposals were proposed, including increased taxation, new financing mechanisms to fund prevention activities, harmonization of cigarette labeling, and the protection of children from tobacco sales. The EAC action plan was updated and renewed in 1990, 1996, and 2001. The EAC is considered a successful initiative, forming the cornerstone of European Commission tobacco control policy. Subsequently, the majority of EU policy action on tobacco control has fallen under three broad categories: *legislation, EU and international mobilization, and EAC activities* (European Commission, 2004). These areas generally encapsulate policies and initiatives regarding agriculture, taxation, public health, and health and safety in the workplace.

In particular, since 1989, several tobacco control policies and related activities have been introduced in Europe (Table 1.1) (European Commission, 2004). In addition to the actions outlined below, over the last 15 years in the EU, there have been multiple conferences (some organized jointly with the WHO) on tobacco control, public health education campaigns on smoking prevention and cessation, and action against tobacco smuggling across some Member States.

TABLE 1.1 SUMMARY OF EU TOBACCO-CONTROL LEGISLATION AND RELATED ACTIVITIES (1989 TO PRESENT)

Measure(s)	Year(s)	Description
Tobacco taxation directives	1992, 1995, and 2002	Sets minimum levels of excise duties on cigarettes and tobacco.
Labeling directives	1989 and 1992	Requires health warnings on tobacco products. Bans the marketing of certain tobacco products for oral use.
Advertising directives	1989, 1997, 1998, and 2003	Bans all forms of advertising on TV, in the press, radio, and on the Internet. Bans tobacco sponsorship of events with cross-border effects.
Tar Yield Directive	1990	Sets a maximum tar yield of 15 mg/cigarette by Dec. 1992 and 12 mg/cigarette by Dec. 1997.
Tobacco Products Regulation Directive (*replaced the above labeling directives of 1989 and 1992)	2001 and 2006	Requires large warning labels on all tobacco products; descriptions indicating that one product is less harmful than another are prohibited; manufacturers/importers must submit all ingredients used in the manufacture of products; and, maximum levels of tar, nicotine, and carbon monoxide established for cigarettes. Requires all marketed cigarette lighters to be child-resistant (adopted in Feb. 2006).

Workplace health and safety directives	1989 and 1992	Requires employers ensure access to adequate ventilation, and the conduct of a health assessment by employees to ascertain exposure to second-hand smoke in the workplace.
Public smoking resolution	1989	Invites Member States to adopt measures banning smoking in public places and on all forms of public transportation.
Pregnant Women Directive	1992	Requires employers to protect pregnant and breast-feeding women from exposure to certain substances, including carbon monoxide.
Asbestos and carcinogens directives	1983 and 1990	Restricts smoking in areas where asbestos and carcinogens are handled.
EU Health Council resolutions	1993, 1996, and 1999	Proposals to Member States and the EC to combat smoking.
EU Health Council recommendation	2002	Recommendation regarding tobacco sales to youth, vending machines, indirect advertising, marketing expenditures, and environmental effects of tobacco smoke.
Common Agricultural Policy (CAP) and Tobacco Subsidies	1992, 1998, and 2004	Requires review of tobacco subsidy regime. Set forth a package of reforms to gradually phase out tobacco subsidies.

Source: Action on Smoking and Health (2006); European Commission (2004).

On the international front, one pivotal movement toward tobacco control was the adoption of the WHO Framework Convention on Tobacco Control (FCTC) in 2004. The FCTC is the first legally-binding public health treaty, which was negotiated by the 192 Member States of the WHO and entered into force in February 2005. The treaty provides a framework for countries to enact comprehensive tobacco control legislation. Specifically, key provisions in the treaty encourage countries to (WHO, 2006):

- Enact comprehensive bans on advertising, promotion, and sponsorship
- Obligate the positioning of health warnings on tobacco packaging that cover at least 30% (ideally, 50%) of the principal display areas and can include pictures or pictograms
- Ban the use of misleading terms such as “light” or “mild”
- Protect citizens from exposure to tobacco smoke in workplaces, public transport, and indoor public spaces
- Combat smuggling
- Increase taxes on tobacco products
- Provide treatment for tobacco addiction

In addition, the FCTC promulgated other measures including legal action against the tobacco industry, disclosure of tobacco product ingredients, and increased research and information exchange among countries.

Overall, the interactions between EU tobacco control policy and the FCTC, particularly with regards to tobacco advertising and labeling, have been notable, with EU legislation significantly supporting the treaty. Conversely, the FCTC has both sustained and initiated action across EU Member States. For example, the FCTC formed the basis of the Tobacco Control Programme (2006–2010) in Latvia. Other countries, such as the Netherlands, were able to ratify the

Convention without amending their laws since the appropriate legislation was already in place (Ministry of Health, Welfare and Sport, the Netherlands 2005). The long term impact, both across Europe and internationally, could be substantial if such provisions are adopted as a global standard. According to the WHO, measures included in the treaty could save an estimated 200 million lives by 2050, if a progressive 50% reduction in tobacco use uptake and consumption rates is achieved (WHO, 2006).

1.3 Specific Tobacco Control Policies in the EU⁹

Tobacco control efforts in the EU have principally involved legislation and preventive/educational campaigns. Such strategies generally entail several parallel and synergic measures to effectively reduce smoking in the population. More specifically, the principal measures employed in the EU include:

- Price increases through higher taxation on cigarettes and other tobacco products.
- Comprehensive advertising and promotion bans of all tobacco products, logos, and brand names.
- Bans/restrictions on smoking in public and workplaces.
- Large, direct health warning labels on cigarette boxes and other tobacco products.
- Restrictions on youth access to tobacco products.
- Better consumer information, including counter advertising (public information campaigns), media coverage, and publicizing research findings.
- Treatment to help dependent smokers quit, including increased access to medications.

Current evidence suggests that the best results are achieved when a comprehensive set of measures are implemented together (World Bank, 2003). Moreover, it is increasingly recognized that tobacco control policies pursued by individual national governments cannot be promulgated in isolation of those being pursued by the EU. Consequently, there has been movement to integrate the aforementioned interventions into both EU-wide and national efforts to prevent and control the use of tobacco.

1.3.1 Taxation on Tobacco Products

Tobacco is a significantly taxed product in most Member States, via both excise tax and value added tax (VAT). The role of taxation in tobacco prevention and control is based on dual economic and public health objectives to cover smoking-related social costs and discourage present and future smoking behaviour, respectively. Tobacco has some advantages as a tax base and is easy to justify based on public health arguments (Joossens, 2006; WHO, 2002).

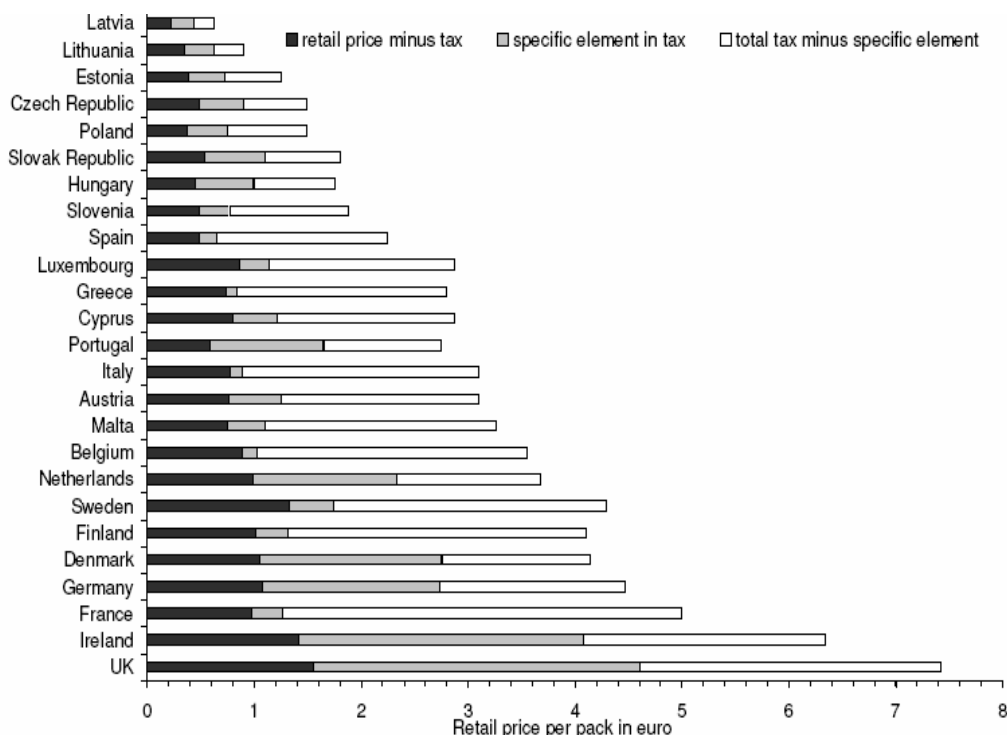
⁹ Certain examples of Member States policies were provided by country tobacco control experts who collaborated on this project.

The EU has a long history of regulating the price of tobacco, dating back to 1972 (European Commission, 2004; Joossens et al., 1996). In 1992, a set of three common directives were adopted to ensure a level of harmonization of tobacco tax structures and levels across Member States. Under the terms of the directives, taxes on cigarettes were required to represent a minimum of 70% of the final retail price, with minimum rates of 57% for excise taxes and 13% for VAT (European Commission, 2004). While such directives did result in price increases in a number of countries, such measure did not eliminate the significant price and tax level variations across the EU market landscape (Joossens, 2006).

Subsequently, the Commission has moved toward harmonization of minimum taxation levels as a mechanism to mitigate public health concerns regarding the impact of tobacco use (European Commission, 2004). To meet this end, a directive was adopted in February 2002 that strengthened the minimum excise requirement in favour of specific taxation, which reduces the price differentials and aims to force very cheap tobacco brands out of the market (European Parliament & the Council of the European Union, 2002) (Figure 1.1). In particular, the Directive supplemented the previous rule with the requirement that total excise taxes cannot be less than €60 per 1,000 cigarettes in the most popular price category, with an increase of €64 per 1,000 cigarettes stipulated by July 2006 (Cnossen, 2006). Alternatively, Member States can choose an alternative approach, which exempts them from the 57% requirement, if they have a minimum total excise of €95 per 1,000 cigarettes (€101 per 1,000 cigarettes from July 2006). Denmark, Finland, France, Germany, Finland, Sweden, and the UK currently fall under this provision. In addition, all tobacco products are required to be subject to a standard VAT rate, which should not be less than 15%.

Despite recent efforts to use cigarette taxes as a public health tool, tobacco in Europe is still quite affordable. The trend is real cigarette prices has been quite diverse throughout the EU (Cnossen, 2006). For example, both the UK and France have increased prices by more than 5% per year since 1990, while prices have remained fairly constant in Austria and Denmark. In many of the new EU Member States, however, prices have been declining, thereby increasing their affordability (Cnossen, 2006). Even in countries with higher cigarette prices, tobacco is still highly affordable. In the UK, for example, cigarettes are still more affordable today than in the 1960s, despite recent increases in price (UK Department of Health, 1998).

FIGURE 1.1 TAXES ON CIGARETTES IN THE EU



Source: Cnossen (2006), European Commission (2004).

Tobacco taxes, translated into higher real cigarette prices, however, do indeed impact levels of consumption. In fact, price increases through higher taxation is deemed one of the most effective and cost-effective components of a comprehensive tobacco-control strategy, especially for young people and other lower-income individuals (World Bank, 2003). A recent review of the relationship between price and tobacco consumption found that, on average, smoking in Europe decreases 5%–7% (including smoking initiation and cessation) with a 10% in the real price of cigarettes (Gallus et al., 2006). In terms of health impact, it has been estimated that such a price increase could result in 600,000 to 1.8 million fewer premature deaths, at a cost as low as \$3 to \$78 USD per DALY¹⁰ (Ranson et al., 2002).

While there is evidence that higher taxes results in lower tobacco consumption, the effect of tax increases on smoking prevalence can be hindered by a number of factors, including cigarette smuggling, low minimum cigarette tax rates and complex tax rules, increased use of hand-rolling tobacco (serves as a substitute for cigarettes), cross-border shopping for tobacco products, and availability of discount or low-priced cigarette brands (Cnossen, 2006; Joossens, 2006; European Commission, 2004; Gilmore & McKee, 2004). For example, the Polish government has made attempts to reduce smoking by controlling prices and increasing excise

¹⁰ Cost per disability-adjusted year of life saved (DALY).

duties on cigarettes, but success has been stymied by the smuggling of cigarettes from Russia, Belarus, and Ukraine. According to the Poland Ministry of Finance, between January and February 2006, 1,000,000 cigarettes were smuggled into the country and assumed by the Office of Customs.

1.3.2 Advertising and Promotion Bans

The principal influence on the advertising and promotion of tobacco products in the EU is arguably the Advertising Directive of May 26, 2003 (Directive 2003/33/EC). The Directive replaced an earlier law that was annulled, following a legal challenge brought by the tobacco industry and the German government¹¹. The revised Directive bans tobacco advertising in the EU and covers a wide array of national and cross-national mediums (e.g., press, radio, Internet) and sport sponsorship, but does not apply to indirect advertising or promotion within member states (e.g., via billboards) (Action on Smoking and Health, 2006). However, Member States are given discretion to implement legislation that places greater restrictions on advertising than the Directive mandates. All countries were required to have transposed the directive into national law by July 2005. However, some countries have failed to do so and are now subject to legal action by the European Commission (European Commission, 2004). Specifically, as of July 2006, Germany, Spain, the Czech Republic, and Hungary have yet to transpose the Directive into national bills (EPHA, 2006). Moreover, these countries, with the inclusion of Italy, have recently been found incompliant with the sponsorship ban.

Tobacco advertising on television is also banned in the EU, but via a separate law, the Television without Frontiers Directive (Directive 97/36/EEC)¹² (European Parliament & the Council of the European Union, 1997). Broadly, the Directive contains a set of protocols that seek to harmonize broadcasting activities of Member States. Under the Directive, all television advertising promoting cigarettes and other tobacco products is prohibited, including indirect advertising. Moreover, the Directive bans programme sponsorship by tobacco companies.

Several countries, most notably the UK (Box 1.1), have enacted additional legislation in accordance to EU directives to further restrict tobacco advertising.

¹¹ Germany is currently challenging parts of the current law in the European Court, claiming that the directive goes beyond the mandate of the EU. Germany has been labeled the most smoker-friendly country in Western Europe.

¹² In December 2005, the European Commission adopted a legislative proposal to revise and modernize the Directive.

BOX 1.1 COUNTRY PROFILE – UK’S TOBACCO ADVERTISING AND PROMOTION ACT (2002)

The UK Tobacco Advertising and Promotion Act, enacted in February 2003, comprehensively bans the advertising and promotion of tobacco products, including the use of brand-sharing and sponsorship of cultural and sport events. The ban was implemented as follows:

- **February 2003:** Advertisements of tobacco products on billboards and in newspapers and magazines banned.
- **May 2003:** Promotion via direct mail prohibited.
- **July 2003:** Tobacco sponsorship of domestic sporting events banned.
- **December 2004:** Regulations governing indirect advertising through point of sale came into effect. Measure limited advertising to one A5 sized advert per retail outlet.
- **July 2005:** Ban on tobacco sponsorship of international events, such as Formula One motor-racing, entered into force, as well restrictions on brand-sharing.

Source: Action on Smoking and Health (2006)

As other types of tobacco advertising and promotion are restricted, however, package displays and adverts at the point of sale (POS) have become increasingly important marketing tools of tobacco companies (European Commission, 2004). POS advertising entails positioning products in prominent retail space, including displays behind the counter facing consumers (termed “power walls”) and countertop exhibits. In general, POS promotions increase overall sales, in part by increasing the social acceptability of tobacco products. Moreover, there is evidence that POS promotions stimulate impulsive purchase behaviour among ex-smokers, youth, and occasional, non-daily smokers (Canadian Cancer Society, 2006).

Several countries are taking action to restrict POS adverts (Canadian Cancer Society, 2006). For example, Iceland bans POS displays of tobacco products under its *Tobacco Control Act*. Further, Ireland bans self-service sales of tobacco products and restricts the display of tobacco to one package or picture of each tobacco product under sale. This provision, however, has not yet been implemented, as it is pending legal challenge by the tobacco industry. POS regulations were also introduced in March 2004 in the UK, but are currently subject to judicial review. The regulations stipulate a maximum of one sign, approximately no larger than A5. Similar to the situation in Ireland, tobacco companies have filed legal challenge, deeming the legislation unjustifiably restrictive.

Comprehensive advertising and promotion bans have also been shown to reduce smoking in the EU (Saffer & Chaloupka, 2000; Joossens, 1997; UK Department of Health, 1992). Current estimates suggest that advertising bans can reduce tobacco consumption by approximately 7

percent across the EU (Safer & Chaloupka, 2000). In Norway, Finland, and France¹³, Joossens (1997) found that tobacco sales declined 15%–34%, following enforcement of advertising bans. Advertising bans also reduces the social desirability of smoking, in particular among young people. Along with the promotion of a smoke-free environment, the regulation of advertising contributes to rendering non-smoking an accepted social norm. Of note, however, current evidence suggests that advertising bans must be comprehensive in order to effectively reduce tobacco consumption. In countries where partial bans or voluntary agreements have operated, declines in consumption have been negligible, as the tobacco industry re-focuses advertising and promotion activities to non-regulated media (Safer & Chaloupka, 2000).

1.3.3 Bans/restrictions on Smoking in Public and Workplaces

In 1989, the EU adopted a resolution on banning smoking in public spaces and in all forms of public transportation. The most extensive laws also include restaurants, bars, and private workplaces (Joossens, 2004). By 1996, all Member States had some measures in place to restrict smoking in public places (Action on Smoking and Health, 2006). While enactment of these regulations varies considerably, support for smoke-free legislation, as evidenced by increased implementation among countries, is increasingly rapidly (Table 1.2).

Legislation toward smoke-free public spaces (i.e., workplace bans, clean air policies), including modes of transportation, not only serves to protect non-smokers from passive smoke, but also creates an environment that encourages smokers to decrease consumption or quit altogether. More specifically, such laws render smoking less attractive by reducing opportunities to smoke and by reinforcing non-smoking social norms (Joossens, 2004).

TABLE 1.2 POLICIES ON SMOKING IN PUBLIC AND WORKPLACES IN THE EU

Country	Major Policy Actions
Austria	Prohibits smoking in public buildings, schools or similar institutions open to children and young people, universities and other educational institutions, and public transport. Smoking is not restricted in the workplace.
Belgium	Smoking banned in all workplaces under the employer's authority and to which employees have access (implemented in January 2006). Smoking is only allowed in dedicated and ventilated smoking areas. Beginning in 2007, Belgium will allow smoking in restaurants only in separate rooms that are closed off from other patrons and food service. Bars and cafes will be exempt from the ban, although they must have adequate ventilation and a non-smoking zone.
Cyprus	Prohibits smoking in all public places, including places of entertainment, government buildings, public transport, and in private cars when any of the passengers is under 16 years of age.
Czech Republic	Beginning in January 2006, smoking is banned on public transportation and in cinemas, theatres, sport halls, and government buildings. Smoking in restaurants is banned, but the law remains unclear in terms of areas of ventilation and non-smoking zones.
Denmark	Currently, smoking is only banned in schools and government buildings open to the public. The

¹³ Norway, Finland, and France were some of the first countries to enact advertising bans and effectively implement such restrictions.

	Danish government is striving to ban smoking in bars and restaurants as of 2007. However, larger restaurants will be allowed to have separate rooms where smoking is permissible.
Estonia	As of 2004, Estonia imposed a complete ban on smoking in healthcare, education and government facilities, indoor offices and workplaces, as well as cinemas and theatres (smoking in designated areas is permitted, however). Smoking on public transport is also prohibited.
Finland	Smoking is completely banned in healthcare, education and government facilities, indoor offices and workplaces, cinemas and theatres, and public transport (smoking in designated areas is permitted, however). There are partial bans on tobacco use in restaurants and bars – smoking is allowed, but large venues must reserve 50% of seats for non-smokers. However, additional restrictions are anticipated to be in force by June 2007. Large restaurants, which typically already have smoke-free spaces using ventilation systems, will have a transitional period of two years to construct separate smoking areas.
France	Since 1992, France has restricted smoking from public and workplaces, although designated smoking areas with adequate ventilation are permissible. A bill put forth in 2005 calls for a complete ban on smoking in public areas, including bars and restaurants.
Germany	Citizens are protected via the Non-Smokers Protection Act of 2002 for smoke exposure in workplaces and public areas. However, smoking is still allowable on public transport and most public and government buildings.
Greece	Complete smoking bans in specific public places, although all allow for designated smoking areas.
Hungary	Legislation passed in 1993 and 1999 prohibits smoking in public areas, including schools, public transport, health care facilities, and workplaces. As of 2005, grade schools, child care facilities, and health care units are totally smoke-free. School and workplaces can be deemed completely smoke-free if the majority of employers agree on such restrictions.
Iceland	Complete bans on smoking at the workplace, with the possibility of designated and ventilated smoking rooms. Complete bans apply to schools, day care facilities, public facilities primarily intended for youth, and on public transport. In June 2006, a bill was approved to render bars, restaurants, cafes, and nightclubs smoke-free, with an effective date of 1 June 2007.
Ireland	As of 2004, a complete ban on smoking at the workplace, including bars and restaurants. No designated smoking rooms are allowed. Smoking is also prohibited on public transport.
Italy	Italian legislation, enacted in January 2005, provides for smoke-free workplaces, including bars and restaurants, but permits the possibility of designated, closed-off, ventilated smoking rooms. Both businesses and customers who smoke face a fine of up to € 2000 and € 275, respectively, if they fail to comply.
Latvia	Smoking is completely banned in health care and educational facilities. Smoking is also prohibited in government buildings, workplaces, theatres and cinemas, and on public transport, although there are designated smoking areas in most cases.
Lithuania	Public smoking ban (restaurants, cafes, pubs, discos, and other public areas) will be effective starting in Jan 2007. Current, smoking is banned on public transport, although some trains and airports have dedicated smoking areas.
Netherlands	Complete ban on smoking at the workplace, excluding bars and restaurants.
Norway	Legislation introduced in 2004 provides a complete ban on smoking at the workplace, including bars and restaurants. Designated smoking rooms are allowed only in certain workplaces. Smoking is also prohibited on public transport.
Poland	Smoking is prohibited in public places.
Portugal	Smoking is also prohibited in government buildings, education and health care facilities, indoor workplaces, and theatres and cinemas. However, there are designated smoking areas in most cases. Smoking is also banned on modes of public transport, if total journey lasts less than one hour.
Slovakia	Health and safety protection require smoke-free workplaces, schools, and health and social facilities. Restaurants and other facilities serving food must provide smoke-free areas.

Slovenia	Smoking is banned in hospitals and schools. There are other restrictions in public places, with the exception of restaurants, which have designated smoking areas.
Spain	From January 2006, smoking is prohibited at work and those bars and restaurants larger than 100 sq meters that do not have a smoking section. Proprietors will have eight months to establish such designated areas.
Sweden	The majority of workplaces are smoke-free, but smoking is often allowed in designated smoking rooms (closed and ventilated). From June 2005, all restaurants, bars, and cafes (or where else food and drink are served) are smoke-free. However, separate smoking rooms can be established.
Switzerland	All public transportation is smoke-free, with partial restrictions in government facilities and indoor workplaces.
UK	Starting in summer 2007, a complete ban will be enforced on smoking inside offices, pubs, restaurants, and any other enclosed public area, including workplaces. In Scotland, a similar, but stricter, ban came into effect in March 2006.

Source: ENSP (2006); EPHA (2006); European Commission (2004).

Note: Although many countries have enacted legislation to restrict smoking in public places, the fact that legislation exists does not necessarily translate to implementation and adherence to the regulations. For example, evidence from Greece suggests that the laws are inadequate and are not being adhered to; politicians are “turning a blind eye to the smoking problem” (Vardavas and Kafotos 2006)

Member States that have implemented public smoking bans have experienced declines in overall prevalence rates (Boxes 1.2 and 1.3). Moreover, a recent comparative review on the effectiveness of smoke-free public spaces concluded that clear air laws were associated with an approximately 2–10% reduction in smoking prevalence (equating to an average of 3.1 fewer cigarettes per day) (Joossens, 2004; Levy et al., 2003). To that end, workplace policies have the most significant impact on reducing tobacco use, followed by restaurant bans and, finally, restrictions placed on schools and other public places. As with advertising bans, comprehensive policies (i.e., total ban on smoking in public places) are the most successful; less restrictive measures are likely to be half as effective (Joossens, 2004).

BOX 1.2 COUNTRY PROFILE – ITALY’S BAN ON PUBLIC SMOKING

Regulation prohibiting public smoking was initiated in January 2005, when the provisions entered into force. Specifically, the mandate bans smoking in closed places accessed by smokers or the general public, including workplaces (public and private) and recreational venues (e.g., restaurants, hotels, and cinemas). However, smoking is allowed in separate areas equipped with regularly working ventilation and air change devices. Penalties, ranging from €25 to €250, are sanctioned on smokers found in compliance with the law, as well as for private employers and tenants of recreational places that allow smoking in forbidden areas (fines from €200 to €2,000). Penalties are doubled if the law is infringed in presence of pregnant women or children aged less than 12 years old. In public closed places, the application of the law must be guaranteed by appointed employees, who are assumed to uphold the application of the law.

A recent survey demonstrated that 85% of the population are in favour of the regulation and that there is good compliance among the private and public sectors. Moreover, subsequent to enforcement in 2005, there was a 9% reduction in cigarette sales in comparison to the previous year. Conversely, during the same time period, there was a 300% increase in the sale of nicotine-substitute products. In support of the mandate, Italy has instituted ongoing evaluation monitoring activities, by way of surveys and controls and inspections, on the sales of tobacco and nicotine withdrawal products, as well as restaurant and workplace compliance with public smoking regulation (Galeone, 2005; Ruata et al., 2006).

BOX 1.3 COUNTRY PROFILE – BAN ON SMOKING IN THE WORKPLACE IN IRELAND

Ireland was the first EU member state to introduce an almost total ban on smoking in the workplace including bars and restaurants on 29 March 2004. Fines of up to €3,000 may now be levied on those employers who do not enforce the law. Exemptions from the ban include prisons, nursing homes and psychiatric hospitals, as well as hotel bedrooms. EU directives on advertising and sponsorship also reinforce this national policy. The ban follows a report prepared on '*The Health Effects of Environmental Tobacco Smoke (passive Smoking) in the Workplace*', commissioned by the Office of Tobacco Control and the Health and Safety Authority, which concluded that exposure to the hazards of tobacco smoke can best be controlled by legislation in places of work (McDaid and Wiley, forthcoming).

The measure has been broadly welcomed by the general public, health interest groups and Irish trade unions. A follow up survey conducted in May 2004 reported 97% compliance with the ban and no negative impact on trade although in July 2004 some publicans in the west of the country in particular had flouted the ban until threatened with legal action. It is as yet too early though to reach any conclusions about the long term economic and health impacts of the ban.

1.3.4 Warning Labels

In 2001, via the Tobacco Product Regulation Directive (2001/37/EC), the size of health warnings on tobacco packaging were increased from a minimum of 4% to at least 30% of the front and 40% of the back surface of the pack (European Parliament & the Council of the European Union, 2001). Warning texts are required to include a general message on the front (e.g., "Smoking Kills") to be alternated on a regular basis; additional warnings on the back should also be included. All countries are required to include warnings in the same size and format (black Helvetica bold font, white background, with thick black border), and in the official language. In Member States with more than one official language, the warnings are displayed in all languages, with the size adjusted accordingly. For example, in Belgium, warnings are written in Dutch, French, and German. The Directive also requires tobacco companies to display the details of the additives (i.e., tar, carbon monoxide, and nicotine yields) and their purpose on the side of cigarette packets. Moreover, the law prohibits the use of misleading descriptors that one product is less harmful than another (e.g., "light" and "mild"). A few countries incorporate additional messaging in tobacco packaging. Italy, for example, often places leaflets in packets with the label warnings, detailed explanations of the health implications of smoking, and reasons to quit.

The European Commission provided guidelines to Member States regarding the addition of graphics and pictograms to tobacco packing to reinforce the written warnings (European Commission, 2004). The guidance put forth 42 different picture warnings (Box 4) that countries could choose to require alongside text-based warnings. Many countries have already incorporated such combination warnings for tobacco products. In August 2004, Belgium issued a Royal Decree stating that companies must start manufacturing cigarettes with combined picture-text warnings after the designs were made public by the government, and that all cigarettes sold must have these warnings within 18 months. Guidelines for the combined warnings were issued in October 2005, outlining the process of implementing three series of

warnings, each set containing 14 warnings. The first set will appear the first year, the second version on the second year, and so forth.



Source: European Commission (2004)

The focus on warning labels is based on the notion that large, direct health warning labels are an effective medium of both informing smokers of the hazards of smoking and deterring non-smokers from initiating tobacco use. Evidence concludes that warnings are effective only if they contain multiple strong and direct messages that are prominently displayed (Joossens, 2004; World Bank, 1999). Further, text warnings accompanied by pictures, especially if such images are rotated over time, have

been found to significantly increase the impact of warning labels (European Commission, 2004; Hammond et al., 2003).

A number of recent studies demonstrate that the new warning labels are indeed effective in discouraging smoking and increasing public awareness of the health impacts of smoking (Willemsen, 2005; Fong et al. 2004; Joossens, 2004). A 2004 study in Belgium found that large, clear warnings¹⁴ motivated smokers to quit and made cigarettes less attractive to young people, particularly among those 15–24 years of age (Joossens, 2004). In fact, as a result of the new warnings, 8% of those surveyed smoked less. Another recent study demonstrated that of smokers in the Netherlands, 14% became less inclined to purchase cigarettes because of the new warnings, 32% indicated they preferred to purchase a pack without the new warnings, 18% reported that warnings increased their motivation to quit, and approximately 10% said they smoked less overall (Willemsen, 2005). In general, warnings were found most effective for those smokers who already intended to stop smoking.

1.3.5 Youth Access to Tobacco

Tobacco smoking among youths is of particular importance; indeed, between 11% to 37% of 15-year olds smoking at least once per week in the EU (Currie et al., 2004). According to the Health Behaviour in School-aged Children (HBSC) survey¹⁵, from 1993 to 2002, smoking prevalence among youth increased in many countries. In 2003, the proportion of children (ages 11–15) who ever smoked across all age groups was highest in Estonia, Latvia, Lithuania, and the UK, while Greece and Malta had a lower percentage of tobacco use. Among younger

¹⁴ Belgium has required warning labels since 2003, covering an average of 55% of the entire packages (constitutes the largest warnings currently available).

¹⁵ The Health Behaviour in School-aged Children (HBSC) survey covers the physical, emotional, and psychological aspects of health, and the influences of the family, schools, and peers on young people aged 11, 13, and 15 years in 35 countries and regions in the WHO European Region and North America. The survey reporting period includes 1993–1994, 1997–1998, and 2001–2002.

children, rates of smoking are substantially higher for boys than for girls in almost all countries. However, with increased age, more girls than boys have smoked, with differences being particularly marked in Scotland and Wales. Among 15-year-olds, girls tend to smoke more than boys in most countries, particularly in Northern and Western Europe (World Health Organization, 2004b). Peto et al. (1996) predicted that if the pattern of youth smoking continues, a lifetime of tobacco use would result in the death of 250 million children and young people currently alive.

One of the common features of a comprehensive tobacco control strategy is a prohibition against the sale of tobacco to youth, which is now required by the WHO FCTC. Beyond mandating age restrictions, recent EU policy action regarding youth access to tobacco products is reflected in a 2002 Council Recommendation (COM/2002/303) on the prevention of smoking and initiatives to improve tobacco control (European Commission, 2002). The recommendation aims to tighten tobacco control measures, with particular emphasis on youth access to tobacco. Specifically, the Council recommends the adoption of the following measures or voluntary agreements to restrict various actions that may indiscriminately target youth:

- Adult-only access to cigarette vending machines¹⁶
- Removal of tobacco products from displays in retail outlets visible to youth, particularly those that are self-service
- Require young people to prove age prior to the purchase of tobacco products in retail outlets and via the Internet
- Ban sales of bulk packets of cigarettes (i.e., 10 or greater)
- Restrict advertising and promotion activities that may reach children and adolescents, including the use of tobacco brand names on non-tobacco products or services (*brand-stretching*); promotional items (e.g., ashtrays, lighters) and tobacco samples; indoor and outdoor billboards and posters; and, advertising in cinemas.

In the context of a comprehensive tobacco control policy, several countries have subsequently adopted measures aimed specifically at reducing demand for tobacco products by children and adolescents (Box 1.5). Such measures include actions aimed at reducing the supply of tobacco to youth and limiting exposure to certain types of advertising and promotional activities.

Evidence supporting the impact of these measures in reducing tobacco use by youth is limited. In fact, most research suggests that most access interventions do not have a substantial impact on youth smoking rates (WHO, 2004). A lack of retailer compliance and adequate enforcement measures is an intervening factor that limits the effectiveness of youth access policies (DiFranza, 1995). Enforcement can be strengthened by setting meaning penalties for non-compliance, requiring purchasers to prove minimum age requirements with specified forms of

¹⁶ While it is important to restrict vending machines to adults, this would be very difficult in countries where it is legal to have vending machines outside of adult-only establishments.

identification, and employing other various means to support active enforcement (WHO, 2004). Moreover, the enactment of licensing laws, under which every retailer of tobacco obtains a license, has been shown an effective enforcement strategy.

However, even in light of high levels of compliance and active enforcement among tobacco retailers, the widespread availability of substitute sources renders the ability of retail policies to reduce youth smoking limited. As noted by Levy and Friend (2000), the effectiveness of one access policy hinges on the presence and magnitude of other interventions. For instance, the availability of self-service displays of tobacco products is often associated with the prohibition of sales to minors. When sales restrictions are enforced, open displays often become a preferred method (typically through stealing) for young people to obtain cigarettes (DiFranza & Rigotti, 1999). Other avenues contributing to youth access to tobacco include retailers in neighbouring communities, vending machines, social sources (e.g., friends, parents), and third party sales (DiFrazia & Coleman, 2001; Levy & Friend, 2000; Jason et al., 1999). Due to the multitude of outlets for access to tobacco products, the most effective strategies in reducing the prevalence of youth smoking entail comprehensive policies that enforce retailer compliance (supported by well-drafted laws and penalties), and include community-based interventions that address non-commercial and social sources of tobacco (e.g., friends, parents) (DiFrazia & Coleman, 2001; Foster et al., 1998).

BOX 1.5 SELECT YOUTH ACCESS POLICIES IN THE EU

Lithuania: Tobacco sales are prohibited for persons under 18 years old; tobacco products cannot be sold in retail outlets where 50% or more of merchandise is targeted to youth, vending machines, or Internet cafes.

Germany: Tobacco sales are prohibited for persons under 16 years old; advertising of cigarettes in cinemas is prohibited before 6 p.m.

Poland: Tobacco sales are prohibited for persons under 18 years old; tobacco products cannot be advertised via television, radio, cinema, youth-specific media, as well as schools and recreation centres.

Czech Republic: Tobacco sales are prohibited for persons under 18 years old; tobacco products are not allowed to be sold in vending machines, if it is not possible to prevent a minor from purchase; sale of products resembling tobacco products is prohibited; smoking ban in schools; retail outlets marketing tobacco products must clearly display information on the prohibited to minors.

Belgium: Tobacco sales are prohibited for persons under 18 years old; use of vending machines prohibited for youth under age 16.

Norway: Tobacco sales are prohibited for persons under 18 years old; cigarette sales through vending machines is prohibited as well as imitation tobacco products; retail staff under 18 years old are required to be supervised by an adult and verify the age purchasers.

Spain: Tobacco sales are prohibited for persons under 18 years old; all vending machines must be equipped with a "smart card" technology, whereby purchases can only be made via a card only available to those meeting age requirements.

1.3.6 Consumer Education and Public Campaigns

Along with legislative measures, support for education and public campaigns on tobacco use prevention and cessation are important components of a comprehensive strategy. Such actions are carried out on both EU-wide and national levels. For instance, the European Commission Tobacco Fund supports a variety of educational and prevention activities, including public awareness campaigns on the harmful effects of tobacco consumption and the dissemination of related information to national authorities and other relevant sectors. To this end, the Commission recently launched a €72 million EU anti-smoking campaign, “HELP”, in March 2005. The HELP campaign follows the first major EU-wide initiative, “Feel Free to Say No”, building on the progress achieved during its implementation between 2002 and 2004. The HELP campaigns focuses on promoting tobacco-free lifestyles in youth, increasing awareness of the dangers of passive smoking, and supporting bans on smoking in public places. Specifically, the campaign will entail a national road show, public relations and advertising campaigns, and a website on smoking cessation (European Commission, 2005).

On a national level, several Member States have initiated a variety of tobacco control and prevention educational and promotional activities, targeted to a range of publics, including youth, women, and health professionals (Box 1.6). Such initiatives are often funded by cigarette taxes and revenues from tobacco production, import, and trade. For example, in Lithuania, courses and

BOX 1.6 COUNTRY PROFILE – GERMANY’S INITIATIVE FOR SMOKE-FREE HOSPITALS

In July 2005 the Ministry of Health, in corporation with the Commissioner for Drugs of the Federal Government, launched the *German Network for Smoke-Free Hospitals*. The objective of the network is to increase and capitalize on the potential of hospitals for smoking cessation. The network awards certificates to participating hospitals (reviewed annually, on a voluntary basis) and supports anti-smoking activities through workshops and training, as well as the provision of educational materials and relevant data. As of April 2005, 35 hospitals were members of the network. The project is intended to operate for 3 years, with the goal of growing membership to 300 hospitals.

seminars are offered on a regular basis to health care professionals and teachers on the hazards associated with tobacco. In addition, topics on smoking prevention are integrated into educational curriculums of secondary schools, medical and pedagogical institutions, and patient health education programmes. In the Czech Republic, there are a number of established anti-smoking campaigns, such as *Quit and Win*, *Lung Cancer Can also Be Your Problem*, and *Non-Smoking is Normal*. Further, a national website has been developed that details all non-smoking restaurants. In support of prevention activities, several countries have enlisted the involvement of civil society entities, particularly non-governmental organizations (NGOs). The Health Promotion Foundation in Poland established the *Let’s Quit Smoking Together* campaign. The campaign has proliferated since its launch in 1991, which resulted in the creation of an annual non-smoking day in Poland. The Foundation also organizes conferences and disseminates educational material on smoking cessation. Government bodies

in Latvia also collaborate closely with NGOs, principally through the Latvian Anti-Smoking Coalition, on education and prevention initiatives.

There is convincing evidence from that sustained and well-funded public information campaigns can reduce smoking prevalence (Joossen, 2004). On average, studies demonstrate that media campaigns and public education can result in a 5–10% decrease in smoking rates (Levy et al., 2003). However, effectiveness is likely dependent on sufficient funding and the duration of the campaign or educational programme. Moreover, such activities have the most influence when combined with other policies and, therefore, should form an integral component of a comprehensive tobacco control strategy.

1.3.7 Treatment

Many smokers desire to quit, but given the highly addictive nature of tobacco, many find it difficult to stop. Consequently, several EU governments provide smoking cessation and addiction treatment through the health system, which may include counseling, telephone “quit-lines”, informal and formal support groups, and access to and reimbursement of cessation therapies, such as nicotine-replacement (European Commission, 2004; Joossens, 2004). Some

BOX 1.7 SELECT COUNTRY CESSATION/TREATMENT POLICIES

- **Latvia** supports providers in providing cessation services to patients and reimburses cessation therapies.
- **Czech Republic** offers a national hotline for smoking cessation and, since 2005, has established specialized Centres for Tobacco Dependence Treatment.
- In **Lithuania**, cessation courses are offered to smokers, as well as medical and psychological counseling.
- The **UK** requires that nicotine replacement therapies be made available on prescription from local general practitioners.
- **Greece** provides training of health professionals, cessation clinics, and the availability of pharmacotherapies from pharmacies, with and without a prescription.

cessation policies also include mandates or subsidizes for provider interventions. Box 1.7 highlights select Member State cessation policies.

Smoking cessation treatment is both an effective and cost-effective strategy. As with many of the aforementioned policies, treatment should be offered in combination with tobacco control measures for optimal effectiveness. In isolation of other policies, treatment is likely to have a minimal impact. Levy et al. (2003) found a 1 to 2% reduction in smoking rates following 2 years of treatment. However, the provision of treatment services may result in more significant impact over time, especially for heavier or long-time smokers (Joossens, 2004). Regardless, the effectiveness of treatment can presumably be facilitated by ensuring reasonable programme requirements placed on patients and adequate support from both payers and providers.

1.3.8 Other Policy Actions

In addition to the tobacco control measures previously outlined, there are several other policy areas that have received attention throughout the EU. In particular, the use of the Internet to purchase tobacco products is of increasing concern, as the tobacco industry seeks new platforms to advertise and promote their products. In fact, it has been projected that online tobacco purchases could account for up to 20% of all tobacco sales by 2010 (European Commission, 2004). Internet sales pose notable barriers to tobacco control, as they can circumvent price and tax policies, advertising bans, and youth access laws (European Commission, 2004). Moreover, they hinder efforts to render tobacco use less socially acceptable by increasing the privacy of purchase transactions.

To date, EU efforts with regards to tobacco e-commerce have been minimal. Directive 2003/31/EC (REF) on e-commerce, effective January 2002, provides in-principle exemptions for public health, but does not directly prohibit Internet sales of tobacco products. A recent Council Recommendation on smoking prevention in 2002 recommended that Member States restrict tobacco Internet sales, although the guidance extended to adults only (European Commission, 2002). Given the pervasive use of the Internet among youth, such restrictions should be placed on all individuals. However, currently, no Member State bans the sale of tobacco products over the Internet.

One other area that deserves policy attention is research spending and capacity on tobacco prevention and control. Investing in research is particularly important, as the information and evidence generated underpins the development of sound policy and product regulation. To date, the bulk of research on tobacco control strategies is based outside of the EU. Moreover, the tobacco research landscape within Europe is currently fragmented and coordination on both an EU-level and among Member States is limited (European Commission, 2004).

Nonetheless, there are several EU private and public entities initiating research on tobacco control, including the European Commission Institute for Health and Consumer Protection in the Joint Research Centre, public health institutes, and the organization Action on Smoking and Health (ASH). On a national level, several Member States have implemented a formal tobacco research strategy, including Ireland, Iceland, Poland, and Sweden. In particular, Ireland and the Czech Republic have established national tobacco research institutes. As set forth by the Research Institute for a Tobacco Free Society in Ireland, its overarching aim is to maintain a multi-disciplinary academic community of researchers to investigate all public health aspects of tobacco.

1.4 Conclusions and recommendations

As evidenced, various policies and initiatives have been implemented across Europe to reduce the prevalence of tobacco use. Joossens and Raw (2006) recently examined the tobacco control policies across Member States and found that Ireland, the UK, Norway, and Iceland were the most effective in reducing national smoking rates during the 10-year study period (1985–2005)¹⁷. In these countries, prevalence declined by 20% to 25%. Conversely, Luxemburg, Romania, and Latvia were considered to have the least effective policies in terms of impacting tobacco consumption, with less than a 15% reduction in smoking rates. Further, on a scale out a maximum possible score of 100, only 13 countries scored above 50. While it is difficult to ascertain the relative importance of particular policies, evidence suggests that significant increases in cigarette prices and taxes and the passage of comprehensive clean air laws form the cornerstone of strategies that have been successful in reducing smoking rates (Levy et al., 2003; World Bank, 2003). According to the aforementioned measure, the UK, Norway, and Iceland ranked the highest in terms of having high cigarette prices. Ireland was in the forefront regarding the prohibition of smoking in public areas, followed by Norway, Malta, and Italy. On the contrary, the UK was ranked that lowest of all countries in this area. However, the new English law, due to be implemented in 2007, marks significant improvement. Finally, almost all countries, with the exception of the UK and Iceland, scored extremely low on the provision on public education and campaign spending.

While progress has been made in reducing overall smoking rates, two demographic groups in particular deserve greater attention in terms of ascertaining the impact of EU tobacco control policies. First, in many Member States, youth smoking is a significant problem, with many countries showing increasing rates of smoking among youths and adolescents. Further policy action targeted to youth and coordinated monitoring mechanisms to evaluate the impact of recent tobacco control measures aimed at children and adolescents (e.g., youth access laws).

Second, as smoking is increasingly associated with poverty, it is imperative to assess the affect of tobacco-related interventions on health inequalities across the EU. Smoking is typically more common in lower socioeconomic groups in nearly all Member States, whereby inequalities in tobacco use have emerged or widened, particularly among females, during the last 15 years (Mackenbach & Kunst, 2004). Consequently, tobacco policies may differentially impact smokers in lower socioeconomic groups, either serving to exacerbate or improve existing health inequalities. Similar to youth smoking, the effect of various tobacco policies should be closely

¹⁷ Countries were scored on a scale of 0 to 100 across six tobacco control interventions (price of cigarettes, smoke-free public spaces, advertising, labeling, cessation, and tobacco control funding). Smoking prevalence rates between 1985 and 2005 were also examined. It should be noted that these findings be interpreted with caution, as they were intended to provide a general indication of the relationship between tobacco control policies and smoking behaviour. In terms of country comparison, even high scoring countries possessed areas that require improvement.

monitored to ensure that such measures are effectively contributing to the dual objectives of poverty and tobacco use reduction. Initial evidence suggests that recent tobacco control measures have reduced social inequalities in health. Mackenbach & Kunst (2004) found that policies on tobacco advertising, tobacco price increases, public smoking, and cessation treatment had the greatest effect on socioeconomic inequalities in tobacco consumption, particularly among low socioeconomic groups.

While substantial strides have been made over the last 10 years regarding tobacco control in the EU, there remains significant opportunity to move toward a smoke-free Europe. Specifically, based on current evidence regarding tobacco control within the EU, select policy and programmatic actions are recommended. Such recommendations, according to the area of policy focus, include:

Overall tobacco product regulation

- The adoption of comprehensive policies should be further supported across Europe. Such strategies should include proven effective policy measures, including price increases on tobacco through higher taxation; comprehensive advertising and promotion bans; consumer and public information campaigns; large, direct health warning labels on cigarette packets (preferably following a text-picture format); and, cessation treatment for dependent smokers, including access to medications.
- Member States should implement the measures developed by the WHO FCTC.
- Given the transboundary nature of tobacco use, additional coordination on control actions is needed across a multitude of levels – Member State, EU, and supranationally. Such coordination should involve increased collaboration with civil society organizations, including NGOs, professional bodies, and other relevant stakeholders working in the field of tobacco prevention and control.
- Increased attention should be made toward developing and implementing effective enforcement strategies.
- A comprehensive regulatory framework should be devised, which covers all types of tobacco and nicotine-based products (e.g. snuff).
- Publics should be made aware of all harmful ingredients used in the manufacture of tobacco products as well as the associated health hazards.

Research and funding

- There is a lack of systematic data collection on smoking prevalence and attitudes, which is vital to effectively measure the impact of tobacco control programmes and policies and make improvements and additional investments, where needed. Additional resources should be put toward the standardization and coordination of data collection, measurement and monitoring activities among Member States. Further, greater

harmonization and coordination will allow for comparisons of the effectiveness of tobacco control between countries and bolster EU research capacity.

- The increased establishment of inter-country research networks and/or institutes may support such objectives.
- Additional funding and resources should be allocated to evaluate the effectiveness of recent EU tobacco control policies.
- Greater investment is needed in tobacco programmes throughout the EU to ensure a comprehensive approach to control activities. While it is recommended that Member States spend at least €1 to €3 per capita on tobacco control activities, only the UK spends more than €1 per capita on such initiatives. Existing sources of funding, such as the EU Tobacco Fund, should be targeted toward the most effective and cost-effective control measures.
- As the bulk of research on tobacco prevention and control is conducted outside of the EU, additional research originating in Europe is needed to effectively measure progress and account for factors specific to the region or particular Member States that may impact the effectiveness of tobacco control strategies.
- Further research is needed on the impact on tobacco control policies and intervention on health inequalities within the EU.

Taxation and pricing

- As cigarette prices has a significant converse relationship on smoking rates, regular tax increases are needed and efforts to eliminate price and tax level variations between Member States should continue at the EU-level.
- Increased national and international cooperation is needed to deter tobacco smuggling and counterfeiting activity across borders.
- According to a recent position paper put forth by Joossens (2006), the following actions are needed:
 - A reduction in the indicative level for cigarettes for personal use when traveling between EU countries to 200 cigarettes to deter cross-border shopping.
 - Removal of the 'Most Popular Price' category and apply tax rules to all price categories.
 - Sanction research on the impact of tobacco companies on tax policy in Europe.
 - Ban of all cigarette packs that contain less than 19 cigarettes to hinder incentive pricing.

Public tobacco use

- Increased resources should be allocated toward ensuring adequate human resources are available for inspection and compliance activities.

- Member States should move toward comprehensive bans on smoking in all public places, not merely the workplace. Ireland, the UK, and Norway should serve as models or other countries implementing more restrictive measures.
- In parallel with and support of legislative measures, there should be greater public education on the hazards of second-hand smoke and the benefits of creating smoke-free environments.
- Efforts should be made to protect non-smoking workers, as well as customers at public establishments.

Advertising and promotion

- All Member States should enact tobacco advertising and promotion bans, including point of sale displays and other forms of indirect advertising (e.g., merchandise).
- The introduction of new advertising platforms, especially the Internet, used by the tobacco industry should be continuously monitored and policies should be updated to incorporate such mediums, where appropriate.
- Continued commitment is needed on both an EU and national level to protect children against exposure to tobacco advertising and promotion.
- All modes of tobacco sales promotion should be prohibited.

Product Labeling

- Member States should include *both* text and pictorial health warnings on tobacco labeling and packaging, with new warnings introduced on a regular basis.
- Warnings should aim to exceed the minimum package coverage requirements (30% front, 40% back surface).

Youth access

- Further restrictions should be made to ban youth access to vending machines.
- Formal enforcement policies and mechanisms should be implemented to ensure compliance with youth access laws. Such mandates should include sanctions (e.g., license suspension and removal) and fines for retail owners found in compliance.
- Additional research and intervention focus is needed to address third-party sources of tobacco (e.g., friends, parents, older siblings).
- Community-based interventions should support legislative measures for a comprehensive approach to reducing youth access to tobacco.

Consumer education and prevention activities

- Greater investments should be made (supported via various tobacco funds) toward comprehensive and sustained public education campaigns on the prevention and cessation of tobacco use.

Treatment and cessation strategies

- All Member States should implement national smoking cessation strategies, with an emphasis on health provider education, networks of treatment facilities, accessible pharmacotherapies for dependence, and public education on the availability of such services.

With continued efforts towards tobacco control across EU, national, and supranational levels, the progress achieved over the last 15 years can be sustained, even improved upon, for further reductions in tobacco use. Only a concerted, comprehensive, and enduring effort toward a smoke-free Europe will effectively address the tobacco epidemic and bring short- and long-term public health gains.

References

- Action on Smoking and Health (2006). Fact sheet no. 20: Tobacco policy in the European Union. Accessible at <http://www.ash.org.uk/html/factsheets/html/fact20.html>.
- Canadian Cancer Society (2006). Fact Sheet: Banning the Use of Tobacco Promotion at Point of Sale. Accessible at http://www.cancer.ca/vgn/images/portal/cit_86751114/56/33/1058329536ns_pointofsale_en.pdf.
- Council of the European Union (2002). Directive of 12 February amending directives 92/79/EEC, 92/60/EEC and 95/59/EEC (structure and rates of excise duty applied on manufactured tobacco), Official Journal L046 (16 February).
- Cnossen, S. *Tobacco Taxation in the European Union*. CPB Discussion Paper. Netherlands Bureau for Economic Policy Analysis.
- Cummings, K.M., Hyland, A., Saunders-Martin, T. (1998). Evaluation of an enforcement program to reduce tobacco sales to minors. *American Journal of Public Health*, 88(6): 932-6.
- Currie C. et al (eds.) 2004. Young People's Health in Context: international report from the HBSC 2001/02 survey. WHO Policy Series: Health policy for children and adolescents Issue 4, WHO Regional Office for Europe, Copenhagen.
- DiFranza, J. and Coleman, M. (2001). Sources of tobacco for youths in communities with strong enforcement of youth access laws. *Tobacco Control*, 10(32): 23-8.
- DiFranza, J. and Rigotti, N.A. (1999). Impediments to the enforcement of youth access laws. *Tobacco Control*, 8(2):152-55.
- DiFranza J. (1995). Active enforcement of minors' access laws: a moral and ethical imperative. *Tobacco Control*, 4:5.

- European Public Health Alliance (2006). Update on the implementation of the tobacco advertising ban in Europe. Accessible at <http://www.epha.org/a/1889>.
- European Commission (2005). *HELP – For a life without tobacco*. MEMO/05/68, 1 March 2005. Brussels.
- European Commission (2004). *Tobacco or Health in the European Union: past, present and future*. Report prepared by ASPECT Consortium with financing from DG Health and Consumer Protection.
- European Commission (2004). *Combined text and picture warnings*. Accessible at http://ec.europa.eu/avservices/photo/photo_search_en.cfm?keyword=help
- European Commission (2002). Council Recommendation on the prevention of smoking and on initiatives to improve tobacco control. COM(2002) 303 final, Brussels, 17.06.2002.
- The European Parliament and of the Council of the European Union. (2002). Directive of 12 February 2002 amending directives 92/79/EEC, 92/60/EEC and 95/59/EEC as regards the structure and rates of excise duty applied on manufactured tobacco, Official Journal L046.
- The European Parliament and of the Council of the European Union. (2001). Directive 2001/37/EC of the European Parliament and of the Council of 5th June 2001 on the approximation of the laws, regulations, and administrative provisions of the Member States concerning the manufacture, presentation, and sale of tobacco products. Luxembourg. http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/1_194/1_19420010718en00260034.pdf
- The European Parliament and of the Council of the European Union (1997). Directive 97/36/EC of the European Parliament and of the Council of 30th June 1997 amending the Council Directive 89/552/EEC (OJ C202/60 of 30 July 1997, p. 60).
- Fong, G.T., Hammond, D., Borland, R., Hastings, G., Cummings, K.M., for the ITC PES Research Team. (2004). *Quasi-experimental evaluation of the enhancement of warning labels in the UK: initial findings from the international tobacco control policy evaluation survey*. Abstract submitted to Society for Research on Nicotine and Tobacco conference.
- Forster, J.L., Murray, D.M., Wolfson, M., et al. (1998). The effects of community policies to reduce youth access to tobacco. *American Journal of Public Health*, 88(8): 1193–98.
- Gilmore, A. and McKee, M. (2004). Tobacco-policy in the European Union: the legal, ethical and policy debates. In *Conflicts Over Tobacco policy and Public Health*. Feldman, E., Bayer, R., eds. Harvard University Press.
- Hammond, D., Fong, G.T., McDonald, P.W., Cameron, R., and Brown, K.S. (2003). Impact of the graphic Canadian warning labels on adult smoking behaviour. *Tobacco Control*, 12: 391–95.
- Harrison, P.A., Fulkerson, J.A., and Park, E. (2000). The relative importance of social versus commercial sources in youth access to tobacco, alcohol, and other drugs. *Preventive Medicine*, 31(1): 39–48.
- Jason, L.A., Berk, M., Schnopp-Wyatt, D.L., and Talbot, B. (1999). Effects of enforcement of youth access laws on smoking prevalence. *American Journal of Community Psychology*, 27(2): 143–60.

- Joossens, L. and Raw, M. (2006). The Tobacco Control Scale. A new scale to measure country activity. *Tobacco Control*, 15(3): 247–53.
- Joossens, L. (2006). A public health perspective for the review of EU tax policy on tobacco products. Association of European Cancer Leagues. Brussels.
- Joossens, L. (2004). Effective tobacco control policies in 28 European Countries. European Network for Smoking Prevention. Brussels.
- Joossens, L. (1997). The effectiveness of banning advertising for tobacco products. International Union against Cancer. Brussels.
- Joossens, L. (1996). Taxes on tobacco products in the European Union: taking health into account. International Union Against Cancer. Brussels.
- Lantz, P.M., Jacobson, P.D., Warner, K.E., et al. (2000). Investing in youth tobacco control: a review of smoking prevention and control strategies. *Tobacco Control*, 9(1): 47–63.
- Levy, D., Gitchell, J., and Chaloupka, F. (2003). The effects of tobacco control policies on smoking rates: A tobacco control scorecard. PIRE Working Paper, Calverton, MD.
- Levy, D. and Friend, K.B. (2000) A simulation model of tobacco youth access policies. *Journal of Health Politics, Policy and Law*, 25(6): 1023–50.
- McDaid, D. and Wiley, M. *Health Systems in Transition: Ireland*. Copenhagen: WHO Regional Office for Europe, forthcoming.
- Mackenbach, J.P. and Kunst, A.E. (2004). Tackling socio-economic inequalities in smoking in the European Union. Department of Public Health, Erasmus MC, University of Rotterdam. Project sponsored by ENSP.
- Ministry of Health, Welfare and Sport, the Netherlands (2005) Tobacco Act. Tobacco control in the Netherlands. International Publication Series Health, Welfare and Sport No. 22. Accessible at http://www.minvws.nl/images/tobacco-control-in-the-netherlands_tcm20-136476.pdf
- Murray, C.J.L. and Lopez, A.D. (1996). *The global burden of disease. A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge, MA, Harvard School of Public Health.
- Pan American Health Organization (2001). Fact sheet: How second-hand smoke harms and kills non-smokers. Accessible at <http://www.paho.org/English/AD/SDE/RA/wntd-factsheet2.doc>.
- Peto, R., Lopez, A.D., Boreham, J., Thun, M., Heath, C., and Doll, R. (1996). Mortality from smoking worldwide. *British Medical Bulletin*, 52: 12–21.
- Peto, R., Lopez, A.D., Boreham, J., and Thun, M. (2004). Mortality from smoking in developed countries: 1950–2010. Imperial Cancer Research Fund, World Health Organization.
- Pierce, J.P. and Gilpin, E. (1996). How long will today's new adolescent smoker be addicted to cigarettes? *American Journal of Public Health*, 86(2): 253–56.
- Ranson, M.K., Jha, P., Chaloupka, F.J., and Njuyen, S.N. (2002). Global and regional estimates of the effectiveness and cost-effectiveness of price increases and other tobacco control policies. *Nicotine and Tobacco Research*, 43: 311–19.
- Saffer, H. and Chaloupka, F. (2000). The effect of tobacco advertising bans on tobacco consumption. *Journal of Health Economics*, 19: 1117–37.

- UK Department of Health. (1998). *Smoking kills: a White Paper on tobacco*. London: The Stationary Office.
- UK Department of Health. 1992). *Effect of tobacco advertising on tobacco consumption*. London.
- US Department of Health and Human Services (1994). *Preventing tobacco use among young people. A report for the Surgeon General*. Atlanta, Georgia: Public Health Service, Centers for Disease Control and Prevention Office of Smoking and Health.
- Vardavas CI and Kafatos A.(2006) Greece's tobacco policy: another myth? *The Lancet*, 367 (9521): 1485–1486.
- Willemsen, M.C. (2005). The new EU cigarette health warnings benefit smokers who want to quit the habit: results from the Dutch Continuous Survey of Smoking Habits. *European Journal of Public Health*, 15(4): 389–392, doi:10.1093/eurpub/cki061.
- Willemsen, M.C. and DeZwart, W.M. (1999). The effectiveness of policy and health education strategies for reducing adolescent smoking: a review of the evidence. *Journal of Adolescence*, 22(5): 587–99.
- World Health Organization (2006). *Framework Convention on Tobacco Control: Mobilizing the World for Global Public Health*. World Health Organization
- World Health Organization (2004a). *Tobacco Control Legislation: An Introductory Guide, Second Edition*. World Health Organization.
- World Health Organization (2004b). *Young people's health in context*. Health Behaviour in School-aged Children (HSBC)study: international report from the 2001/2002 survey. Health Policy for Children and Adolescent, No.4.
- World Health Organization (2003). *World Cancer Report*. World Health Organization.
- World Health Organization (2002). *The Tobacco Atlas*. World Health Organization.
- World Health Organization (2001). *What in the world works?* International Consultation on Tobacco and Youth. Singapore, 28–30 September 1999.
- The World Bank (2003). *Tobacco Control at a Glance*. Accessible at <http://www.worldbank.org/tobacco>.
- The World Bank (2003). *Tobacco Pack Information at a Glance*. Accessible at <http://www.worldbank.org/tobacco>.
- The World Bank (1999). *Curbing the Epidemic: Governments and the Economics of Tobacco Control*. Washington, DC.

2. Obesity–Control Policies in Europe

Key points:

- Obesity in Europe has reached epidemic proportions. Its prevalence has tripled in the last two decades, and if no action is taken there will be an estimated 150 million obese adults (20% of the population) and 15 million obese children and adolescents (10% of the population) in the WHO European Region by 2010
- Obesity is caused by high caloric intake and low levels of physical activity. It is associated with several important causes of mortality and morbidity.
- WHO has adopted a Global Strategy on Diet, Physical Activity and Health. It recommends that governments should: provide better consumer information; work with the private sector on food marketing issues; regulate the content of food products; consider (dis)incentives such as taxation, subsidies and/or pricing as mechanisms; modify agricultural policy; develop policies across sectors; improve legislation; support schools in promoting sports and healthy diets; consider incentives for health staff to promote obesity control; and monitor risk factors and commission research
- In December 2005 the European Commission released a green paper for consultation on fighting obesity. The results are due to be published this year.
- At the national level, there has been renewed attention to obesity with many countries in all parts of the EU recently introducing programmes. These focus on improving nutrition and levels of physical activity in the population
- Europe is facing growing prevalence rates of overweight children. Childhood obesity requires urgent attention. Many countries have introduced policies in schools to reduce obesity. Some, including Sweden, Belgium, the Netherlands and Ireland, have taken action to restrict advertising of low–nutritional value products to children
- Difficulty in assessing the effectiveness of individual policy interventions to combat obesity is one important factor that hinders EU–wide strategy development
- EU–wide policy holds a particularly important place because of the transnational nature of some aspects of factors influencing obesity rates, such as food manufacturing and agricultural policies

2.1 Overview of the state of the obesity epidemic in Europe

Rising levels of obesity amongst adults and children throughout Europe signal the need for immediate policy interventions and strategies in order to curb this rise and prevent the chronic diseases which accompany the condition. Type 2 diabetes, cardiovascular diseases, dyslipidaemia and metabolic syndrome comprise conditions commonly associated with overweight and obese individuals, but the WHO International Agency for Research into Cancer has also found that some cancer cases in both men and women can be linked to an individual's

weight (IARC 2003). Between 10 and 27% of men and between 10 and 38% of women in Europe are obese. This compares to 28% of men in the US and 34% of women. Finland, Germany, Greece, Cyprus, the Czech Republic and Malta all have more of a percentage of their populations overweight than the US (International Obesity TaskForce (IOTF) (2005). Further statistics on obesity prevalence are presented in section 2.5.3 in *Part One*.

Obesity in Europe has reached epidemic proportions. Its prevalence has tripled in the last two decades, and if no action is taken there will be an estimated 150 million obese adults (20% of the population) and 15 million obese children and adolescents (10% of the population) in the WHO European Region by 2010 (WHO Regional Office for Europe 2006).

Public health experts lay the blame for increasingly overweight and obese populations primarily on two items: (1) high caloric intake due to the ‘snacking’ culture and foods and drinks of high calorie count and (2) less physical activity resulting in a largely sedentary culture. Factors such as genetics, income, education and ethnicity impact the degree to which each of these factors are felt by an individual.

High caloric intake in Europe

The move from Europe’s traditional family setting of meals to the current fast food culture where individuals consume meals of less nutritional value but high in fat, salt and calorie content has contributed greatly to the rise in the number of overweight and obese Europeans. Additionally, vending machines in schools selling sweet and drinks as well as weakly regulated school meals of poor nutritional value with little incentive for school catering contracts to provide healthy meals are putting European children at a nutritional disadvantage from a young age. Eating habits need to adapt as the influx of ready-made meals and the rise of eating more meals outside the homes has created difficulties in curbing rising waistlines (IASO and EASO 2005).

Lack of physical activity in Europe

The second chief culprit in the fight against growing obesity prevalence throughout the EU is the dearth of regular physical activity in Europeans’ lives. Lack of physical activity has partially come as a result of environmental and technical changes that enable automated workplaces and home environments as well as inactive forms of transport. Individuals walk or cycle to work less than in the past while in urban environments, school fields for playing competitive sports games have become increasingly rare (IOTF and European Association for the Study of Obesity (EASO) 2002). These fundamental changes in the way modern society conducts its daily activities requiring less physical activity make requisite a reduction in humans’ overall caloric intake.

2.2 Policies countries use to counteract rising obesity

WHO has adopted a broad-ranging approach to obesity and has developed, under a mandate from Member States, a Global Strategy on Diet, Physical Activity and Health (WHO 2004). The Global Strategy aims to foster the formulation and promotion of national policies, strategies and action plans to improve diet and encourage physical activity. The main recommendations for governments are:

- Governments should provide accurate and balanced information for consumers to enable them easily to make healthy choices, and to ensure the availability of appropriate health promotion and education programmes. Behaviour can be influenced especially in schools, workplaces, and educational and religious institutions, and by nongovernmental organizations, community leaders, and mass media.
- Governments should work with consumer groups and the private sector (including advertising) to develop appropriate multisectoral approaches to deal with the marketing of food to children, and to deal with such issues as sponsorship, promotion and advertising.
- Governments may require information to be provided on key nutritional aspects of the content of food items, as proposed in the Codex Guidelines on Nutrition Labelling. Such messages must not mislead the public about nutritional benefits or risks.
- Food and nutrition policy should also cover food safety and sustainable food security. Governments should be encouraged to examine food and agricultural policies for potential health effects on the food supply.
- In addition to promoting the development, production and marketing of food products that contribute to a healthy diet and are consistent with national or international dietary recommendations, governments could consider additional measures to encourage the reduction of the salt content of processed foods, the use of hydrogenated oils, and the sugar content of beverages and snacks.
- Public policies can influence food and exercise costs through taxation, subsidies or direct pricing in ways that encourage healthy eating and lifelong physical activity, particularly among poor communities.
- Programmes to provide food to population groups with special needs or cash transfers to families for them to improve their food purchases should be considered.
- Healthy nutrition should be taken into account in government agricultural policies.
- Public policies and legislation which have an impact on opportunities for physical activity, such as those concerning transport, urban planning, education, labour, social inclusion, and health-care should be framed with appropriate incentives.
- Schools should be encouraged to provide students with daily physical education and should be equipped with appropriate facilities and equipment. Governments are encouraged to adopt policies that support healthy diets at school.
- Routine contacts with health-service staff should include practical advice to patients and families on the benefits of healthy diets and increased levels of physical activity, combined with support to help patients initiate and maintain healthy behaviours. Governments should consider incentives to encourage such preventive services.

- Long-term and continuous monitoring of major risk factors is essential. Over time, such data also provide the basis for analyses of changes in risk factors, which could be attributable to changes in policies and strategies. Applied research, especially in community-based demonstration projects and in evaluating different policies and interventions, should also be promoted.

In order to implement these policies, WHO recommends that national coordinating mechanisms should be established within the context of a comprehensive plan for noncommunicable-disease prevention and health promotion. Local authorities should be closely involved. It also recommends that multisectoral and multidisciplinary expert advisory boards should also be established.

The EU has undertaken various moves to highlight its commitment to good nutrition recognizing that the topic deserves coordinated policy at the EU level. In December 2005 the European Commission released a green paper for consultation on fighting obesity (European Commission 2005*b*). The report follows on from the European Platform for Action on Diet, Physical Activity and Health from March 2005 (European Commission 2005*a*). The green paper points out the potential for industry self-led regulation of marketing foods high in fat and sugar and the importance of clear communication on the relationship between diet and disease. It elicits the opinions of stakeholders on issues such as how best to incorporate healthy diet and physical activity in the workplace, ways to better integrate public health campaigns against obesity into health services and methods to improve socioeconomic inequalities in weight and the habits that cause obesity. The consultation process following the release of this report will aid in future European Commission policy formulation and is due to be published this year.

In 2003, a network on Nutrition and Physical Activity (NPA) composed of experts nominated by the Member States, the WHO and consumer and health NGOs was established by the Commission services to advise the Commission on the development of Community activities to improve nutrition, to reduce and prevent diet-related diseases, to promote physical activity and to fight overweight and obesity (NPA 2003).

Figure 2.1 highlights the policies and programs introduced by the European Commission to improve public nutrition prior to 2003. These initiatives focus on reducing obesity incidence as well as cardiovascular disease, cancer, diabetes and other conditions resulting from poor diet. While the approach of the European Commission to tackling obesity has broadly corresponded with many of the WHO (2004) recommendations, EU Common Agricultural Policy (CAP) has been criticized for not taking into account healthy nutrition, as recommended by the WHO, since the CAP subsidizes the production and consumption of animal fat, tobacco and wine while not supplying sufficient amounts of fruit and vegetables (Schafer Elinder 2004).

Future Europe-wide action includes a European Ministerial Conference on Counteracting Obesity to be held by WHO in Istanbul, Turkey in November 2006. Representatives of EU

Member States, together with the WHO Regional Office, are drafting a proposal for a European Charter on Counteracting Obesity. Its goal is to give political guidance and provide a strategic framework for strengthening action on obesity throughout the European Region. The draft Charter will be discussed and submitted for adoption by Member States at the conference.

At the national level, there has been renewed attention to obesity with many countries recently introducing programmes (Figure 2.2). Most of these policies are multisectoral, reflecting the diverse causes of obesity. The private sector is frequently identified as a key partner in influencing dietary patterns (for a more detailed example see Box 2.1). Several countries set quantitative targets, while other countries use aspirational targets only. Many countries also recognize that monitoring systems and buy-in at local government level are needed to meet the goals of national programmes. The Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have also put into action a joint policy to combat increasing obesity (see Box 2.2).

FIGURE 2.1 EUROPEAN COMMISSION ACTION AND POLICIES CONCERNING PUBLIC NUTRITION

Name of policy or program	Year	Description
• Action program on public health	• 1993-2002	<ul style="list-style-type: none"> • Funded eight nutrition-related projects including <ul style="list-style-type: none"> – Eurodiet project on nutrition and healthy lifestyles <ul style="list-style-type: none"> • Aimed to <i>coordinate state and EU programs on nutrition and diet</i> for making population-based dietary guidelines published in 2002 – the European prospective investigation into cancer and nutrition (EPICS) <ul style="list-style-type: none"> • <i>Research project on lifestyle info including eating habits and biological info</i> for 500,00 adults in nine EU countries and Norway to examine principal risk factors for various types of cancer – projects <i>promoting physical activity</i> – development of <i>graduate training in public health nutrition</i> to put in action population-based strategies from Eurodiet project
• Action program on public health	• 2003-08	<ul style="list-style-type: none"> • Aimed at <ul style="list-style-type: none"> – Improving information on nutrition <ul style="list-style-type: none"> • Developing and monitoring <i>health monitoring system</i> used for analysis and reporting • To be developed in cooperation with EU Member States – Responding to health threats <ul style="list-style-type: none"> • Improve mechanisms for <i>exchanging information</i> about non-communicable disease threats • Also includes developing better mechanisms for handling communicable disease threats and reaction to physical, chemical and biological emergencies – Addressing health determinants <ul style="list-style-type: none"> • Design <i>strategies including health-related aspects for lifestyle and socioeconomic status</i> • Includes actions on nutrition, promoting physical activity and targeting at risk population segments

• White Paper on food safety	• 2001	• Enumerates need for <i>improved food nutrition labels</i>
• Community actions on food safety and nutrition	• 2002	• Established the <i>European Food Safety Authority</i> along with regulation from European Parliament (Regulation EC No 178/2002) to offer advice on nutrition and food safety aspects of legislation
• Community-funded research	• 1982-ongoing	<ul style="list-style-type: none"> • New framework every four years to <i>fund research in areas of food health, safety and nutrition</i> • 1998-2002 included 'food, nutrition and health' action <ul style="list-style-type: none"> – Research on topics such as those aiming on improving understanding and awareness of roles of nutrition, diet and lifestyle in disease prevention • 2002-2006 included 'food quality and safety' and nutrition actions <ul style="list-style-type: none"> – Research on topics such as the impact of animal feed on human food and environmental health risks • Supplementary to national funding

Source: European Commission 2002

TABLE 2.2 NATIONAL POLICIES TO CONTROL OBESITY IN EUROPE

Country	Policy and date	Specific objectives	Implementation	Evaluation
Belgium	National food and health plan, 2005	Included plans for a media campaign; a website; a national food guide; directives concerning school meals; stimulation of the education of professionals in the food industry and hotels/restaurants/cafes; the implementation of a national policy concerning the promotion of breast feeding (objective of 50% breast feeding at 3 months in 2010); measures for the use of ordinary kitchen and table salt to replace by salt with iodine.	Multisectoral, led by the federal ministry of social affairs and public health.	NA
Bulgaria	National Food and Nutrition Action Plan 2005–2010, 2004	Built on the WHO “Global Strategy on Diet, Physical Activity and Health”. The target population constitutes people with low socio-economic status; pregnant women; children and adolescents; and elderly people (which represent about 25% of the Bulgarian population). Specific quantitative targets include: to reduce the number of overweight and obese individuals by at least 10%; to reduce the average fat intake to 30% or less of the overall energy value of the diet; to reduce the consumption of salt to no more than 5 g/day per person; to increase the consumption of fruits	The Ministry of Health is the central coordinating institution of the strategy. All authorities and institutions responsible for food management and processing, social policies, sports, finance, ecology and regional policy as well as the Municipalities and the media are expected to actively participate in the implementation of the strategy.	NA

		and vegetables during winter and spring up to 400 g/day per person; to reduce the consumption of refined sugar to no more than 10% of the total energy intake.		
Czech Republic	The National Council for Obesity, 2004	NA	Founded by the Ministry of Health. Various small projects are run by public institutions, non-profit sector, and pharmaceutical companies.	NA
Denmark	Government report, 2005	50 different intervention strategies aimed to promote exercise and healthier life styles which include: courses for obese pregnant women to promote healthy lifestyle; research to identify opportunities for improving the quality of physical education classes in primary schools; efforts to encourage infrastructure development that promote physical activities; and partnerships to ensure nutritional food in supermarkets.	The wide variety of strategies requires action from various government ministries and levels of government. Stronger collaboration between public and private institutions was presented as a possible institutional structure for the interventions.	NA
France	Programme National de Nutrition Sante (PNNS), 2001–05	Nine nutrition objectives such as reducing cholesterol levels in adults by 5%, blood pressure in adults by 10mm, reducing the prevalence of obesity and overweight by 20% in adults and stabilizing the levels seen in children, reducing the intake of alcohol by 20g per day and increasing the consumption of fruits and vegetables by reducing the percentage of the population who consumer less than 3.5 per day by 25%.	The plan was formulated on the national level but implemented regionally with coordination from regional technical committees for nutrition. Actions implemented as part of this policy included information campaigns, prevention programs, improved school meals and efforts to achieve early diagnosis of nutritional issues.	In 2006, an evaluation of the PNNS showed that the public is aware of the program and there was an increased in fruit and vegetable uptake in 2005 in comparison to prior years. Evidence on improvements in obesity prevalence data has been inconclusive. The 2001–5 program is being evaluated to assess how to move the initiatives forward.
Germany	National campaign to promote health and physical activity, 2005	The campaign consists of a number of events, such as the launch of a step counting campaign and a website. The Federal Ministry of Health commissioned a report on eating habits and nutritional intake in 2006.	The Federal Ministry of Health launched the campaign but depends on local government to improve public health.	NA

<p>Hungary</p>	<p>“Healthy nutrition and food safety” and “Promoting physical activity” are two of the sub-programmes of the National Public Health Programme, 2003–2012</p>	<p>“Healthy nutrition and food safety”: disseminate information on healthy nutrition to specialists and the population; to grow and produce sufficient and quality food for healthy nutrition through a policy of sustainable farming and stock building; to implement the guidelines for healthy nutrition in mass catering; to expand the school meal system to improve food safety. “Promoting physical activity”: increase the proportion of the population who participate in sports to a physiologically optimal degree by at least 15%; increase the proportion of the population taking increased physical exercise by at least 25%; theory and practice of physical education built into the educational curriculum; continuous and extensive information through the media; sporting opportunities available for all age groups and all social strata; appropriate number of satisfactory quality sports facilities throughout the country</p>	<p>In 2006 a book was published on the basic elements of health promotion for teachers and students in which both healthy nutrition and the importance of physical activity are thoroughly discussed. Schools have already made changes to their school nutrition environments, improved the quality of the foods served, and now provide students with more healthy choices. Schools are eligible for awards as part of a competition. A ministerial decree which would regulate the supply of the buffets in schools from September 2006 is under elaboration.</p>	<p>NA</p>
<p>Ireland</p>	<p>Obesity and Policy Challenges (2005), report of the National Taskforce on Obesity, (2004)</p>	<p>The report includes 93 recommendations, such as banning vending machines in primary schools, a new education and training programme for health professionals, guidelines for food labelling, an examination of fiscal policy and its impact on overweight and obesity, and guidelines for the detection and treatment of overweight and obesity.</p>	<p>The report highlighted the need for 'joined-up' policy, cross collaboration between all key stakeholders and real practical engagement by both the public and the private sectors.</p>	<p>NA</p>
<p>Latvia</p>	<p>Healthy Nutrition Policy 2003 – 2013. Other priorities in sport and physical activities are set in the Declaration of the Cabinet of</p>	<p>Objectives of the nutrition policy include: to develop a nutrition information system, to involve local governments in promoting healthy food, to join the European Food Safety Network (EFSA), to elaborate healthy and rational nutrition guidelines, to do public information, and to develop educational programmes. The declaration provides for: the development and adoption of a</p>	<p>The area of physical activities is regulated by the Sport Law, which sets the legal framework for regulation of sport and physical activities and the multi-sectoral approach and competences of involved parties: different ministries, municipalities, employers and National Sport Council.</p>	<p>NA</p>

	Ministers of Latvia.	long-term programme for physical education and sports; improved legislation on sports; supporting the operation of sports clubs; a target-oriented investment programme for development and construction of sports bases and complexes; and promotion of physical activities and sports as an important form of recreation.		
Lithuania	National policies that aim at healthy nutrition and increase of physical activity are integrated into the Lithuanian Health Program, 1997–2010	The health programme includes aims to: a) to decrease amount of energy derived from fat to 30% and proportion of energy derived from saturated fatty acids to 14%. Specific objectives include the increase consumption of fiber; promotion of breastfeeding; implementation of programs for education of nutritionists; and the creation of information and education system of healthy nutrition. b) to increase proportion of physically active schoolchildren by 50%, to decrease the proportion of physically inactive people younger than 65 years by 30%. Objectives include increase of the accessibility of all groups of population to sport facilities; planning and creating recreational zones within cities and separate regions; implementation of educational programs for specialists; establishment of three weekly physical training lessons in all types of educational institutions (following recommendations of the Law of Physical activity and Sports).	Implementation emphasizes intersectoral cooperation such as the creation of the intersectoral structures at the country and local level.	Substantial changes in nutritional habits of Lithuanian population over the last ten years have been observed. For example, in 1996, 18.1% of men and 24.8% of women consumed fresh vegetables at least three days during last week, while in the year 2004 this proportion was 39.9% in men and 49.9% in women. However, the proportion of schoolchildren consuming vegetables every day remained quite stable (about 30%) and eating fresh fruits decreased. The proportion of energy derived from fat remained stable from 1998 to 2002 at 44%. Physical activity of adults increased during last decade although the proportion of persons walking to and from work decreased. The proportion of schoolchildren taking part in sports at least twice a week remained stable from 1994 to 2002.
Spain	National	The NAOS recommendations for	Spanish Ministry of Health	An Obesity

	Strategy for Nutrition, Physical Activity and the Prevention of Obesity (the NAOS Strategy), 2005	action are grouped in four fields: families and communities, schools, the private sector, and the health system. Objectives are aspirational, not quantitative and include: population awareness and information campaigns; promoting nutritional education at home, at school and in the community; stimulating the practice of regular physical activity in the population, with special emphasis on schools; favouring a framework of collaboration with companies in the food industry; raising awareness among professionals in the National Health System. Special emphasis is put on the actions aiming at the prevention of child and adolescent obesity.	and Consumer Affairs launched the strategy. Local governments will in great part be responsible for running local campaigns and the private sector has agreed to various changes in their practices but the guidelines are not clear in either case as to what holds them responsible, as the Strategy guidelines are to be implemented in a self-mandated fashion. The innovative and crucial aspect to the Strategy's likely success is the fact that many different entities from different sectors helped developed it, and therefore have a stake in its success and implementation.	Observatory will be created to do epidemiological surveillance, define indicators to measure the effect of interventions, facilitate the exchange of experiences among different initiatives, identify research priorities, monitor adherence and application of the self-regulation agreements, and do rigorous assessment of initiatives to identify those that are successful and deserve prioritisation.
Turkey	Government programme to fight obesity, 2006	To map out the habits of nutrition and health of the population at large through a survey study; to educate students in primary and secondary education units on health and nutrition, and to transfer those students with an obesity problem to health units.	Implementation by the Ministry of Health with the cooperation of the Ministries of Education and Interior.	NA

Source: Country expert reports. NA refers to information "not available"

2.3 Special focus on obesity in children

Europe is facing growing prevalence rates of overweight children. England and Poland display the sharpest rates of increase (IOTF 2005). Childhood obesity creates particular health concerns not only because obese young people tend to carry this trait forward into adulthood thus remaining high risk individuals for healthcare systems but also because they show early signs of 'diseases of old age' such as type 2 diabetes (IOTF 2005). 50–75% of overweight or obese children will remain with the condition when they reach adulthood (National Office of Statistics, 2002; Flodmark et al. 2004). See section 2.5.3 for more statistical data on childhood obesity.

In addition to higher likelihood of non-communicable diseases in an overweight or obese child, obesity brings with it physical, emotional and social issues. Obese children are more likely to have conditions such as asthma, menstrual irregularities, digestive problems and stress incontinence. Obese children also often struggle with self-esteem, depression and body

satisfaction problems (Parsons et al. 1999). Adolescent girls suffer these consequences of obesity more than boys.

BOX 2.1 THE ROLE OF THE PRIVATE SECTOR IN THE SPANISH NAOS STRATEGY

Six agreements for collaboration between the Ministry of Health and Consumer Affairs and the private sector were signed as part of the NAOS. The agreed role of the private sector is to promote, diffuse and support all the activities and publicity campaigns concerning lifestyles, nutrition, physical activity and health carried out by the Ministry of Health and Consumer Affairs; to sponsor sporting events; to provide nutritional information; to obtain the gradual reduction of the calorie content of food products on the market and to investigate technological solutions enabling this; and to bring to the market product ranges with a low salt, fat and sugar content. The partners in this strategy are: the Ministry of Health and Consumer Affairs, the Ministry of Agriculture, Fisheries and Food, the Ministry of Industry; the Autonomous Communities; the food industry; the hotel and catering businesses; and bakery organizations.

2.3.1 Policy towards improving childhood obesity rates throughout Europe

Crucial to any intervention aimed at curbing the current rise in obesity prevalence amongst children in Europe is the need to recognize the importance of learned patterns of behavior from early in life, as the development of positive lifestyle habits centered around diet and physical activity last a lifetime. Policy actions targeted particularly at children fall into five categories. First, countries and the EU-level set guidelines on appropriate nutrition and physical activity targets. Second, countries can restrict food advertisements targeting children. Third, governments can exhibit explicit support for alternative forms of transport such as developing cycle paths. Fourth, public health campaigns can work to inform children about matters important to their health. Fifth, schools can include curricula promoting healthy diets and physical activity.

BOX 2.2 REGIONAL ACTION ON POPULATION OBESITY POLICY – DENMARK, FINLAND, ICELAND, NORWAY AND SWEDEN– THE NORDIC PLAN OF ACTION (2006)

Assessment of Problem: The percentage of individuals in the Nordic countries who are overweight or obese is increasing and evidence suggests that poor diet and lack of physical activity constitute the two greatest factors in this fall in health and quality of life. About 50% of the population fails to undertake appropriate levels of activity. 40% of adults and 15–20% of children are overweight.

Commitment to Coordination: The Nordic countries agree that meeting population targets of healthy diet and physical activity requires coordinated efforts of civil society, non-governmental organizations, private parties, local and state authorities and international bodies. Agree that regulation is an acceptable last resort option if all other policies fail or cannot be achieved.

Goals and Visions: Divided into short-term and long-term and include

- Improvement in diet
 - By 2011 – consumption of fruits, vegetables and whole grains has increased and the intake of fats and sugars has fallen
 - By 2021 – targets for fat, sugar, fish, salt and whole grain intake based on Nordic Nutrition Recommendations
- Majority of adults undertake appropriate physical activity and children are physically active
 - By 2011 – reverse the current trend of adults being physically inactive
 - By 2021 – 75% of adults are physically active for 30 minutes/day and all children aged 1–12 and 85% aged 12–16 are physically active 1 hour/day
- Reduce number of overweight and obese, especially in children
 - By 2011 – Reverse trend of growing obesity
 - By 2021 – Reduce overweight and obesity prevalence in adults by 30% and in children by 50% from present
- Aim for equality amongst socioeconomic determinants and diet and physical activity results
 - By 2011 – Aim for differences in social groups of diet, physical inactivity and obesity to halt / reduce their growth
 - By 2021 – No more than 20% variation in different social groups of diet, physical activity or obesity

Plan: Three major priorities

- Arm children and youth to make their own healthy choices and remove a setting where unhealthy choices are acceptable
 - Improve the quality of school meals, offer free school fruit, physical education in school for 1–2 hours per week
 - Place extra taxes on sugar, chocolate, sodas
 - Ban TV marketing of unhealthy food to children
- Encourage the whole population to make healthier choices
 - Public information campaigns
 - Improve food product nutrition labeling and make mandatory
 - Support healthy workplace initiatives
 - Offer government funding for producing aiming to develop healthier products
- Target vulnerable and risk groups for special outreach
 - Provide advice for specific groups such as pregnant women and immigrants

Also promote research to further examine the determinants of poor diet and physical activity and the economics of obesity

Performance Management: Establish a common monitoring system with data taken every other year to allow comparability of results and assess against policy goals. Methods used to promote healthy diet and physical activity in each country will be examined through a common effectiveness analysis process in order to find out which initiatives are best at achieving goals. Every other year the Nordic Working Group on Diet, Food and Toxicology will issue an update report.

Source: *The Nordic Council of Ministers for Fisheries and Aquaculture, Agriculture, Foodstuffs and Forestry (MR-FJLS) and the Nordic Council of Ministers for Social Security and Health Care (MR-S) 2006.*

FIGURE 2.3 INITIATIVES TO IMPROVE DIET, PHYSICAL FITNESS AND TACKLE OBESITY CONCERNS IN CHILDREN

Name of Policy	Year (s)	Country (ies) impacted	Description
• Action Plan for Food and Nutrition Policy	• 2000-5	• EU	<ul style="list-style-type: none"> • By <i>WHO Regional Office for Europe</i> <ul style="list-style-type: none"> – Encourages development of inter-sectoral food and nutrition policies to reduce food-related disease burden by <ul style="list-style-type: none">developing channels to communicate nutrition informationstrengthening EU political commitment to food and nutrition policy
• Platform for Action on Diet, Physical Activity, and Health	• 2005-present	• EU	<ul style="list-style-type: none"> • By <i>European Commission</i> <ul style="list-style-type: none"> – Aims to address increases in obesity, especially amongst children using the following means <ul style="list-style-type: none">consumer information, labelingeducationphysical activity promotionavailability of healthy food options
• Vending in schools: a matter of choice	• 2005-present	• EU	<ul style="list-style-type: none"> • By <i>European Vending Association</i> <ul style="list-style-type: none"> – Guidance for school vending machines to remove some branding from machines and include healthy snacks
• Healthy School Lunches	• 2005-present	• UK	<ul style="list-style-type: none"> • By <i>UK Department of Education and Skills</i> <ul style="list-style-type: none"> – Alters nutritional requirements of school meals to reduce fats, sugars and salts and increase fruit and vegetable intake – Eventually, guidelines will be extended to include vending machines
• Healthyliving	• 2003-present	• Scotland	<ul style="list-style-type: none"> • By <i>Scottish Executive and NHS Health Scotland</i> <ul style="list-style-type: none"> – Promotes healthy eating and physical activity amongst children
• Food in Schools and Fitbods!	• 1999-present	• England	<ul style="list-style-type: none"> • By <i>Department of Health (England), Departments of Education and Skills and Department of Culture, Media and Sport</i> <ul style="list-style-type: none"> – Promotes physical activity in schools by increasing daily exercise in primary schools – Aims to stop increases in obesity of those under age 11 by 2010
• Food and Exercise Councils	• N/A	• Norway, Sweden	<ul style="list-style-type: none"> – Made to improve coordination on nutrition, physical activity and environment policies to curb childhood obesity
• Kinder-Leicht	• 2005-present	• Germany	<ul style="list-style-type: none"> • By <i>Federal Ministry of Nutrition, Agriculture and Consumer Protection</i> <ul style="list-style-type: none"> – Efforts to improve collaboration on preventing childhood obesity by <ul style="list-style-type: none">Examining new approachesDisseminating nutrition and physical activity information to the publicUsing multi-stakeholder approach including local, national and regional authorities
• National Plan of Youth 2005-2008	• 2005-8	• Spain	<ul style="list-style-type: none"> • By <i>Ministry of Health and Consumer Affairs</i> <ul style="list-style-type: none"> – Aimed at 15-29 year olds – One of six priority areas for policy is 'healthy lifestyles and environment' – Promotes healthy eating habits

Sources: European Commission 2005a; WHO 2001

Often programs and policies fall into multiple categories as they employ a multi-faceted approach to tackling childhood obesity. Figure 2.3 and Box 2.3 note some current initiatives to fight obesity in children that focus either on single EU countries or stretch across the EU.

Box 2.3 SELECTED OBESITY CONTROL INITIATIVES TARGETING CHILDREN IN EUROPE

The *Programme National de Nutrition Sante*, **France** includes a new regulation regarding school menus and specific recommendations for educational institutions on the prevention and diagnosis of obesity in children. It also involved the distribution of a nutrition guide *I like eating, I like moving*, a set of educational materials and in some pilot regions the distribution of fresh fruits in schools. Similarly, specific materials for teenagers are planned to be distributed to schools in 2006.

In **Denmark**, the cancer society has started a campaign called *Move'n eat* to promote healthy fast food in sport centres. The programme is targeting youngsters aged 13–16 years and aims to develop ten new products that correspond with their values. The aim of this is not to oust traditional fast foods, sweets and soft drinks, but to increase the availability of healthy food for youngsters using sport centres.

In **Bulgaria**, at the end of 2005 the Ministry of Labour and Social Policy promoted a new initiative guaranteeing the daily intake of one cup of milk or milk shake and a piece of fresh fruit of all students aged 6–10 years. All students from low-income families receive the milk and fruit for free, while the rest of the students receive a subsidy of 50% of the value of the products.

In **Germany**, the Federal Ministry of Nutrition, Agriculture and Consumer Protection has started a campaign to prevent obesity in children and adolescents. The campaign brings together a variety of partners such as the German Society for Nutrition (*Deutsche Gesellschaft für Ernährung*) and local and regional centres for consumer protection. Initiatives offer information and advice for parents, teachers and other personnel involved in child education through brochures, websites, exhibitions, action kits and trainings focusing on settings such as schools, *Kindergärten*, museums and libraries. In May 2005 the Ministry also launched a competition asking local initiatives to propose projects aiming to promote healthy nutrition and physical activity in primary schools. 450 initiatives have participated in the competition. Winning projects will be financially supported by the Ministry. For this the Ministry has allocated € 15 million between 2005 and 2008.

In **Northern Ireland**, in August 2004 the Minister for Health, Social Services and Public Safety announced the launch of a taskforce initiative called *Fit Futures: Focus on Food, Activity and Young People*. The focus of *Fit Futures* is on developing ideas to help prevent overweight and obesity in children and young people by encouraging and supporting healthy eating and active lifestyles.

Source: Country expert reports

Box 2.4 describes the approach taken by the UK government and particularly the Department of Health in England aimed at tackling rising obesity prevalence amongst children. Since the enactment of the Obesity Public Service Agreement in 2004, childhood obesity has been a major public health priority in England.

BOX 2.4 CHILDHOOD OBESITY POLICY, ENGLAND: OBESITY PUBLIC SERVICE AGREEMENT (PSA) (2004)

Assessment of Problem: Childhood obesity has risen by about 5% between 1995 and 2004 in England. If this situation does not improve, 20% of English children will be obese by 2010.

Goals: Reverse the trend of rising obesity in England with acute focus on children so as to reduce health problems and costs that arise from obesity in adulthood.

Plan: Two types of interventions

- Universal interventions
 - Aimed at children to decrease likelihood of students being in environments that encourage obesity
 - Examples are school fruit and vegetable scheme (every child aged four to six has a free piece of fruit or vegetable in school everyday), school meal improvements, school sport strategy (75% of 5–16 years old spend a least 2 hours per week on school sport), work with industry on advertising and food reformulation to reduce sugar and fat, play (improve children's play provision in local communities), Healthy Start for benefits recipients (vouchers for milk, fruit, vegetables and infant formula)
- Targeted interventions
 - Aimed at children who are already obese and their families
 - Centered around National Center for Clinical Excellence (NICE) guidelines on how primary care doctors can identify and treat obese children on Department of Health (DH) Obesity Care Pathway

Performance Management: The DH monitors performance against the PSA via Strategic Health Authorities with bi-annual reports to the Parliament on progress. Local delivery plans monitor progress against targets on the local level. The Healthcare Commission undertakes independent annual assessments of the NHS including its organizations' work against public health targets such as obesity. An obesity update bulletin is written every six months and placed on the DH website.

Source: Department of Health 2006

2.3.2 Food advertising and promotion

For children, the impact of advertising and marketing has become a primary focus of anti-obesity policy. This strategy derives from the premise that advertising could take advantage of children's inexperience or directly promote children successfully pushing parents into purchasing the advertised goods, according to the EU Television without Frontiers Directive (EU 1989). Some European countries have taken specific regulatory action to restrict advertising of low-nutritional value products. Figure 2.4 describes some examples of EU states directly regulating the interaction between children and food advertising.

Some private companies and industry groups have regulated their own advertising activities. For example, the Kellogg Company, a maker of snack foods, has improved the nutritional labels on its food products and involved itself in programs to promote physical activity while Coca-Cola decided to remove all advertising from secondary school vending machines in Scotland (FDF 2005).

FIGURE 2.4 **EXAMPLES OF REGULATIONS AROUND FOOD ADVERTISING AND CHILDREN**

Country	Description
• Sweden	• No advertising aimed at less than 12 years of age
• Belgium	• Restrictions on commercials broadcasted during and 5 minutes before and after child (under age 12) television programs
• Netherlands	• No advertising on publicly broadcasted stations during programs for those under age 12
• Ireland	• <i>Children's Advertising Code</i> necessitates health warning messages on advertisements for fast food, sweets and soft drinks
• Denmark, Finland and the Netherlands	• Presenters or characters from children's advertising programs cannot be in advertisements for fast food, sweets and soft drinks

Source: European Commission, 2005c

Organizations such as the IOTF and the EASO have called for an advertising ban similar to that on tobacco products for marketing aimed at attracting young children to foods and drinks of poor nutritional value (IOTF and the EASO 2002).

2.4 Assessing the effectiveness of obesity policy

Although there has been national level action with regards to policy initiation and some EU-wide programs and policy, the means by which to coordinate obesity policy amongst EU members remain underdeveloped (Lang and Rayner 2005). Difficulty in assessing the effectiveness of individual policy interventions to combat obesity is one important factor that hinders EU-wide strategy development.

Recognizing that evidence needed to inform clinical and public health interventions to control obesity is still emerging (Clancy 2004), the WHO (2004) has called for harmonization in data methods in obesity research. There is evidence on the use of surgical, pharmacological and

lifestyle based interventions (including counseling and behavioural therapy) to treat adult overweight and obesity, although studies have found that these produce only moderate weight loss (Jain 2004, McTigue et al 2003). Interventions that are more difficult to measure, such as trust between physicians and patients, are likely to be important (Clancy 2004). Interventions for where there is very little evidence are obesity prevention, particularly during childhood, and environmental, public health solutions (Jain 2004). The research on the treatment and prevention of obesity in children is particularly limited and has often been poor in quality (Jain 2004). Some of the difficulties identified in monitoring the impact of programs in Europe on childhood obesity include small sample sizes causing incomparability, limited longitudinal data, the majority of studies being US-based and states using different methods for data collection (Wilson et al. 2005).

The effectiveness of economic instruments for controlling obesity, such as price policies, taxes and incentives, has also not been well studied. Available evidence provides only tenuous support for a cause-and-effect relationship between such interventions and changes in the consumption of foods high in saturated fats and other foods. Some of the limitations concern the ability to demonstrate such a causal relationship, while others concern the ability to generalize the findings from one or a group of studies to national or regional environments in Europe (Goodman and Anise 2006).

2.5 Steps forward to decrease obesity prevalence

Much has already been done to develop policy to address the obesity epidemic at EU and national levels. Despite this, rates of obesity continue to increase among adults and children.

EU and nation-specific policy to reduce overweight and obesity prevalence faces an inherent difficulty in its need to be multi-faceted by stepping across many realms of policy including education, health services, public health, media, sport and commerce. Recently, policy has focused more on food marketing regulations with the food, drink, vending and advertising industries resisting such measures. Additional research is needed, however, on how new mediums of information flow such as the Internet and mobile phones influence diet choices and how effective self-regulation by advertisers, the media and food companies compares in its impact on eating behaviors versus more formal regulations.

National strategies, policies and action plans need broad support provided by effective legislation, appropriate infrastructure, implementation programmes, adequate funding, monitoring and evaluation, and continuing research (WHO 2004).

Harmonization of what types of data are collected and how these data are collected will improve cross-national evaluation efforts of policy and program results. EU-wide policy holds a

particularly important place because of the transnational nature of some aspects of factors influencing obesity rates, such as food manufacturing.

Since 50–75% of overweight or obese children will become overweight or obese adults, the problem of childhood obesity requires particular urgent attention.

References

- Biddle, S., Sallis, J. and N. Cavill. (1998). Policy framework for young people and health-enhancing physical activity, in S. Biddle, J. Sallis, and N. Cavill (eds.), *Young and active? Young people and health-enhancing physical activity - evidence and implications*, London: Health Education Authority.
- Clancy, C.M. (2004) Coommentary – the critical challenge of obesity. Agency for Healthcare research and Quality. Available at http://www.unitedhealthfoundation.org/obesity_clancy.doc
- Department of Health. (2006). *Choosing Health: Obesity Bulletin Issue 1*, available at www.dh.gov.uk/obesity
- Eurobarometer. (2003). *Physical Activity Special Eurobarometer 183–6*, European Commission. available at http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/ebs_13_6_en.pdf#search=%22Eurobarometer%20Physical%20Activity%20%22
- European Commission. (2002). *Status report on the European Commission's work in the field of nutrition in Europe October 2002*, Luxembourg: Office for Official Publication of the European Communities.
- European Commission. (2005a). *EU Platform on Diet, Physical Activity, and Health*, International Obesity TaskForce Briefing Paper, available at: http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/iotf_e.pdf.
- European Commission. (2005b). Green Paper: 'Promoting healthy diets and physical activity: A European dimension for the prevention of overweight, obesity and chronic diseases,' available at: http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/nutrition_gp_en.pdf
- European Commission. (2005c). *Health and Consumer Voice*, Special Edition, April 2005. available at: http://ec.europa.eu/dgs/health_consumer/consumervoice/cvsp_42005_en.pdf.
- European Union. (1989). Television without Frontiers Directive. available at: http://europa.eu.int/eur-lex/en/consleg/pdf/1989/en_1989L0552_do_001.pdf
- Food and Drug Federation. (2005). *Food and Health Manifesto: Company Examples*. Available at http://www.fdf.org.uk/commitment_docs/cs_by_company_32.pdf
- Flodmark, C.E., Lissau, I., Moreno, L.A., Pietrobelli, A. And K. Widhalm. (2004). New insights into the field of children and adolescents' obesity: the European perspective, *Int J Obes Relat Metab Disord*, 28(10): 1189–96.

- Goodman, C. and Anise, A. (2006) What is known about the effectiveness of economic instruments to reduce consumption of foods high in saturated fats and other energy-dense foods for preventing and treating obesity? HEN report Available at http://www.euro.who.int/HEN/Syntheses/obesity/20060713_8
- HBSC. (2001/2). *Young People's Health in Context, Health Behaviour in School-aged children (HBSC) study: international report from the 2001/2002 survey*, WHO, available at: http://www.euro.who.int/eprise/main/who/information/sources/publications/catalogue/20040518_1
- IASO and EASO. (2005). *Joint response of the International Association of the Study of Obesity and European Association for the Study of Obesity to the Commission of the European Communities Green Paper 'Promoting healthy diets and physical activity: a European dimension for the prevention of overweight, obesity and chronic disease*.
- IARC. (2003). International Agency for Research into Cancer Handbooks of Cancer Prevention: Fruits and Vegetables, Vol. 8, Lyons: IARC Press.
- IOTF. (2005). EU Platform on Diet, Physical Activity and Health, *International Obesity Task Force EU Platform Briefing Paper*.
- IOTF and the EASO. (2002). *Obesity in Europe: the case for action*.
- Jain, A, (2004) *A summary of the research behind obesity interventions*. BMJ Publishing Group.
- Lang, T. and G. Rayner. (2005). Obesity: a growing issue for European policy? *Journal of European Social Policy*, 15(4): 301–27.
- McTigue, K.M. Harris, R, Hemphill, B, Lux, L; Sutton, S; Bunton, A.I; and Lohr, K.N, Screening and Interventions for Obesity in Adults: Summary of the Evidence for the U.S. Preventive Services Task Force *Ann Intern Med*. 2003;139:933–949.
- National Office of Statistics, 2002
- The Nordic Council of Ministers for Fisheries and Aquaculture, Agriculture, Foodstuffs and Forestry (MR-FJLS) and the Nordic Council of Ministers for Social Security and Health Care (MR-S). (2006). *Health, food and physical activity: Nordic Plan of Action on better health and quality of life through diet and physical activity*.
- NPA (2003) Draft agenda for the first meeting of the Community Action Programme on Public Health Nutrition and Physical Activity (NPA) network. Available at <http://www.eph.org/a/353>
- Parsons, T.J., Power, C., Loran, S. and C.D. Summerbell. (1999). Childhood predictors of adult obesity: a systematic review, *Int J Obes Relat Metab Disor*, 23(S8): S1 – S107.
- Pate, R., Trost, S. and C. Williams. (1998). Critique of existing guidelines for physical activity in young people, in S. Biddle, J. Sallis, and N. Cavill (eds.), *Young and active? Young people and health-enhancing physical activity – evidence and implications*, London: Health Education Authority.
- Schafer Elinder (2004) The EU Common Agricultural Policy from a public health perspective. Eurohealth Vol 10 No 1
- Wilson, P., O'Meara, S., Summerbell, C. and S. Kelly. (2003). The prevention and treatment of childhood obesity, *Qual Saf Health Care*, 12: 5–74.

World Health Organization. (2001). *The First Action Plan for Food and Nutrition Policy: WHO European Region, 2000-5*, Available at <http://www.euro.who.int/Document/E72199.pdf>

World Health Organization (2004) Global strategy on diet, physical activity and health. Geneva

World health Organization Europe (2006) 10 Things you need to know about obesity. Available at http://www.euro.who.int/Document/NUT/ObesityConf_10things_Eng.pdf

3. Mental Health Policies in Europe

Key Points:

- Mental health problems account for 20% of the total burden of ill health across Europe.
- European and national governments have raised mental health problems up the political agenda; e.g. 2005 Green Paper on a future EU Mental Health Strategy.
- Central and eastern Europe has seen a decline in population mental health, with increasing rates of alcohol use disorders, violence and suicide.
- Both the development and implementation of national policies and the level of funding for mental health have been highly variable across Europe. Mental health promotion continues to be a low priority in many countries.
- Mental health requires interventions across all sectors, including in employment, housing, education and social welfare, and at all time in the lifespan.
- The evidence base on the availability of cost effective pharmaceutical and psycho-social treatments continues to grow, also on the effectiveness of as early years interventions for children, workplace mental health promotion programmes, urban regeneration schemes and return to work strategies for those who have been excluded from open employment because of mental health problems (most evidence is from US).
- Mental health problems have both *direct costs* (e.g. treatment) and *indirect costs* (e.g. productivity loss); the latter contributing the most to total costs.
- Data shows a trend of increasing absenteeism and early retirement due to mental illness (particularly depression) across Europe for both men and women
- Having a national and or regional policy on mental health is essential to raising awareness and securing resources for services, as well as coordinating actions across many different sectors (e.g. in Denmark).
- Encouragingly most countries in Europe have modernized their mental health laws in the last twenty years; however they are only effective if monitored.
- Various strategies across Europe incorporate targets and goals for suicide reduction, e.g. in England, Belgium, Bulgaria, Finland, France, Ireland, Lithuania, Northern Ireland, Norway. Scotland. and Slovenia.

3.1 Introduction

Recent years have seen mental health raised significantly up both the global and European health policy agendas, culminating in all 52 member states of the WHO European Region, as well as the European Union and Council of Europe, endorsing a Declaration and Action Plan on Mental Health (World Health Organization, 2005b; World Health Organization, 2005c). The European Commission has also published a Green Paper on a future EU Mental Health Strategy (Commission of the European Communities, 2005). Meanwhile in the workplace, the European Social Partners have signed a Framework Agreement on Stress recognising the importance of dealing with mental health problems in the workplace and the impact that they have on economic performance (Monks *et al.*, 2004).

This level of interest in mental health is well merited. Mental health problems, including organic disorders such as dementia account for approximately 20% of the total burden of ill health across Europe (World Health Organization, 2004). This assessment of burden is just the tip of the iceberg, what makes mental health almost unique is the broad impact it can have on all aspects of life including physical health, family relationships and social networks, employment status and contact with the criminal justice system.

The economic costs of poor mental health are very high because of these multiple adverse consequences. The payment of disability benefits and early retirement pensions as a result of withdrawal from the labour market through long term disability due to mental health problems far outweigh the cost of unemployment benefits in many European countries. There are also costs that are more difficult to measure, but of huge significance. These include the high level of stigma associated with mental health problems which can lead to discrimination and reduced self-esteem and a reluctance to come into contact with services that may help (for fear of being labelled). Public ignorance may also reduce the willingness of public policymakers to invest in mental health. Some public surveys have indicated that mental health is seen as a low priority when it comes to determining how to allocate health system funds (Matschinger & Angermeyer, 2004).

There are both continuing and new challenges to face including the consequences of rapid economic and societal change, which as observed in central and eastern Europe, have been accompanied by a decline in population mental health, with increasing rates of alcohol use disorders, violence and suicide. Another is to meet the needs of those displaced through conflict or persecution and economic migration. As the population ages, the incidence of both dementia and other mental health problems, most notably depression, are likely to increase yet further.

Given the significant burden, promoting good mental well-being, reducing the social exclusion of those with mental health problems and intervening to tackle the consequences of poor mental health might therefore logically be a major priority for policy makers across Europe. This

would be consistent with the EU's goal of attaining its Lisbon objectives of economic growth (by reducing the incidence and consequences of poor mental health for productivity) while at the same time promoting the social inclusion of vulnerable groups including those with mental health problems in the workforce (BBC News, 2005).

The challenges however remain great. Both the development and implementation of national policies and the level of funding for mental health have been highly variable across Europe. Mental health promotion continues to be a low priority in many countries; instead the emphasis is placed on treating the clinical aspects of the relatively small number of individuals with severe mental health problems with much less attention paid to the broader environmental and social consequences that impact on the mental health of all.

Obtaining the right balance between the need for a limited amount of short and long stay institutional and community based care and support remains challenging. In particular financial and structural barriers can make it difficult to allow resources to be transferred from old style institutions to alternative supports. There are still fundamental abuses of human rights being documented, most visibly but not exclusively, within institutions in central and eastern Europe. This is despite the existence of legislation intended to safeguard individual service users. The concept of empowering service users to be involved in making informed decisions about which services best meet their needs and can also help reduce social exclusion is still not widely implemented.

While investment in a comprehensive range of mental health care services orientated around delivering core services in the community, supported by specialist services, is an essential central element of any mental health policy, this alone will be insufficient. Perhaps more than any other aspect of life mental health requires interventions across all sectors, including in employment, housing, education and social welfare, and at all time in the lifespan. The recent Green Paper also places more emphasis on the protective qualities of promoting good mental well-being.

Critically of course the case for investing in mental health strategies is dependent both on the availability, and successful implementation, of effective interventions. It is also influenced by the potential cost effectiveness of tackling mental health problems compared with investing resources in other public policy concerns. The evidence base on the availability of cost effective pharmaceutical and psycho-social treatments continues to grow. There is also an emerging evidence base on the costs and effectiveness of broader interventions, such as early years interventions for children, workplace mental health promotion programmes, urban regeneration schemes and return to work strategies for those who have been excluded from open employment because of mental health problems. In all cases however more needs to be done to ensure that evidence on what works, in what circumstances and at what cost still has an opportunity to be facilitated into the policy making process. Much of this evidence base is from

the US and there remains questions about the extent to which it may be generalised to a European context.

In this section, we begin by briefly describing the health and socio-economic burden of mental health across the European Union, and in particular reflecting on issues that impact on participation in the workforce (see Section 2.6 in Part One for more information). We draw on data collected by country experts in the Health and Living Conditions Network, as well as from other European Networks and published literature to reflect on strategies and actions being developed that may help promote good mental well being and reduce inequalities arising from poor mental health across Europe.

3.2 What do we know about the prevalence of mental health problems in the EU?

Mental health problems affect all of us; one in four people experience a significant episode of mental illness during their lifetime. Four of the six leading causes of years living in poor health are due to mental health disorders: depression, schizophrenia, bi-polar disorders and alcohol use disorders. Depressive disorders are most common, making up nearly one third of all mental health problems.

There have been a number of studies undertaken across Europe which have looked at the prevalence of mental disorders (described in *Section 2.2.6 in Part One*), but little work has been undertaken to synthesise this at an EU level. Moreover, another limitation in the data is that there is little tradition in most EU countries of conducting national epidemiological studies on mental health. Such information is vital to the development of EU wide policy on the promotion of mental well-being and preventative strategies to reduce the level of mental health disorders.

3.2.1 Suicide

Suicide is the one of the leading causes of premature death in Europe, contributing an additional 2% to overall burden of illness. It is the second most cause of premature mortality in 15–35 year old men in many EU countries and is also high in the over 65s. (World Health Organization, 2005d) In itself it is not a mental disorder but may be a consequence of many mental health problems, as key risk factors include social isolation and a lack of self worth. For more statistical information on suicide please refer to *Section 2.6 in Part One*.

3.3 What are the social and economic costs of poor mental health?

3.3.1 What are the economic costs of suicide?

The profound impacts of suicide both on the individuals themselves and their immediate family and friends are starkly clear. Avoiding such tragedies in itself is a strong justification for action. Policy makers are however faced with many competing claims as to how they should prioritise

between different needs and wants. Having an understanding of the socio-economic impact of suicide can help inform this process. It should be stressed, however, that this is of limited use unless interventions of proven effectiveness, in either preventing suicides, or in alleviating some of the post event consequences, faced by families and friends are available.

The costs of suicide fall on everyone in society and can be substantial. Most obviously there are *direct costs* arising from demands placed on the emergency services, potential life saving interventions to be delivered within the health care system, investigations to be carried out by the police and coroner, and of course costs associated with funerals. For those individuals who survive suicide attempts, lengthy physical and psychological rehabilitation may follow.

There are also what economists call *indirect costs*. As a result of premature death, individuals lose the opportunity to contribute productively to the national economy, whether this be through paid work, voluntary activities, or family responsibilities such as looking after one's children or parents. The most fundamental impact of all, of course, is the loss of the opportunity to experience all that life holds as a result of suicide. The pain and grief that suicide can have on immediate family members and friends can be immense and long lasting. These very personal impacts are known by economists as '*intangible costs*' because they are often hidden and difficult to value.

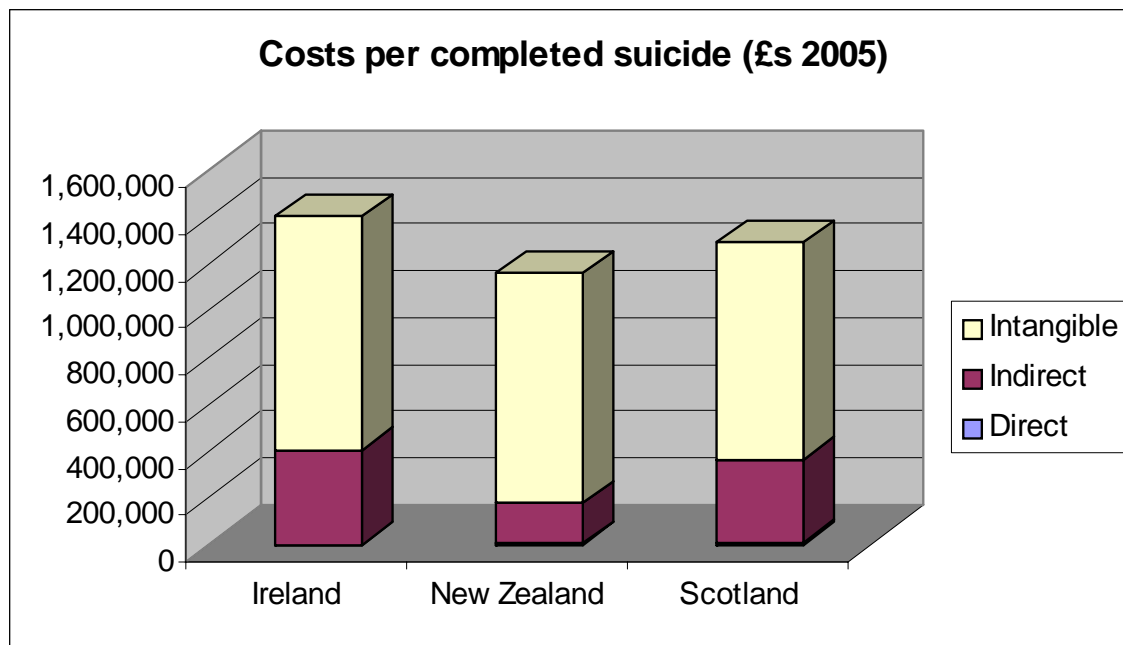
There have been relatively few attempts to quantify these cost of suicide in Europe; two exceptions are recent estimates from Ireland and Scotland; where the total lifetime costs for each completed suicide have recently been estimated to be in excess of £1.3 and £1.2 million respectively (Kennelly *et al.*, 2005) (McDaid, 2006). This estimate includes not only the direct costs of suicide including police investigations and funerals, but also lifetime lost productivity and the 'human' costs of suicide, including grief and pain endured by relatives, as well as lost lifetime experiences. They are similar to those reported in one of the few other international studies on this topic reported in New Zealand. (See Figure 3.1) As Figure 3.1 illustrates the majority of costs are due to lost productivity and the value placed on the 'intangible' loss of future human life. (It should be noted that suicide rates are often high in post retirement older age groups; all three of these economic analysis also placed a value on the loss on non waged productivity beyond retirement age so as not to discriminate these older age groups.)

3.3.2 What are the broader costs?

The devastating impact of suicide to both individuals and their families is the most obvious consequence of poor mental health. This is however just one of many potentially profound impacts which can affect all aspects of everyday life. Individuals are more likely to have co-morbid physical health problems, and family relationships can suffer. There is a strong relationships between poor mental health and social deprivation. Stigma, ignorance and subsequent discrimination associated with mental health problems may limit educational and employment opportunities, leading to a descent into poverty. It is also the case that poverty and

social exclusion are risk factors for poor mental health. There is also a greater risk of becoming homeless or of coming into contact with the criminal justice system.

FIGURE 3.1 INTERNATIONAL ESTIMATES OF THE LIFETIME COSTS OF COMPLETED SUICIDES



Sources: (Kennelly et al., 2005) (McDaid, 2006) (O’Dea & Tucker, 2005)

There can also be significant mental and physical health consequences for family carers of people with mental health problems. Caring can also have an impact on opportunities for employment or participation in leisure and social activities. The children of people with mental health problems can also experience parental neglect and their schooling may be disrupted, again curtailing long-term opportunities.

Absenteeism, early retirement and reduced productivity at the workplace

Productivity losses are one key economic consequence of poor mental health, including stress related disorders. These can arise through long-term absenteeism, reduced performance at the workplace (presenteeism), early retirement and other work cutback, reduced opportunities for career development and reduced lifetime productivity due to premature mortality. Data collected by EC supported Mental Health Economics European Network (MHEEN) shows a trend of increasing absenteeism and early retirement due to mental illness (and particularly depression) across Europe for both men and women (Curran *et al.*, 2006). Mental health problems are also beginning to overtake musculoskeletal problems as the leading cause of days of absence from work in a number of European countries (Wynne & MacAnaney, 2004). For instance, 31.9 million lost working days in France in 2000 were attributed to depression alone

(Bejean & Sultan-Taieb, 2005) while in Sweden mental health problems account for approximately 27% of all cases of long-term sick leave (RFV, 2003).

Links between long-term absenteeism, disability status and the onset of work-related stress have also been reported by the European Working Conditions Observatory (Houtman, 2004). They reported for example that in Germany the number of long-term sick due to mental health problems increased by 74% between 1995 and 2002, compared with just a 10% increase in sickness absence due to musculoskeletal or respiratory problems. In Spain the General Workers Union have estimated that between 50% and 60% of sick leave and disability claims are due to stress at work.

3.3.3 Can the costs of poor mental health be quantified?

The overall cost of poor mental health has very conservatively been estimated to be between 3–4% of GNP in many European countries (Gabriel & Liimatainen, 2000). There are a growing number of national and sub national cost estimates available, but as methods of calculation used vary markedly, caution must be exercised in making direct comparisons between studies. Nevertheless they give a good indication of the economic impacts of different mental health problems. For instance the total health care costs of all mental and behavioural disorders in Germany in 2002 were estimated to be €22.44 billion; with 62% incurred by women because of their higher susceptibility to depressive disorders. This estimate included specific costs for depression of €4.025 billion, schizophrenia and associated disorders €2.756 billion, and neurotic disorders including stress of €2.825 billion. The average cost per head of population was estimated to be €270.

While health care system costs are clearly significant, the vast majority of costs are incurred *outside* the health sector because of the impact on poor mental health on productivity. Depression is associated with the highest level of economic cost, because it is a common disorder often impacting on people in employment. One recent study from England estimated that the total costs of adult depression in 2002 were €15.46 billion or €309.2 per head of population; treatment costs accounted for only €636 million of these costs, the vast majority of additional costs were due to lost employment because of absenteeism and premature mortality (Thomas & Morris, 2003).

Although a much smaller number of individuals have schizophrenia, costs remain substantial as these individuals may find it very difficult to enter or retain employment. One recent review of European cost of schizophrenia studies reported total cost estimates ranging from €4,960 per person per annum in the Netherlands to €44,520 in the UK (Andlin-Sobocki & Rossler, 2005). Studies in Hungary and England both reported that health and social care costs account for around one third of all costs with the other two thirds due to lost employment (Knapp *et al.*, 2004).

Productivity losses may well be under reported for all mental health problems. The costs of *reduced performance* at work by people with untreated mental health problems, may be five times as great as those for absenteeism, but there has been little research on this in Europe (Kessler & Frank, 1997). On top of these costs for lost employment, there are also costs associated with a reduction in productivity in non-paid activities, such as voluntary work and also general household tasks. There can also be substantial productivity losses for carers; for schizophrenia alone families may provide between 6 and 9 hours per day of support, while for dementia and related disorders the contributions of caregivers can make up more than 70% of total costs with carers often providing full time support.

3.3.4 What are the impacts of poor mental health on social welfare systems?

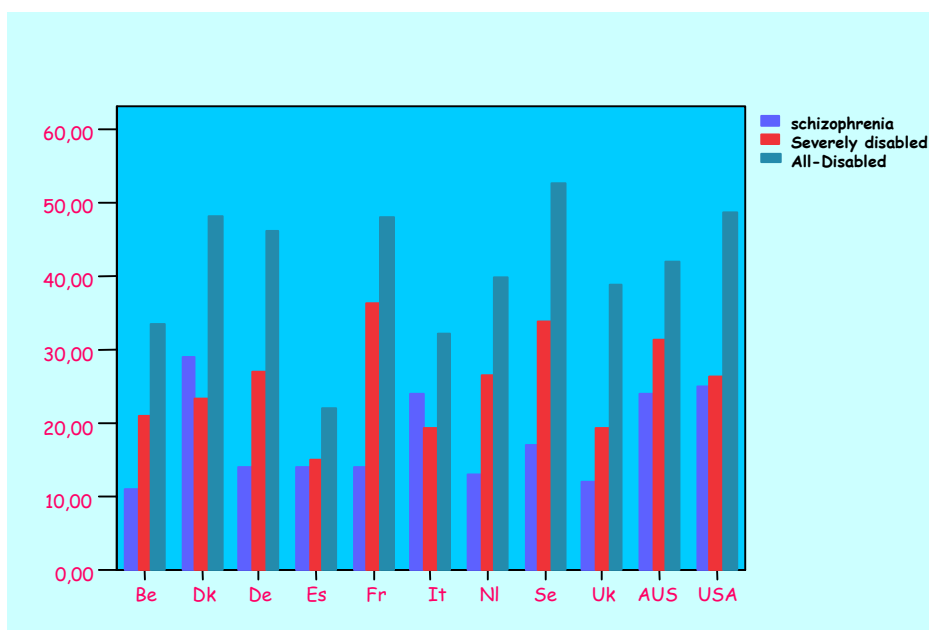
Individuals with mental health problems have much lower rates of employment than the general population. This may be due to the greater levels of stigma and prejudice they face (Marwaha & Johnson, 2004). One study in Germany, for instance, reported there were strong negative responses to people with schizophrenia returning to their place of employment (Schulze and Angemeyer 2003). Changes in the nature of work, with a greater emphasis on the information technology economy and the service sectors, rather than manual labour, may also act as a barrier to individuals with more severe mental health problems who may have a poor work history and limited qualifications. Professional attitudes can also be discouraging. A recent report by the Office of the Deputy Prime Minister in England reported that psychiatrists were reluctant to encourage individuals to seek work, for fear that this would not be successful and that individuals would have difficulties in re-obtaining benefits (Office of the Deputy Prime Minister, 2004).

In addition to the costs of discrimination, this inability to obtain employment also has meant that mental health or stress related problems are the leading cause of claims for (along with musculoskeletal problems) disability benefits. Poor mental health in Europe thus has a substantial impact on social welfare budgets, as the primary responsibility for paying long term disability benefits falls on the state (albeit both employers and employees may contribute). The payment of these benefits far outweighs those made for unemployment in most EU countries. Most individuals who are absent in the long term from the labour market because of mental health problems will be registered for higher disability benefits or disability related retirement pensions rather than lower and sometimes time-limited unemployment benefits. For instance in Ireland while 22% of people with mental health problems in 2002 were in employment, only 3% were described as unemployed, with the remainder on disability benefits and deemed economically inactive (Central Statistics Office, 2002). In France for instance, up to one quarter of the total costs of social security spending due to illness was attributed to work-related stress conditions (Bejean & Sultan-Taieb, 2005). The share of disability benefits paid to those with mental health problems has also been increasing: between 1990 and 2003 in Finland the level of short term sickness absence for formally diagnosed mental health problems increased by 93%. 20% of all sickness benefits and 42% of all disability pensions were paid out for people

with mental health problems; overall around 50% of all people recorded as suffering from depression are on long-term disability pensions (Jarvisalo et al., 2005).

Reducing the overall level of expenditure on these disability benefits has become a major priority for European governments. While they provide an important safety net for those unable to work they may in some instances, act as a disincentive to individuals who are capable of working from returning to the labour market. For instance in one recent study of 12 countries, including 10 in western Europe, the level of expenditure on disability benefits was negatively associated with the participation of people with schizophrenia in the labour force. In Italy where expenditure was lowest, the greatest rates of labour participation were observed (Kilian & Becker, 2006) (See Figure 3.2). In many European countries it is necessary to be registered as disabled in order to obtain higher rates of disability and associated benefits; but any subsequent disclosure of this status can prejudice future job applications as individuals are deemed to be ‘economically inactive’ rather than unemployed.

FIGURE 3.2 EMPLOYMENT RATES OF PEOPLE WITH SCHIZOPHRENIA¹ IN COMPARISONS TO SEVERELY – DISABLED² AND ALL DISABLED² PEOPLE IN SELECTED COUNTRIES IN THE LATE 1990S



¹ Marwaha & Johnson 2003; ² Eurostat

Source: (Kilian & Becker, 2006)

Studies are also beginning to report an association between mental illness and early retirement (Harkonmaki et al., 2006; Karpansalo et al., 2005). Harkonmaki et al also observed that workers with poor mental health functioning were more likely to plan to retire early. In addition, Karpansalo and colleagues reported a higher risk of early retirement among employed men with depression; workers with depression retired almost 2 years earlier than those without.

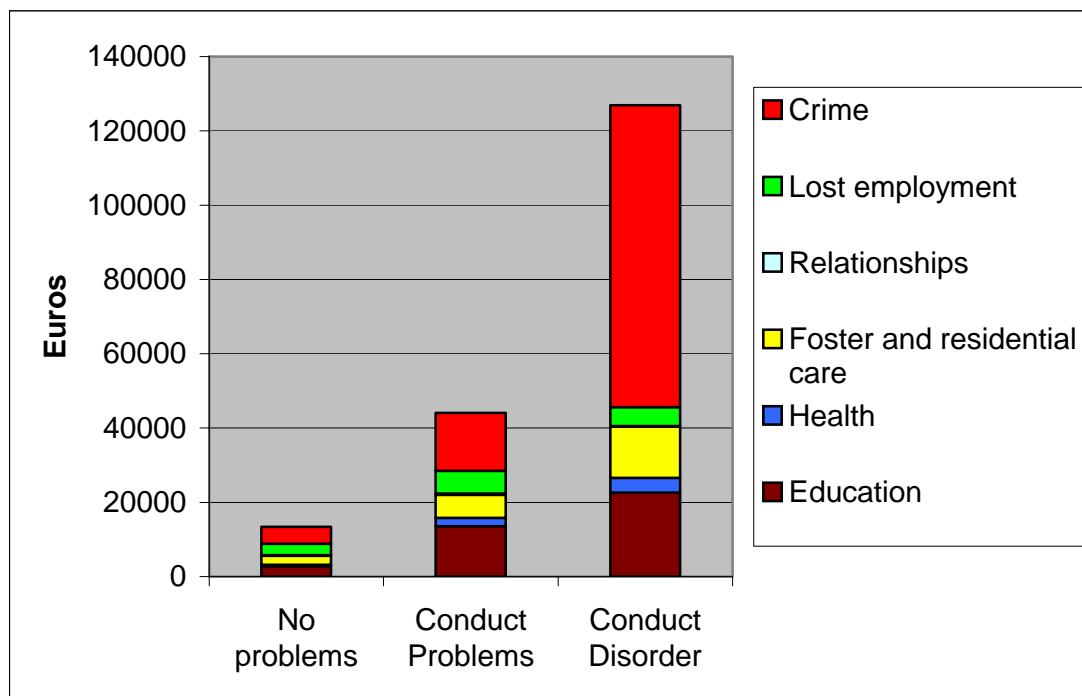
The OECD has also warned member countries about the dangers of early retirement. This compounds the challenges that many countries already face due to an increase in the dependency ratio, that is the number of people over 65 compared to those of working aged. Again there is some evidence that disability benefits may be misused as a path towards early retirement. In Denmark, the Netherlands and Sweden between 14% and 16% of all individuals between 50 and 64 receive disability benefits compared with much lower rates of just 3% in Austria and Greece. Analysis of these variations suggest that this is not due to differences in demographics or health status but in the way in which social welfare systems are structured (Borsch-Supan, 2005).

In the absence of new additions to the labour pool, for instance through migration, the remaining workforce would potentially have to pay greater premiums and work for a longer period of time in order to sustain the pension system. Indeed reforms of this nature can now be seen in several countries including the UK where the pension age will rise to 67 and in Finland where disability pensions for ageing employees will be phased out. At EU level a goal of raising the participation rate of older workers from a current level of 38.5% to more than 50% has been set (Gould & Laitinen-Kuikka, 2003). Clearly, in addition to any reform of benefit systems, promoting the mental health of employees will help this goal be achieved.

3.3.5 What are the long term economic impacts of childhood mental health problems?

Several studies in Europe and elsewhere have sought to estimate the long term costs of childhood mental health problems. These are often longitudinal studies which follow a cohort of children over many years or decades. One study followed a small cohort of children in London between the ages of 10 and 27. As shown in Figure 3.3, compared to children with no mental health problem, children with a diagnosis of 'conduct problems' at age 10 were likely to incur an additional €29,000 in costs by age 27, while children with a diagnosis of 'conduct disorder' (more severe than conduct problems) incurred over €109,000 in additional costs (Scott *et al.*, 2001). For both the conduct problem and conduct disorder groups, the largest proportion of additional costs were for criminal justice service; health care costs only accounted for a fraction of total costs.

FIGURE 3.3 AN EXAMPLE OF THE LONG TERM ECONOMIC COSTS OF MENTAL HEALTH PROBLEMS*



*Source: (Scott et al., 2001) * Costs converted to Euros and 2002 prices used.*

3.4 What mental health policies are being adopted across Europe?

The many impacts of mental health across all aspects of life imply that policies and detailed actions to promote well-being and reduce the consequences of poor mental health need to take place in many different sectors and settings including health, education, criminal justice, at the workplace and in the local community. Although access to effective health care interventions is integral to good mental health, providing evidence based treatment interventions alone would miss the approximate two-thirds of people with mental health problems in Europe who fail to come into contact with health care services, in part because of the stigma of having a mental health problem.

Having a national and or regional policy on mental health is essential to raising awareness and securing resources for services, as well as coordinating actions across many different sectors. For instance in Denmark a recent ministerial report on the links between poor mental health and the criminal justice system crime emphasised the need for improved cross-sectoral collaboration. Examples from the Frederiksberg Municipality were presented to illustrate the

potential for successful collaboration between police, social care authorities and mental health services.

Developing and strengthening policy for mental health across Europe remains a key concern, although most EEA countries now have a mental health policy in place either at the national or regional level. The most recent of these was approved in Romania in April 2005. This headline figure is though somewhat deceptive. Some mental health policies are rather dated and require significant reform, for instance policy in France (now in the process of reform) and the Czech Republic date back to the 1960s (World Health Organization, 2005a). A new mental health policy has been in development in Slovenia for more than ten years, but has still to emerge.

In Latvia guidelines on “improving mental health in population for the years 2006–2016” have been prepared. These guidelines take a broad view of mental health going beyond mental health disorders to also included promotion and prevention activities, anti stigma measures, mental health literacy in schools, improved social support and better research.

A new national mental health strategy is currently under development in Spain. It is intended to meet the aims set out in the WHO Europe Declaration on Mental Health, and it will put much more focus on prevention as well as early detection and treatment. There have long been regional policies on mental health in the autonomous communities in Spain. This is illustrated by the Andalucian Mental Health Plan 2003–2007 outlined in Box 3.1. Similarly while there is still no national plan in Germany for mental health the prevention, diagnosis and treatment of depression has become the 6 national health goal, published by the MoH in March 2006.

Box 3.1 ANDALUCIA: INTEGRATED MENTAL HEALTH PLAN 2003–2007

The plan was developed in response to:

- 1) A recognition that improved integration between mental health and other health sectors was required
- 2) A need to strengthen community based care
- 3) Improving access to specific resources such as day hospitals and residential social care facilities.

The plan was focused on both common and severe mental health problems, and also placed some emphasis on child and adolescent mental health problems

Actions are being taken to improve co-ordination and collaboration between health and social care services as well as to increase the commitment of health professionals and the general public to mental health. Another aspiration is to ensure that service meet needs in an effective and efficient manner. Mental health literacy will be improved through the provision of more information on mental health and also through improved training and research. Evaluation and monitoring of the plan has not however been outlined.

It is clear that much policy is still focused on the treatment, care, and to a lesser extent, rehabilitation of people with severe mental health problems. There have been some efforts to prevent common mental health disorders such as depression, but very little policy attention has been paid to the promotion of good mental health and well-being.

3.5 Using legislation to safeguard human rights and promote social inclusion

Legislative instruments clearly have a crucial role in protecting human rights and promoting social inclusion (Parker, 2005). Legislation is a vital component in implementing mental health policy and addressing service reform issues, setting the framework for the assessment and provision of mental health services, and their integration with general health and community services. It can also be used to encourage the development of new approaches to involving users, for instance promoting the use of consumer directed payments where feasible, empowering individuals to purchase appropriate services of their own choice. Legislation can also move beyond health and social care, and protect against discrimination and encourage implementation of mental health promoting interventions in other sectors. It can ensure that compulsory treatment or detention is seen as a last resort, and can build in a safeguard of access to an independent periodic reviews for all people admitted or treated involuntarily. It can be used to outlaw discrimination in all aspects of life, including access to schooling, housing and employment.

Encouragingly most countries in Europe have modernised their mental health laws in the last twenty years, although again there are outliers. The most recent mental health related legislation in the Czech republic was passed prior to 1971 while in Bulgaria laws are more than 25 years old.(World Health Organization, 2005a) In Slovenia new legislation has been under discussion for more than a decade. In addition a number of human rights instruments from the UN, the Council of Europe, and the EU also should protect people with mental health problems.

Such legislation and international instruments, however, can only be effective if monitored, with adequate sanctions to effect change. There is a continuing need to take action to address human rights violations, stigma, discrimination and the consequent social exclusion that set mental health apart from most other health concerns. Such violations have been reported all across Europe, but are most visible in parts of central and eastern Europe in the psychiatric institutions and social care homes (internats) that remain the mainstay of mental health systems. Once in an internat individuals rarely return to the community. There have also been well documented accounts by human rights group and the Council of Europe of individuals being kept in 'caged beds' or being subjected to electro convulsive therapy without anaesthesia or muscle relaxants in contravention to international guidelines.

3.6 Are promotion and prevention strategies being implemented across the EU?

Despite the development of national policies and legislation there remain few comprehensive national or regional promotion and/or prevention strategies. The focus in many countries remains firmly on the health care system. One challenge in developing and implementing a strategy for public mental health promotion, is the need to take action in many different sectors.

Positive mental health is “a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (World Health Organization, 2001). Mental health promotion is essentially concerned with maximising this positive mental health.

One of the criticisms that has been levied at mental health promoting interventions is that their supporting evidence base is at best weak. Certainly it is more difficult to use what evidence based medicine proponents consider the ‘gold standard’ of evaluation, the randomised controlled trial, with complex community based interventions. This is not to say however that the evidence base is absent; in fact there is growing body of good quality evidence to support the delivery of some of these interventions (Jane-Llopis *et al.*, 2005). The World Health Organization has also published evidence that mental health promotion and mental disorder prevention can help in maintaining or improving health, have a positive impact on quality of life and be economically worthwhile (Herrmann *et al.*, 2004; Hosman *et al.*, 2004).

In particular the evidence base is strong for some early interventions to support very young children and their parents, such as home visiting programmes for low income women expecting their first child. There is also some evidence to suggest that low cost parent training interventions can have a positive impact on child behaviour. If these impacts were maintained in the long then it might be possible to avoid some of the high costs associated with behavioural problems. Another effective and potentially cost effective intervention can be the use of taxation instruments to dissuade individuals from the over-consumption of alcohol and subsequent alcohol related addictive behaviours.

There is also growing base of evidence on the effectiveness of various work based programmes both to promote good mental well-being and deal with some of the early signs of stress and mental health problems. There may well be substantial scope for economic as well as health benefits through companies investing in workplace mental health promotion strategies. In the US one Employee Assistance Programme run by the McDonnell-Douglas company managed to reduce both work loss days by 25% and turnover by 8% of people with mental health problems (Alexander, 1990).

Initiatives have also been undertaken to help individuals with more severe mental health problems, in particular, to return to and/or remain in employment obtained through the open labour market. There is some evidence that such schemes have positive benefits for individuals in terms of employment, improved quality of life and reduced social exclusion but they can be beneficial to those who would otherwise have to bear the costs of poor mental health.

Thus it can be seen that effective actions can be taken across the life cycle, ranging from parent training programmes and interventions for the early identification of mental health problems in schools, to flexible practices and access to counselling and support in the workplace, and bereavement counselling and social activities to reduce isolation and the risk of depression in older age. Implementation implies working with a range of stakeholders including teachers, social workers, employers associations, trade unions and local community groups including faith based organizations. It should be stressed however that not all of these policies and interventions would instantly be labelled as being part of a mental health promotion strategy – for instance fiscal policies intended to alleviate poverty and redistribute income across society as well as policies to raise taxes or restrict access to alcohol. Occupational health and safety policies may also improve mental health, but again may not be instantly come to mind when one considers mental health policy.

This is not to say that examples of specific holistic approaches to the promotion of mental health cannot be identified. There are several examples being implemented across Europe. One is the National Programme for Improving Mental Health and Well-Being in Scotland. (See Box 2) Elsewhere in Norway a detailed 10 year strategy from 1998 to 2008 includes prevention actions, although no actions to promote positive health have been included. One welcome development therefore has been the creation of a 28 country EC supported Implementing Mental Health Promotion Action network (www.imhpa.net). The network is continuing to collect information on the use of promotion and prevention actions across the EU.

It has also recently published a second edition of a snapshot looking at the use of mental health promotion actions and policies across the European Union (Jane-Llopis & Anderson, 2005). While not intended to be a comprehensive guide to activity, it can be used to highlight recent positive developments. Some of these initiatives do not necessarily have the label mental health promotion but are part of a broader health promotion approach. They include the development of policies and programmes for specific target population groups such infants and their parents or school aged children, actions against specific public health problems including suicide, and measures to fight poverty and tackle social exclusion.

Box 3.2 THE NATIONAL PROGRAMME FOR IMPROVING MENTAL HEALTH AND WELL-BEING IN SCOTLAND

The National Programme for Improving Mental Health and Well-Being in Scotland

<http://www.wellscotland.info/>

Key Aims 2003 – 2006:

- Raising awareness and promoting mental health and well-being
- Eliminating stigma and discrimination
- Preventing suicide
- Promoting and supporting recovery

The National Programme aims to work with and through others to achieve these key aims in the following priority areas:

- Improving infant mental health (the early years)
- Improving the mental health of children and young people
- Improving mental health and well-being in employment and working life
- Improving mental health and well-being in later life
- Improving community mental health and well-being
- Improving the ability of public services to act in support of the promotion of mental health and the prevention of mental illness

3.6.1 National strategies for suicide prevention

By far the most obvious mental health related strategy across Europe are various targets and goals set for the reduction in the rate of completed suicides. These strategies are increasingly adopting a population wide approach, rather than being aimed solely at vulnerable individuals within high risk groups. Remarkably given the significance of suicide to premature mortality in Europe and the calls for a reduction in the suicide rate, there are still few national strategies in place for suicide prevention, although suicide may sometimes be one of the issues addressed within national public health programmes. (Beautrais, 2005) Most of the existing strategies are to be found in western Europe with few plans in the new Member States where suicide rates are at their highest. Strategies can be found in England, Belgium, Bulgaria, Finland, France, Ireland, Lithuania, Northern Ireland, Norway, Scotland, and Slovenia. Plans for a national prevention programme in Sweden have also been announced. (AFP, 2005)

Some areas have set ambitious targets for the reduction of suicide, for instance the Scottish national strategy '*Choose Life*' sets out to reduce suicides by 20% over a ten year period to 2013. Few such strategies though have been subject to rigorous evaluation including analysis of cost effectiveness (although this is planned in Scotland) and our knowledge of interventions proven to be effective in reducing suicide remains limited (Mann *et al.*, 2005).

This is not to say that there is no European evidence on the potential effectiveness of national actions. One study suggests that a multi-faceted intervention strategy to tackle suicide in Denmark over a twenty year period was instrumental in reducing the suicide rate by some 60%. This strategy included a reduction in access to the means to commit suicide, better physical and psychiatric treatment after attempted suicides, a more general focus on prevention and improved access to psychiatric emergency services (Nordentoft *et al.*, 2004). Another multi faceted community based approach introduced in Nuremberg has been the subject of careful evaluation. This study also reported that compared to another control city elsewhere in Germany level of suicidal behaviour fell considerably (Althaus *et al.*, 2006).¹⁸ This intervention is now being rolled out and evaluated in a number of cities across the EU, through the European Alliance Against Depression project.

From an economic perspective, given estimates in Ireland and Scotland that the lifetime costs of one suicide averted are well over €1m, any strategy which might reduce the overall rate of suicide by even a small percentage may well have the potential to be cost effective. It has been estimated that in the case of Scotland, for the national programme to be considered cost effective only a handful of suicides would have to be avoided each year (Platt *et al.*, 2006).

3.6.2 Actions to promote mental health in the workplace

While broad mental health promotion initiatives at a national level have been limited, there have been a number of developments at both national and pan-national level across Europe which have served to raise the profile of workplace mental health promotion (McDaid *et al.*, 2005a). At the Helsinki intergovernmental conference on mental health organised the detailed action plan called for the creation of “*healthy workplaces by introducing measures such as exercise, changes to work patterns, sensible hours and healthy management styles*” and also to “*include mental health in programmes dealing with occupational health and safety.*”(World Health Organization, 2005b) It will however be some time before we can assess whether this declaration lead to change.

The EU and its agencies play an increasingly important role. Through Directorate General (DG) Employment and Social Affairs, the Commission asked the European Social Partners (European associations of trades unions and employers organizations) to formulate a plan to combat stress in the workplace. Subsequently in October 2004, the European social partners signed a framework agreement on work-related stress (Monks *et al.*, 2004). The principle objective of the agreement was ‘*to increase awareness and understanding of employers, workers and their representatives of work-related stress, and draw their attention to signs that could indicate*

¹⁸ As the absolute number of suicides can be very small, focusing on completed suicides alone may not be able to detect any significant change between study groups; hence a broader measure of suicidal behaviour is used.

problems of work-related stress.' The agreement points out that European directives covering occupational safety and health also cover work-related stress in so far as this is a threat to health and safety. Problems may be addressed through risk assessments, a stress policy or specific measures targeted at specific stress factors. Again it will be sometime before we see whether this agreement is fully implemented.

Within DG Health and Consumer Protection, the Public Health Programme has funded a number of projects looking at mental health in the workplace. These have included support for the European Network for Workplace Health Promotion, a group linking occupational safety and health groups across the EU, and the work of the IMPHA network. One outcome of this EU work has been the production of a report by the German Federal Institute of Occupational Safety and Health looking at existing strategies to cope with anxiety, stress and depression in workplaces across the EU.(Berkels & et al, 2004)

Actions to encourage a return to work

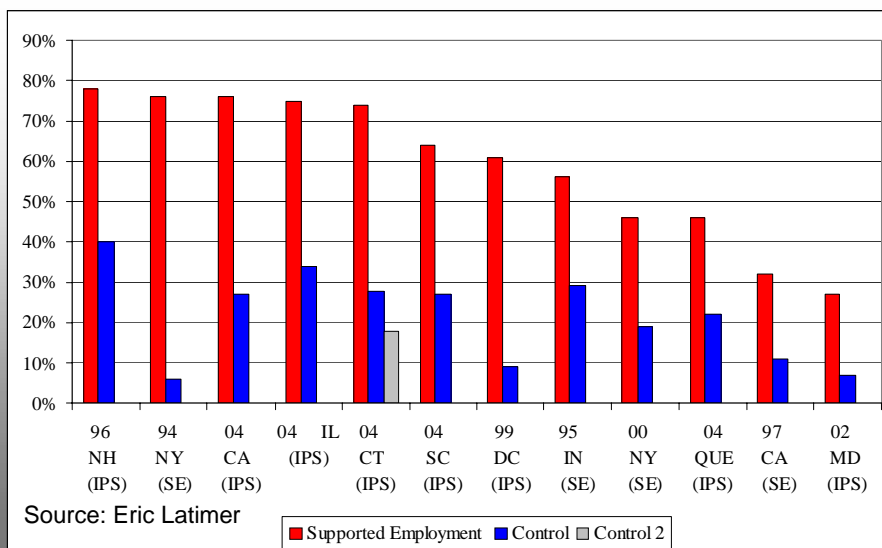
There is some evidence that a return to work has positive benefits for individuals not only in terms of employment, improved quality of life and reduced social exclusion, but this also reduces the costs of paying for future poor mental health.

One of the most well known approaches is the notion of supported employment, which was developed in response to arguments that pre-vocational training encouraged dependency and did not allow individuals to develop work based skills. In supported employment clients can for instance receive support from job coaches which may involve some element of training. A major influence on supported employment has been the development in the US of the 'Individual Placement and Support' (IPS) framework (Becker and Drake 1993). This synthesised some of the key concepts connected with supported employment including the principle of obtaining paid work in a normal setting where the majority of employees are unlikely to have any disability. It also implies that the choice of job should be that of the client rather than that of any agency or professional, and furthermore there is no specified time limit for support that individuals may receive following employment. Another key feature of IPS is the emphasis on close links between rehabilitation, employment and mental health services.

Figure 3.4 provides data from Canada and the US indicating that such supported employment schemes are effective in helping individuals return to employment. Economic evaluation of such interventions in a European context remains limited although on recent EC funded study across six European countries suggests that a US developed model known as Individual Placement and Support (IPS) which helps individuals with severe mental health problems obtain open employment and then supports them to maintain that employment is cost effective (Burns *et al.*, 2006).

FIGURE 3.4 OUTCOMES OF CONTROLLED TRIALS OF SUPPORTED EMPLOYMENT SCHEMES IN CANADA AND THE US 1994–2004

Competitive employment rates in 12 RCTs of supported employment



Reforming disability benefit systems

The costs to social welfare budgets of disability pensions are substantial. Disability benefits may provide too much of a perverse incentive for individuals to opt out of the labour market. Several European countries have launched, or announced reform, of disability benefit systems so as to target them more effectively at those who are least capable of work. In the Netherlands a target of a 75% reduction in those claiming long-term disability benefits has been set.

One initiative that combines disability benefit reform with aspects of Individual Placement and Support is the Pathways to Work initiative in England. This has involved a pro-active programme of support and advice on how to return to work for all those registered with physical and or mental health related disabilities. Training is provided to enhance skills, as there can also be on-the-job support. In an attempt to overcome some of the disincentives in the social welfare system, a system of tax credits and additional return to work credits paid as a supplement to earnings during the first year of work have been introduced. New procedures are in place to allow individuals to obtain disability benefit quickly should employment not prove successful. Recent qualitative analysis suggests that this financial support, if effective, is of key importance

in getting people back to work; when payments are delayed or not claimed financial problems occur quickly (Corden and Nice 2006). Initial evidence from the initiative however suggests adaptation is required, as while it has been successful in helping people with physical disabilities return to work it has not made much progress for those with mental health problems (Berthoud, 2006). This may perhaps be indicative of some of the ignorance and stigma associated with mental health problems, and may strengthen the case for investment in mental health literacy programs in the workplace.

While such reforms may act as an incentive for individuals to seek employment, changes to the social welfare system alone will be insufficient to promote long-term job retention. Welfare reform needs to be a part of a package of measures that may include enforcement of anti-discrimination legislation, participation in vocational rehabilitation courses, availability of support and adaptations in the workplace, flexible working arrangements, disability awareness training for the rest of the workforce and help with the costs of transportation (Organisation for Economic Co-operation and Development, 2003; Wynne & MacAnaney, 2004).

3.7 Is there sufficient funding for mental health?

We have focused largely until now on analysis of the introduction and development of broad multi-sectoral policies which may help promote mental-wellbeing in the population and tackle some of the consequences of poor mental health. While these multi-sectoral efforts are essential, it is also important that sufficient resources are invested in the mental health system so as to best meet the treatment and rehabilitation needs of those people who do experience mental health disorders. Poor availability of services or financial barriers to access, may for this vulnerable population, further widen health inequalities. We now turn to the mental health system per se and briefly overview trends in funding and service development.

Let us turn first to the issue of funding for mental health. Although the available evidence on the prevalence rates for the majority of psychiatric disorders vary very little across Europe, different health systems identify different levels of need for mental health services, devote different levels of funding and choose different ways to deliver them. These variations in need, funding and response arise for many reasons, including differences in demography, socio-economic structure, political structure, societal context, culture, and priorities. Another key factor is that the boundaries between what are considered to be health and social care services in particular can vary substantially between countries making it difficult to compare investment in mental health (McDaid *et al.*, 2006).

These caveats notwithstanding, what is undoubtedly clear is that in many countries in Europe mental health care remains grossly under-funded. Despite the high prevalence, substantial contribution to the global burden of disability, strong association between deprivation and mental illness, and the growing body of cost-effectiveness evidence, the proportion of total health system expenditure devoted to mental health care is often very small. There are still

countries with a low political commitment to making improvements; the stigma of mental illness is an enormous barrier to action in some cultures.

Combining data from the WHO 2005 Atlas on Mental Health, with work undertaken by the Mental Health Economics European Network (MHEEN) in the 15 old EU countries plus Iceland and Norway, data on available mental health expenditure across 22 EEA and Candidate Countries can be shown in Table 3.1 (McDaid *et al.*, 2004). Only five countries report spending at least 10% of their health budget on mental health, with the lowest reported levels of under 2.5 % and 3% in Bulgaria and the Czech Republic. Simply reporting the proportion of the health budget spent on mental health may however be somewhat misleading. In Table 3 we also rank countries expenditure on mental health as a % of Gross Domestic Product. Under this analysis Germany appears to invest the greatest share of GDP to mental health closely followed by Sweden, the UK and Malta. What is also noticeable using this analysis is that the lowest levels of investment in mental health are all new Member State or Candidate countries. The share of GDP spent on mental health in Latvia and the Czech republic is approximately five times lower than that spent in Germany.

TABLE 3.1 EXPENDITURE ON MENTAL HEALTH AS % OF HEALTH CARE BUDGET/GDP, LATEST AVAILABLE YEAR

		% of health budget on MH			% of GDP on mental health
			1	Germany	1.11
1	Luxembourg	13.40%			
2	UK	13.00%	2	Sweden	1.01
3	Sweden	11.00%	3	UK	1.00
4	Malta	10.00%	4	Malta	0.92
5	Germany	10.00%	5	Luxembourg	0.82
6	Netherlands	8.00%	6	France	0.81
7	Hungary	8.00%	7	Netherlands	0.78
8	France	8.00%	8	Denmark	0.72
9	Denmark	8.00%	9	Iceland	0.66
10	Cyprus	7.00%	10	Hungary	0.62
11	Ireland	6.80%	11	Belgium	0.58
12	Romania	6.50%	12	Ireland	0.50
13	Lithuania	6.30%	13	Portugal	0.48
14	Latvia	6.30%	14	Cyprus	0.44
15	Iceland	6.30%	15	Italy	0.42
16	Belgium	6.00%	16	Spain	0.41
17	Spain*	5.30%	17	Lithuania	0.38

7					
1	Slovakia	5.00%	18	Slovakia	0.30
8					
1	Portugal	5.00%	19	Romania	0.24
9					
2	Italy	5.00%	20	Czech	0.21
0					
2	Czech	3.00%	21	Latvia	0.21
1					
2	Bulgaria	2.50%	22	Bulgaria	N/A
2					

Source: MHEEN 2005; WHO 2005

* Spanish data based on an average in 3 Autonomous Communities (Salvador-Carulla *et al.*, 2006)

This lack of funding in many countries is both inefficient, because of the substantial benefits that interventions would bring, and inequitable given the high contribution to overall burden, and disproportionate impact on the poor. It can also hamper the ongoing reform of mental health systems across Europe, as these often require the injection of *additional* resources to maintain parallel systems, during the transition from institution dominated to community dominated care systems. Systems that have been starved of funding and skilled human resources for decades will be in no shape to support major changes to the delivery setting, organization or processing of care (Knapp *et al.*, 2006).

Despite the variation in the level of funding across Europe there is little difference in the way in which mental health is financed compared with general health system funding (Knapp *et al.*, 2003) (McDaid *et al.*, 2004). Nearly all countries rely largely on some form of income or sales-related taxation and/or social insurance and broadly speaking access to services is universal. However for some in central and eastern Europe in particular, the transition to social health insurance systems has not always been effective, increasing still further the significant proportion of health expenditure incurred through out-of-pocket payments and private insurance. The limited evidence available suggests that private expenditure on mental health is limited, due in part to the association of mental health problems with poverty, so that many individuals have to rely on state-funded services where these are available. Turkey appears to be a slightly different to the other countries analysed; in the Turkish health care system it is possible that individuals not covered by one of the government or private insurance schemes will have to pay out of pocket for all services.

Voluntary (non compulsory for-profit or not-for-profit) insurance schemes provide minimal coverage for mental health in the European Economic Area. One reason for this is the chronic nature and high cost of mental health treatments and interventions. Where these treatments are covered premiums are likely to be higher. Evidence from the US, where the private health insurance market is most well developed, illustrates the difficulty that mental health has in

achieving parity with physical health, leading to unequal access to insurance coverage for mental health treatment.

There are some exceptions. In the UK while the number of individuals purchasing private insurance remains very small, a recent market report suggests that mental health is the fastest growing independent private health care insurance sector. As more mental health services are provided by the independent healthcare sector as the NHS increasingly outsources acute psychiatric care, opportunities to also provide this service through private insurance also increase. Independent psychiatric hospital revenues grew strongly in 2001 to £336 million, up 17% on the previous year. (Laing W & Buisson, 2003) While psychiatric care is more likely to be an optional extra rather than a core element of private insurance packages in the UK, in employer-funded insurance schemes only 37% restricted psychiatric benefits, which it is argued is due to greater recognition by employers of their legal liability re occupational health issues (AON Health Solutions, 2002). Most policies are however still bought by individuals and here cover for psychiatric illness can be limited; in one sample of 203 policies available to a 50-year old in 2003, provided by seven insurance companies, 101 offered some inpatient psychiatric cover and 80 some outpatient psychiatric cover (Carehealth, 2004). Across Europe it is also the case that some specialist services such as psychological therapy and treatment for addictions or eating disorders may also be provided on a private basis.

The importance of voluntary (private) insurance is also growing in many parts of central and eastern Europe, (Dixon *et al.*, 2006) and a future challenge will be to ensure that where countries shift towards more reliance on private insurance, rather than social insurance or tax, mental health disorders are fully covered in the same way as other conditions. At present premiums are usually risk-rated based, on an assessment of individual risk rather than being community-rated as with social health insurance. One consequence is to impose the greatest financial burden on people with mental health disorders or with a family history of mental health disorders (where this information is used to calculate premiums).

3.8 What is the mix of mental health services provided across Europe?

Given the different service contexts, and different arrangements in provision and financing, it is obvious that countries will exhibit marked differences in their resource bases. Differences will also arise because of the different national commitments of funding to mental health that have been shown here, and the trend above towards placing services outside the health care sector where entitlements are more restricted in a number of countries. At least as important, however, will be different policy intentions and practice possibilities. Italy famously passed legislation to close the psychiatric hospitals in the late 1970s, and the Italian health system today relies much less than, say, Germany's on in-patient care. Similarly, the Netherlands and Finland have invested heavily in psychiatric social work whereas Denmark has given proportionately much greater emphasis to clinical psychology. The picture is complex, in Austria, family members may be asked to contribute towards any long term care needs of a

relative with mental health problems (Zechmeister & Osterle, 2006). In general, the family is probably a more important provider in Mediterranean societies than in Northern Europe. This is perhaps most acute in Turkey where there are no statutory community care support services, with most individuals with mental health problems being cared for by family members.

Although there has been some convergence in practice guidelines, patterns of medication use will reflect licensing and reimbursement arrangements as well as local cultures of prescribing, professional training and conservatism, marketing and research. This can be illustrated by one recent six country survey reported that France had a threefold greater rate of psychotropic utilisation than that found in the country with the lowest utilisation rate, the Netherlands.(Alonso *et al.*, 2004) This is unsurprising given the recognition by the French authorities of their high consumption of pharmaceuticals generally compared to most other EU countries.(Haut Conseil pour l'Avenir de l'Assurance maladie, 2004)

Any description of the resource base across countries is therefore likely to show considerable variation, but a relatively low level of provision in one domain is not necessarily a cause for castigation since it may be compensated for by relatively higher provision of other kinds, or explained by local cultural considerations or democratically generated priorities.

3.8.1 Mental health personnel

There are few statistical collections that allow inter-country comparisons, and those that exist are beset with problems stemming from differences from one country to another in the definition of mental health care, with until relatively recently few instruments available to allow meaningful comparison of the workforce across countries.

One of the first attempts to collect such information on a global basis was the 2005 edition of the WHO Atlas on Mental Health. The wide variation in the use of different type of health and social care professionals is in part due to these differences in definitions. Notwithstanding the major limitations in the data provided, the available statistics reveal clear differences along geographical lines, with northern European countries generally providing more professionals that help to deliver services in the community than in many eastern or southern European countries.

Table 3.2 provides information from the WHO Atlas on the availability of psychiatrists. The Nordic countries and France have the highest numbers of psychiatrists in the region with more than 20 psychiatrists per 100,000 population compared with a median of 10 across all 32 countries. These national figures mask regional variations. In France, for example, there are as many as 88 psychiatrists per 100,000 population compared with less than 9 in some *départements*.

While it is difficult to determine what the appropriate number of psychiatrists should be, the rates in some countries in southern Europe are very low indeed, e.g. Turkey where there is only one psychiatrist per 100,000 population. As Table 3.2 indicates there also appears to be great variation in the numbers of psychiatric nurses provided, but this again is partly due to differences in definitions, nevertheless it is clear that the majority of those countries with few nurses are located in central and southern Europe.

Table 3.2 is evidence of the different value placed on psychology as part of mental health services across Europe. Psychological approaches have long been a mainstay of services in the Nordic countries as well as (unsurprisingly) in those countries with a strong association with the discipline, Austria and Germany. Elsewhere in Europe they play a modest role, although the use of cognitive behavioural (talking) therapy is coming to prominence now in some other parts of Europe. In England for example, two psychological treatment centres are currently being piloted and evaluated, with a view to mainstreaming these services within the health system.

TABLE 3.2 PSYCHIATRISTS, PSYCHIATRIC NURSES AND PSYCHOLOGISTS PER 100,000 POPULATION

		Psychiatrists			Psychiatric Nurses			Psychologists
1	Iceland	25	1	Finland	180	1	Denmark	85
2	Finland	22	2	Ireland	136	2	Finland	79
3	France	22	3	UK	104	3	Sweden	76
4	Norway	20	4	Malta	102	4	Norway	68
5	Sweden	20	5	Netherlands	99	5	Iceland	60
6	Belgium	18	6	France	98	6	Germany	51.5
7	Denmark	16	7	Denmark	59	7	Austria	49
8	Greece	15	8	Germany	52	8	Netherlands	28
9	Lithuania	15	9	Cyprus	45	9	Luxembourg	28
10	Estonia	13	10	Norway	42	10	Cyprus	19.3
11	Czech Republic	12.1	11	Latvia	40	11	Greece	14
12	Luxembourg	12	12	Austria	37.8	12	Ireland	12.7
13	Austria	11.8	13	Lithuania	36	13	UK	9
14	Germany	11.8	14	Luxembourg	35	14	Lithuania	5
15	UK	11	15	Iceland	33	15	France	5
16	Latvia	10	16	Czech Republic	33	16	Czech Republic	4.9
17	Slovakia	10	17	Italy	32.9	17	Romania	4.5
18	Italy	9.8	18	Sweden	32	18	Poland	3.4

8								
1	Bulgaria	9	19	Slovakia	32	19	Italy	3.2
9								
2	Hungary	9	20	TFYRM	24	20	Slovakia	3
0								
2	Netherlands	9	21	Hungary	19	21	Malta	2.6
1								
2	Croatia	8.7	22	Poland	18.4	22	TFYRM	2
2								
2	TFYRM	7.5	23	Bulgaria	15	23	Portugal	2
3								
2	Ireland	6.8	24	Portugal	10.1	24	Latvia	2
4								
2	Poland	6	25	Romania	8.9	25	Hungary	2
5								
2	Slovenia	5.35	26	Slovenia	5.8	26	Spain	1.9
6								
2	Cyprus	5	27	Spain	4.2	27	Slovenia	1.65
7								
2	Portugal	4.7	28	Turkey	3	28	Turkey	1
8								
2	Romania	4.1	29	Greece	3	29	Bulgaria	0.9
9								
3	Malta	4	30	Estonia	0	30	Estonia	
0								
3	Spain	3.6	31	Croatia		31	Croatia	
1								
3	Turkey	1	32	Belgium		32	Belgium	
2								

Source: WHO 2005

Of more importance potentially are the numbers of social workers available in the different countries. Social workers are a key element of any community based mental health team and can provide help and support for individuals that goes well beyond health care, such as in obtaining social welfare benefits, housing and employment. Table 3.3 is perhaps the most meaningful of these statistics on the workforce across Europe as it clearly indicates the large number of countries that appear to have invested in few social work resources. Again the majority of these countries are new Member States or Candidate countries with a history of heavily institutionalised care. This might suggest strongly that there are insufficient resources invested in community based care, or there is a tacit reliance on families to provide this support. This requires careful evaluation.

TABLE 3.3 SOCIAL WORKERS PER 100,000 POPULATION

		Social Workers
1	Germany	477
2	Netherlands	176
3	Finland	150
4	Iceland	110
5	Austria	103.4
6	UK	58
7	Greece	56
8	Ireland	47.7
9	Luxembourg	35
10	Cyprus	25
11	Denmark	7
12	Italy	6.4
13	Malta	3.1
14	Portugal	1.6
15	TFYRM	1.5
16	Turkey	1
17	Slovakia	1
18	Hungary	1
19	Poland	0.6
20	Latvia	0.5
21	Slovenia	0.45
22	Bulgaria	0.3

Source: WHO 2005

Note: Includes only countries with available data

3.8.2 The balance between institutional and community based care

The extent to which services can be shifted from institutions to the community and the shape that models of service provision take continues to be a key question for policy makers. A report prepared for the WHO Regional Office for Europe's Health Evidence Network concluded that there are no persuasive arguments or data to support a hospital-only approach, nor is there any scientific evidence that community services alone can provide satisfactory comprehensive care (Thorncroft & Tansella, 2004). Instead it argued that a '*balanced care*' approach is required where front line services are based in the community but hospitals and other institutions can play an important role in providing services. Where required hospital stays should be as brief as possible, with these services are provided in normal community settings rather than in remote isolated locations.

There are many potential elements to a balanced care approach, and not all are applicable or appropriate in each country. Each needs to be considered for its local relevance and will be

dependent on the flexibility, coordination and ready availability of resources. Box 3.3 provides recommendations on service mix dependent on whether countries have a low, medium or high level of resources.

BOX 3.3 MENTAL HEALTH SERVICE MIX: POLICY CONSIDERATIONS

Low-resource countries should focus on establishing and improving mental health services within primary care settings, using specialist services as a backup.

Medium-resource countries should also seek to provide five core service components: (i) outpatient clinics, (ii) community mental health care teams, (iii) acute inpatient care, (iv) long-term community-based residential care, and (v) work and occupational care.

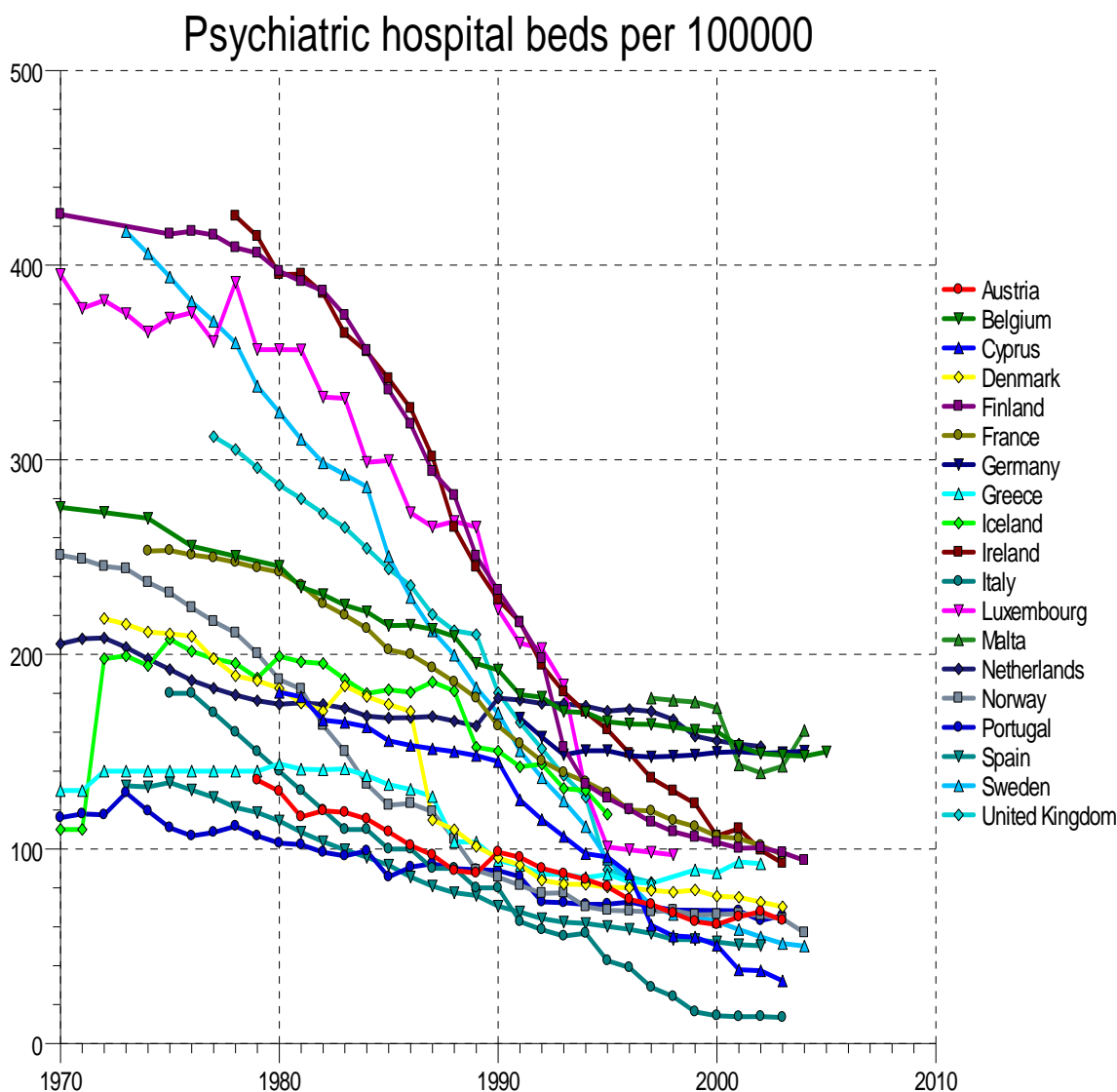
In addition to such measures, *high-resource countries* should provide forms of more differentiated care such as specialised ambulatory clinics and community mental health care teams, assertive community treatment, and alternatives to acute inpatient care, long-term community residential care, and evidence-based vocational rehabilitation.

Source: Thornicroft & Tansella 2004

Certainly in many countries in the European Union there has been a steady shift in the balance between provision of services within institutional based care and in the community over the last thirty years, helping to redress the imbalance between the two (McDaid & Thornicroft, 2005).

The twentieth century was characterized firstly by the rise and then gradual reduction in the use of asylums as the mainstay of service provision for people with mental health problems in many parts of Europe. As the failings of the asylum system became clearer, and attitudes towards the protection of human rights gained in importance in the 1950s there has been a gradual shift by health policy makers towards a policy of deinstitutionalization, that is a reduction in the use of secluded, long stay psychiatric hospitals. The costs of maintaining these expensive institutions and the availability of new medications undoubtedly also have had some influence on this process. Over the last 30 years, in western Europe in particular, individuals have been transferred to other settings such as general hospitals, various forms of community based supported living establishments or back to their family homes. Figure 3.5 illustrates trends in western Europe (including Cyprus and Malta) from 1970 until 2002; in all countries bed numbers have fallen sharply.

FIGURE 3.5 TRENDS IN PSYCHIATRIC BED NUMBERS PER 100,000 POPULATION IN OLD EEA COUNTRIES PLUS CYPRUS AND MALTA 1970 – 2004

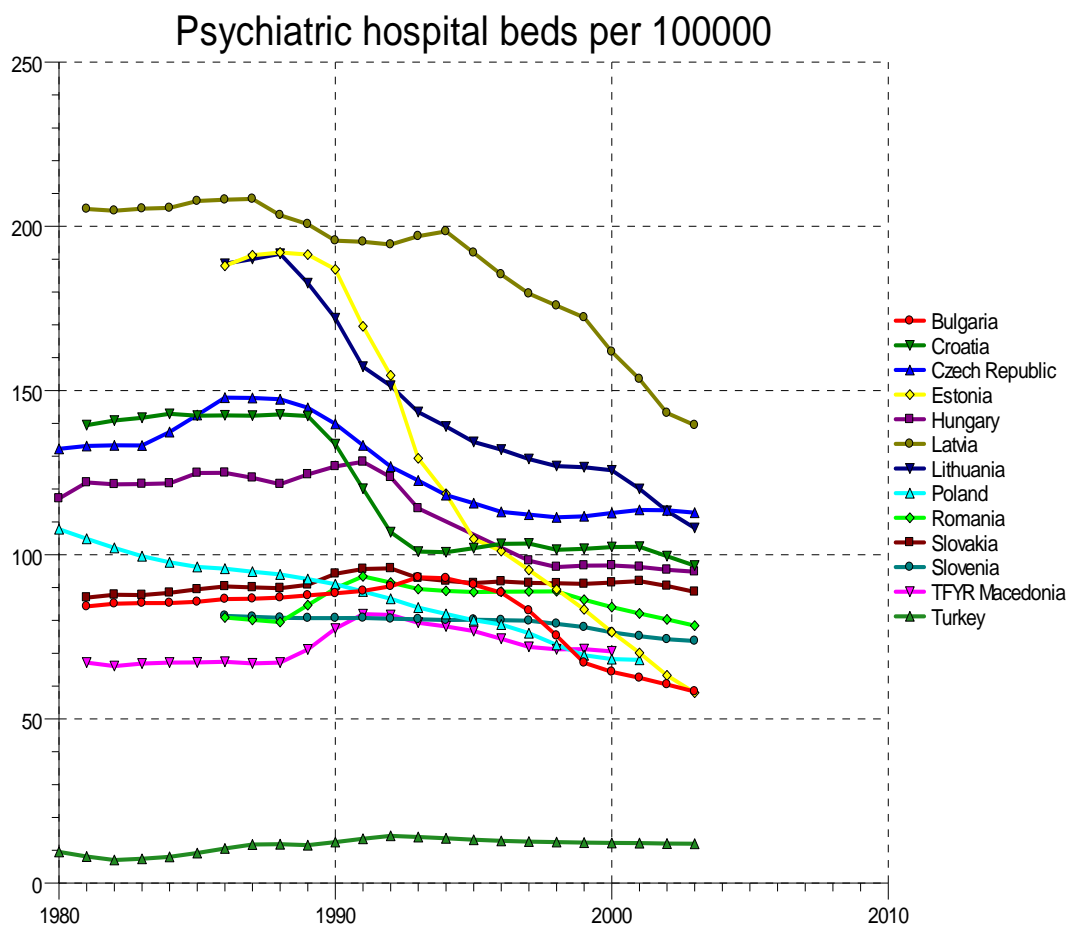


The change in some countries has been marked than in others. Ireland for instance had 730 beds per 100,000 population in 1961, and in 1970 it still had the highest rate in Europe, but by 2003 this had fallen to 93 per 100,000, similarly rates in Sweden fell from 480 in 1961 to 50 per 100,000 by 2004 and in France from 210 to 97 per 100,000 by 2003 (Daly *et al.*, 2004; Walsh & Daly, 2004). Many countries now provide around 10 psychiatric hospital beds per 10,000 people although at the extreme in Italy there are virtually no inpatient psychiatric hospital beds (although there are some small scale units around the country) For instance in 2001 in England the number of beds was 6.1 beds per 10,000 while in the Netherlands this was 13.5, Germany 12.8, Spain 4.3 (Priebe *et al.*, 2005).

At first glance the number of psychiatric hospital beds in many of the new Member States (excluding Cyprus and Malta) and Candidate Countries appear comparable to those in western Europe (See Figure 3.6). The statistics are somewhat deceptive however; many beds are located not in hospitals but in long stay social care systems, known as 'internats'. These are not picked up by these statistics. Nonetheless it is clear that in most of these ten countries the shift away from institutional care has been slow. Figure 3.6 illustrates that there has been significant progress in terms of deinstitutionalization over the last 15 years in the three Baltic Republics of Latvia, Lithuania and Estonia, but little change elsewhere. In the Czech republic, for example, there were 1,554 beds in psychiatric wards of general hospitals and 10,139 in 21 psychiatric hospitals in 2001; there had been little change numbers compared with 1996 although the process of deinstitutionalization began in 1989. The concept of community care is under developed and there is still no policy of deinstitutionalization; transferring resources out of the large psychiatric hospitals is extremely difficult when these institutions are funded on the basis of bed occupancy rates. Integration between the health and social care sectors in the Czech republic continues to be poor. Turkey is the outlier in this analysis; the low number of institutional beds reflects the limited access to psychiatric services of any sort in the country, especially outside the major cities.

Romania has more than 17,000 psychiatric beds of which more than 12,000 are located in 36 psychiatric and five forensic hospitals. Perverse incentives in the financial systems in many of these countries link funding directly to bed occupancy, allowing no flexibility for local planners to develop community-based alternative services. For instance in Romania this means that beds are occupied for an average of 350 days of the year.

FIGURE 3.6 TRENDS IN PSYCHIATRIC BED NUMBERS PER 100,000 POPULATION IN NEW MEMBER STATES AND CANDIDATE COUNTRIES 1980 – 2004



Data challenges

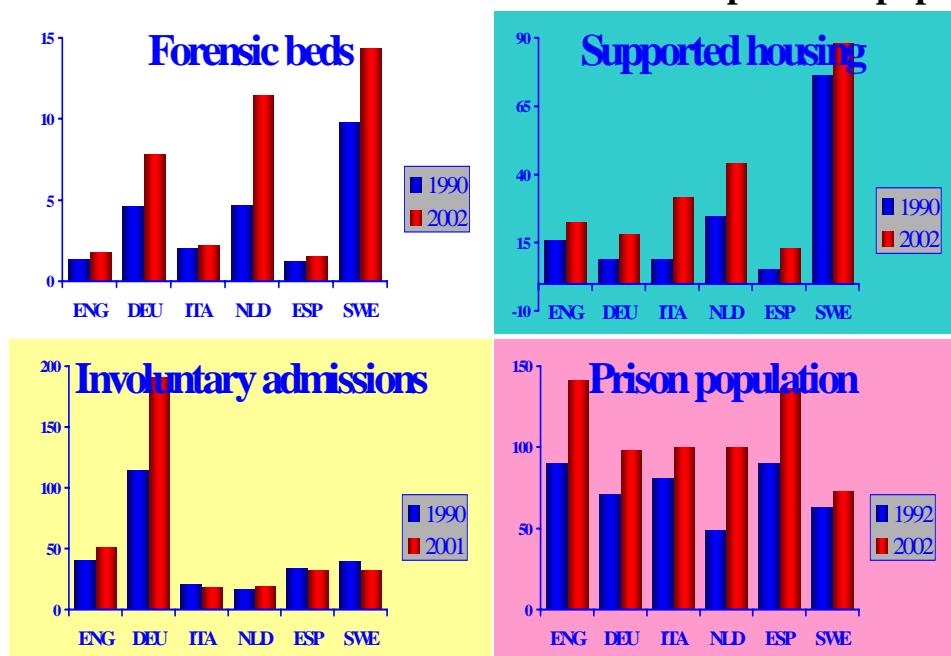
Clearly the reliance of mental health systems on old style institutional care has certainly been reduced in many countries, but caution must be exercised in interpreting this data. Obtaining accurate and comparable data on the actual number of psychiatric beds in psychiatric hospitals, general hospitals and other settings is difficult, and sometimes country estimates include beds that are not located in psychiatric hospitals.

There are also specific contextual factors in all countries that must be taken in account – for instance in Belgium a ‘bed’ may in fact not actually be occupied, instead the funding allocated to a bed is used to fund community based services. In countries in central and eastern Europe, beds in long stay social care homes (internats), may not be included in these estimates. Deinstitutionalisation can also mean different things in different countries. In Germany for

instance this has included the transfer of individuals from psychiatric hospitals to redundant tuberculosis rehabilitation hospitals in the Black Forest, while in Switzerland it has referred to a reduction in the number of beds in existing psychiatric hospitals, but with no intention at policy level of moving psychiatry into general hospitals. (Haug & Rossler, 1999) Some have also argued that we are now moving into a new phase of reinstitutionalisation in some countries in Europe where individuals once in psychiatric hospitals are now in other institutions such as prisons, forensic units and supported housing. Priebe and colleagues compared changes in the number of such beds in six western European countries since 1990 (England, Germany, Italy, Netherlands, Spain and Sweden) observing that in two of the six countries, the Netherlands and Italy the increase in places in forensic units and supported housing more than outweighed the decrease in hospital beds. Moreover in all six countries the prison population had grown, with the highest rate of growth been seen in those countries with the smallest increase in forensic bed numbers (Spain and England) (See Figure 3.7) (Priebe *et al.*, 2005).

FIGURE 3.7 TRENDS IN USE OF DIFFERENT TYPES OF INSTITUTIONAL ACCOMMODATION 1990 – 2002 IN SIX EUROPEAN COUNTRIES.

Re-institutionalisation? Rates per 100k pop.



Source: (Priebe *et al.*, 2005)

Thus relying on statistics on in-patient psychiatric beds when describing cross-country variations is a major limitation given the concerted move in many European countries to shift the locus of provision from in-patient to community-based care. However, it is far from straightforward to describe, record and map other (non-hospital) services across localities. The carefully developed European Service Mapping Schedule (ESMS) was designed to do just this,

(Johnson *et al.*, 2000) but even when this instrument is employed, interpretation of findings is difficult in what is an inherently (and increasingly) complex field. As yet there is little data available on these services in the new Member States in central and eastern Europe. Data from western Europe is also very ad-hoc in nature.

The EPSILON multi-country study of people with schizophrenia demonstrated that service systems and availability varied greatly between study sites (Becker *et al.*, 2002) using the ESMS, and that use of, for example, in-patient care is closely related to supply. The study reported that a higher proportion of in-patient care was used in the research site in Denmark, but that more beds are available for use. In contrast the research site in Spain had many fewer inpatient beds and the cost of inpatient care was therefore lower. Similarly the ERGOS multi country study of services used by people with schizophrenia using a different data collection approach also found distinct differences in patterns of treatments used in different centres, with for instance family therapy rarely used in French, Portuguese or Dutch centres but frequently provided in the Italian and Spanish sites. Differences are found within as well as across countries and among sites with similar levels of resources. In this study home visits were commonly suggested in the Irish and Portuguese sites but there were differences in use across the French centres in the study. (Kovess *et al.*, in press). Despite limitations there is a clear trend of a more methodological driven approach to the collection of comparative data. One area where urgent work might be undertaken is to use instruments such as the ESMS to map the situation in countries in central and eastern Europe where little such work has been undertaken.

Geographical imbalances in the distribution of resources

What none of the data already presented describe is the distribution of services within a country: the urban/rural distribution. For example, Bulgaria's National Mental Health Programme, launched in 2001, states very clearly that a problem with its present mental health care system is a very uneven regional distribution of hospital beds. In Bulgaria, as in the UK for example, there are problems of inpatient psychiatric beds being used as a substitute for nursing home beds. This may be due to lack of nursing home resources, or poor care management of the individual patient.

As part of Bulgaria's mental health programme, there is to be a move so that 'psychiatric beds come closer to the patient's place of residence, each catchment area of 150,000 people will have inpatient, outpatient and rehabilitative services, and the average number of bed per catchment will be between 50 and 75. A reduction in hospital beds is to take place in parallel with the introduction of specific units, offering psychiatric rehabilitation in the community'. In Spain, there are enormous differences between the autonomous regions (Haro *et al.*, 1998).

The need to consider patterns of resource provision within countries may thus be more important to the development of mental health policy across Europe than simple national comparisons. This can also help to identify appropriate differences in service mix between rural

and urban localities. The ESMS has now been used to make such comparisons across multiple localities in different countries, including Spain, Italy and Germany. It is perhaps not insignificant that all three of these countries have heavily decentralised health systems. A recent comparison between 9 Italian and 4 Spanish sites of mental health service use geographically dispersed across the two countries reported that there was great variation in the use of beds – e.g. Turin having a utilisation rate of hospital beds 7.6 times higher than that found in rural Andalusia. Overall the use of community beds was much higher in Italy, –all sites had higher rates of utilisation than those in Spain. High variation was also found in use of a range of community services and compared with data from northern European cities reported in the previously mentioned EPSILON study rates of utilisation of both residential and community services are low. (Salvador–Carulla *et al.*, 2005)

3.9 Continuing challenges

Having looked briefly at the policy environment in which mental health is located, and reflecting on trends in services both to treat people with mental health problems and also to promote good mental health and wellbeing, it is clear that there are numerous challenges to overcome if we are to tackle inequalities and promote mental health. Different contexts across Europe will require different approaches, but some challenges are common to all and are set out briefly below. What is clear is that co-ordinated intervention is required across many different sectors.

3.9.1 Strengthening and making better use of the evidence base

Developing and strengthening policy for mental health across Europe remains another key concern, with a number of countries continuing to have dated policies and no action plans in place. A prerequisite to policy development should be to undertake a systematic appraisal of existing structures, funding mechanisms, entitlements and access to services. Such an analysis can also help to adjust resource allocation mechanisms to take account of mental health related factors.

It is clearly not enough to map out population needs, nor generate an evidence base on the effectiveness or cost effectiveness of different strategies or mix of services; a key challenge is to focus more effort on the way to get this information across to policy makers. Too often information is presented in an unsuitable dense and highly technical format, limiting its usefulness.

More can be done to create effective channels of communication between policy makers, researchers and other stakeholders, perhaps investing resources in training so called ‘knowledge brokers’: individuals with knowledge both of scientific methods and their interpretation, while also familiar and comfortable in the policy arena. This can also help

identify gaps in knowledge of relevance to policy makers that are feasible for researchers to address.

International initiatives aimed at improving awareness of, and looking at the transferability of the results of interventions such as mental health promotion strategies, e.g. the work of IMPHA and cost-effectiveness studies through the WHO CHOICE (Choosing Interventions that are Cost Effective) programme and the MHEEN network in Europe can help build capacity and fill some of these gaps, and may strengthen the case further for investment in mental health.

3.9.2 Appropriate level of funding for mental health

Stigma and the lack of a effective service user movement are but two factors that may act as a barrier to an appropriate level of investment in mental health. Yet the case for investment in mental health is very strong. There now is substantial evidence that greater investment in many areas of mental health is not only justified on grounds of tackling the high degree of social exclusion and adverse health consequences, but also that it represents a more efficient use of health (and other sector) resources, allowing many individuals to maintain or regain their normal role, making an active contribution to society either through paid work or other activities. Despite this, levels of funding for mental health still appear to be low in many countries, reflecting the challenge of overcoming longstanding negative perceptions towards mental health.

While money is not everything, major reforms are likely to need protected funding. It is important that as the balance of services shift from institutions towards the community in some of the new EU member states that safeguards are put in place to ensure that funds are also fully transferred. Otherwise there is a temptation to use system reform as a vehicle for cost reduction, especially when the economic climate is tough. During such a transitional period funding will be required *both* for the new community services as well as for the institutions being phased out. One option may be to 'ring fence' funding for mental health, while other possible approaches (depending on local context) may include using resource allocation mechanisms that take account of mental health needs when distributing funding both geographically and across sectors in health (and other) systems.

3.9.3 Overcoming system fragmentation and barriers to co-ordination

Even if there is sufficient political commitment to investment in effective interventions to promote good mental well being and alleviate mental disorders, implementation remains problematic. Multiple costs, not just to different agencies within the public or private sector, but also to individual service users and their families, raise a number of challenges. In particular, unless the full cost implications of mental health problems, and of changes to mental health systems, are recognised, multiple costs raise the risk of the reform process being

seriously under-funded. They also give rise to the potentially very constraining problem of *silo budgets*: resources held in one budget cannot be allocated to other uses, to the general detriment of the pursuit of effectiveness. There is also a risk that key opportunities to promote service user well-being will be missed, for example by denying individuals the opportunity to secure paid employment.

Some of these problems may be addressed through creation of joint budgets for mental health across sectors as seen in England, so that resource implications and benefits are shared by sectors, increasing flexibility to deliver services that best address need. There have also been experiments in Sweden (Box 3.4)

BOX 3.4 JOINT BUDGETING IN SWEDEN

In Sweden, experiments in pooling funds between health, social services and sickness insurance budgets have been developing since the mid 1990s. These arrangements were in part set up in response to the growing problem of long term absence from the labour market because of mental health problems. They recognised that the mix of services to get individuals back into employment would need to be provided by a number of different service providers and that there was a danger that these individuals would fall between the cracks between different services and budget holders (Hultberg *et al.*, 2005). Up to 5% of the social services and sickness insurance budgets can be pooled with a matching contribution from health services. The scheme known as Socsam, has since 2004 gone nationwide. Evidence on the effectiveness of the scheme in helping return people to work is however as yet unavailable.

The issue of resource inflexibility may also be addressed by a greater degree of partnership working with the not-for-profit NGO sector. NGOs may be commissioned to deliver services, and there is evidence, that they can respond more flexibly than the statutory sector to adapt to changing local circumstances. It should be recognised though that in some countries, particularly in central and eastern Europe, key sectors that should be involved with mental health e.g. primary care and social work may be very underdeveloped, and have had little to do with the recognition and management of mental health problems.

There may also be little experience, and indeed distrust of inter-sectoral working. Effective co-ordination between all agencies involved in both funding and delivering services is needed. One approach to improve co-ordination across sectors may be the use of a 'one stop shop' model where one agency is responsible for working with service users to help them to purchase services or gain access to entitlements not just in the health and social care sectors, but elsewhere e.g. providing help with housing and obtaining social security benefits.

3.9.4 Meeting the needs of the workforce

The needs of the mental health workforce should also not be overlooked when considering the balance of services. A well-trained workforce is a prerequisite for quality services. This should not be restricted to training in mental health related skills alone, there is also a need for training in organizational and managerial skills, which in particular are lacking in some countries, hampering reform and the co-ordination of multi agency, multi sector services. In former totalitarian countries governance structures may be poor and there may be little culture of using evidence to support the decision making process (Tomov *et al.*, 2005). Administrators may be extremely reluctant to countenance change, they may also be worried about losing their status and authority if for instance institutions are shut down and replaced by community services. Employees in mental health systems will also be understandably concerned about their own job prospects as the balance in service provision changes. Across all of Europe skills in general practice to recognise and manage mental health problems are also limited, and there is a case for greater investment in training primary care practitioners as well as other key individuals (social workers, teachers, police etc) who may come into contact with people with mental health problems.

3.9.5 Addressing stigma

Stigma distinguishes mental health disorders from many other conditions and ultimately leads to discrimination and social exclusion. Tackling the stigma, discrimination and social exclusion that pervades all aspects of mental health remains a key challenge. It is clear that in some parts of central and eastern Europe fundamental human rights abuses continue to be seen in the psychiatric institutions and social care homes that remain the mainstay of mental health systems. Abuse manifests itself in many ways; even where community based care dominates in western Europe individuals can be just as neglected and isolated within their communities as they were previously in institutions. The fear of stigmatisation also reduces the likelihood of individuals with mental health problems coming into contact with formal services. It also contributes to the low priority of mental health in policy making.

There are no easy or short term solutions, nor do we have good evidence on what works, but long term actions such as intervention in schools to raise awareness of mental health, and constructive engagement with the media, who have socially reinforced stigma and social exclusion by sensationalist and inaccurate portrayals of mental health appear to be merited, subject to careful ongoing evaluation.

Legislation here more than in any other area of health has a crucial role. Legislative instruments from the UN, the Council of Europe, the EU and others are intended to protect the human rights of people with mental health problems. They can only promote social inclusion however if

effectively monitored with adequate sanctions where required to effect change. Where involuntary treatment may be required, the principle of using the least restrictive alternative should be applied, ensuring that individuals have the opportunity for independent review. Legislation also needs to move beyond health and social care, and protect against discrimination in other sectors.

3.9.6 Empowering service users

A continuing challenge is to improve access to information in order to help empower individuals to seek help. A lack of knowledge about conditions and treatment has been indicated as a key reason for under-utilisation of services. (Sartorius, 2002) Basic information could be provided on services available, and co-ordination improved between different service providers/funders. These approaches will be dependent on the level of resources available within countries. In high-income countries approaches that have been shown to be relatively effective include the use of assertive community treatment teams which among other things seek to contribute towards improving an individual's living conditions and work status (Thornicroft & Tansella, 2004)

One recent major review of the links between social exclusion and mental health in England (Office of the Deputy Prime Minister, 2004) found that in addition to widespread stigma and discrimination, health professionals also have a low expectation of what individuals with mental health problems can achieve, and that employment in particular is not seen as a key objective. It found that there was a lack of clear responsibility for promoting social and vocational outcomes, a lack of ongoing support to enable people to work and structural barriers to engagement in the community. The report called for more choice and empowerment of service users, help to retain jobs, return to employment and progress careers. The fundamental importance of family and social participation on health was stressed, and the need for a multi sector partnership between health, social care, employment and other community services recognised.

Helping individuals to obtain/maintain employment in the regular job market can help reduce the level of stigma and discrimination against mental illness among employers. Systematic reviews indicate that supported employment is more effective than different types of pre-vocational training in terms of achieving and maintaining employment, with a greater number of hours worked and higher average earnings (Marshall 2005). Schneider (2005) looked at both rigorous evidence from meta analyses and randomised controlled trials, as well as less rigorous evaluation methods, and again concluded that supported employment interventions that adopted the principles of IPS were most effective in helping individuals to obtain employment (Schneider, 2005).

Attention is also beginning to focus now on the use of 'direct payments' where individuals are given cash to purchase services and support that they require, including help in vocational

rehabilitation. The system has however only been introduced in a few countries including England, Scotland and the Netherlands for a few service users making it too early for formal evaluation.

People with mental health problems can also be empowered to have more control over their treatment. Atkinson and colleagues (Atkinson *et al.*, 2004) found evidence that many service user organizations (as well as other stakeholders) in the UK support the use of 'advanced directives', where an individual when well specifies how they wish to be treated if they become unwell. Such advance directives were thought to be empowering and potentially destigmatising, although it was recognised that many problems need to be overcome in their implementation. Support for advance directives has also been reported among Dutch patient groups (Varekamp, 2004). Another alternative to empower individuals to have more control over treatments are crisis cards which again state preferences in anticipation of a time when a person is too ill to express their views directly (Sutherby *et al.*, 1999). While these issues have been considered only in high-income countries, in principle such approaches might be used in all settings with some local adaptation.

3.10 Policy Conclusions

Poor mental health is a major public health issue in Europe; it has many health and social consequences for individuals and their families, while the economic costs to society are substantial. Perhaps more than any other health issue therefore, mental health requires an effective co-ordinated multi-sector approach to both the development of policies and the delivery of services. A comprehensive and holistic approach to mental health, as recommended by the WHO and the EC Green Paper, should provide a range of interventions and strategies including the promotion of positive mental well-being to treatment and rehabilitation of those with mental disorders. Moreover there is a growing evidence base not only on the effectiveness and potential cost effectiveness of treatments, but also on mechanisms for promoting good mental well-being and preventing mental disorders

Despite this, there continues to be comparatively little attention focused on mental health promotion across Europe. This may be a reflection of the comparatively low level of funding for mental health in many EU countries (only five countries are known to spend more than 10% of their health care budgets on mental health) (McDaid *et al.*, 2005b) and/or a lack of flexibility in the use of funds, but many interventions are delivered and funded outside the health care sector. Unlike health care interventions, which are a Member State responsibility, because of this multi sector involvement, the European Commission can play a highly significant role in encouraging the greater uptake of effective promotion and prevention interventions.

The majority of economic costs are incurred through lost productivity costs. Reducing these costs can help the EU meet their Lisbon agenda goals. One area for continued action, in

particular, is workplace mental health promotion. This has largely been the remit of occupational health and safety programmes, which have tended historically to focus largely on physical health issues. The EU along with other international organizations such as the WHO and the ILO can encourage governments and the social partners to take action, and help develop capacity in both the understanding of the issues. They can also help in building an evidence base on the cost effectiveness of different policies and interventions.

More generally, there are substantial gaps in our knowledge on the prevalence of mental health disorders and steps to encourage the collection of such data would be helpful to future European comparative analysis. There are also gaps in our understanding of what initiatives and actions have been undertaken at a European and or national level to promote good mental well-being. The monitoring of policy and practice developments is another important area where the EU can contribute. By building on initiatives such as the IMHPA project, it may be possible to provide a more comprehensive overview of progress across Europe. The collection of such information, and the fear or being 'shamed' might also act as a catalyst to encourage countries to take appropriate actions. Such monitoring activities ideally would be coordinated with the WHO so as to avoid any unnecessary duplication of activities.

Many effective preventive interventions as well as pharmaceutical and psycho-social treatments are now available, (as may be seen for instance from the work of the Cochrane Collaboration and the WHO Health Evidence Network) but more needs to be done to ensure that evidence on what promotion and prevention interventions work, in what circumstances and at what cost has an opportunity to be facilitated into the policy making process. Exchanging information on effective interventions and considering whether interventions that work in other settings, such as the USA, could work in Europe might be an important role to be played by the EU. Finally, but by no means least, there is a need for the EU to continue to take action to promote social inclusion but enforcing measures to tackle discrimination in access to housing, employment and education.

References

AFP (2005). Sweden sets out to tackle suicide. The Local:

<http://www.thelocal.se/article.php?ID=1771&date=20050721>.

Alexander, A. C. G. (1990). McDonnell Douglas Corporation employee assistance program financial offset study 1985–1989. Westport, CT., Alexander Consulting Group.

Alonso, J., Angermeyer, M. C., Bernert, S., Bruffaerts, R., Brugha, T. S., Bryson, H., Girolamo, G., Graaf, R., Demyttenaere, K., Gasquet, I., Haro, J. M., Katz, S. J., Kessler, R. C., Kovess, V., Lepine, J. P., Ormel, J., Polidori, G., Russo, L. J., Vilagut, G., Almansa, J., Arbabzadeh-Bouchez, S., Autonell, J., Bernal, M., Buist-Bouwman, M. A., Codony, M., Domingo-Salvany, A., Ferrer, M., Joo, S. S., Martinez-Alonso, M., Matschinger, H., Mazzi, F., Morgan, Z., Morosini, P., Palacin, C., Romera, B., Taub, N. & Vollebergh, W. A. (2004). Psychotropic drug utilization in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatr Scand Suppl*(420): 55–64.

Althaus, D., Niklewski, G., Schmidtke, A. & Hegerl, U. (2006). [Changes in the frequency of suicidal behaviour after a 2-year intervention campaign.]. *Nervenarzt*.

Andlin-Sobocki, P. & Rossler, W. (2005). Cost of psychotic disorders in Europe. *Eur J Neurol*, 12 *Suppl 1*: 74–7.

AON Health Solutions (2002). Corporate Health Survey. London, AON Health Solutions.

Atkinson, J. M., Garner, M. C. & Gilmour, W. H. (2004). Models of advance directives in mental health care: stakeholder views. *Social Psychiatry and Psychiatric Epidemiology*, 39: 673–80.

BBC News (2005). Q&A: EU's Lisbon Agenda. London, BBC. 2005.

Beautrais, A. (2005). National strategies for the reduction and prevention of suicide. *Crisis*, 26 (1): 1–3.

Becker, T., Hulsmann, S., Knudsen, H., Martiny, K., Ammadeo, F., Herran, A., Knapp, M., Schene, A., Tansella, M., Thornicroft, G. & Vazquez-Barquero, J. (2002). Provision of services for people with schizophrenia in five European regions. *Social Psychiatry and Psychiatric Epidemiology*, 37 (10): 465–74.

Bejean, S. & Sultan-Taieb, H. (2005). Modelling the economic burden of diseases imputable to stress at work. *European Journal of Health Economics*, 50: 16–23.

Berkels, H. & et al (2004). Mental health promotion and prevention strategies for coping with anxiety, depression and stress related disorders in Europe (2001–2003). Research Report 1001. Bremerhaven, Federal Institute for Occupational Safety and Health.

Berthoud, R. (2006). The employment rates of disabled people. London, Department of Work and Pensions.

Borsch–Supan, A. (2005). Work, disability and health. *Health, Ageing and Retirement in Europe. First Results from the Survey of Health, Ageing and Retirement in Europe*. A. Borsch–Supan, A. Brugiavini, H. Jurgeset al, Eds. Mannheim: Mannheim Research Institute for the Economics of Ageing.

Burns, T., Catty, J., Becker, T., Drake, R. E., Fioritti, A., Knapp, M., Lauber, C., Rössler, W., Tomov, T., van Busschbach, J., White, S., Wiersma, D. & the EQOLISE Group (2006). The effectiveness of supported employment for people with severe mental illness: a randomised controlled trial in six European countries. *Lancet, forthcoming*.

Carehealth (2004). Policies and premiums offered by private medical insurers. Available at www.carehealth.co.uk. Beaconsfield, Carehealth.

Central Statistics Office (2002). Quarterly National Household Survey Statistical Release, Disability in the Labour Force Second Quarter. Dublin, Central Statistics Office.

Commission of the European Communities (2004). The State of Mental Health in the European Union. Luxembourg, Commission of the European Communities: 86.

Commission of the European Communities (2005). Improving the mental health of the population: Towards a strategy on mental health for the European Union. Green Paper. Brussels, Health and Consumer Protection Directorate, European Commission.

Curran, C., Knapp, M., McDaid, D., Tomasson, K. & MHEEN Group (2006). Mental health and employment: an overview of patterns and policies across western Europe. *Journal of Mental Health, forthcoming*.

Daly, A., Walsh, D., Moran, R. & O'Doherty, Y. K. (2004). Activities of Irish Psychiatric Services 2003. Dublin, Health Research Board.

Dixon, A., McDaid, D., Knapp, M. & Curran, C. (2006). Financing mental health services in low and middle income countries: equity and efficiency concerns. *Health Policy and Planning, 21* (3): 171–82.

Gabriel, P. & Liimatainen, M.-R. (2000). *Mental health in the workplace*. Geneva, International Labour Organisation.

Gould, R. & Laitinen-Kuikka, S. (2003). *Current trends in disability pensions in Europe. Proceedings from a seminar held in Helsinki on 8 April 2003*. Helsinki: Finnish Centre for Pensions.

Harkonmaki, K., Lahelma, E., Martikainen, P., Rahkonen, O. & Silventoinen, K. (2006). Mental health functioning (SF-36) and intentions to retire early among ageing municipal employees: the Helsinki Health Study. *Scand J Public Health, 34* (2): 190-8.

Haro, J. M., Salvador-Carulla, L., Cabases, J., Madoz, V. & Vazquez-Barquero, J. L. (1998). Utilisation of mental health services and costs of patients with schizophrenia in three areas of Spain. *Br J Psychiatry, 173*: 334-40.

Haug, H.-J. & Rossler, W. (1999). Deinstitutionalisation of psychiatric patients in central Europe. *European Archives of Psychiatry and Clinical Neuroscience, 249*: 115-22.

Haut Conseil pour l'Avenir de l'Assurance maladie (2004). *Rapport du Haut Conseil pour l'Avenir de l'Assurance maladie*. Paris.

Herrmann, H., Saxena, S. & Moodie, R., Eds. (2004). *Promoting mental health: concepts, emerging evidence, practice*. Geneva: World Health Organization in collaboration the Victorian Health Promotion Foundation and the University of Melbourne.

Hosman, C., Jane-Llopis, E. & Saxena, S., Eds. (2004). *Prevention of mental disorders: effective interventions and policy options*. Geneva: World Health Organization in collaboration with the Prevention Research Centre of the Universities of Nijmegen and Maastricht.

Houtman, I. L. D. (2004). *Work-related stress*. Dublin, European Foundation for the Improvement of Living and Working Conditions: 33.

Hultberg, E. L., Glendinning, C., Allebeck, P. & Lonroth, K. (2005). Using pooled budgets to integrate health and welfare services: a comparison of experiments in England and Sweden. *Health and Social Care in the Community, 13* (6): 531-41.

Jane-Llopis, E. & Anderson, P., Eds. (2005). *Mental health promotion and mental disorder prevention across European Member States: a collection of country stories*. Luxembourg: Commission of the European Communities.

Jane-Llopis, E., Barry, M., Hosman, C. & Patel, V. (2005). Mental health promotion works: a review. *Promot Educ, Suppl 2*: 9-25, 61, 67.

- Johnson, S., Kuhlmann, R. & EPCAT Group (2000). The European Service Mapping Schedule (ESMS): development of an instrument for the description and classification of mental health services. *Acta Psychiatr Scand, Suppl 405*: 14–23.
- Karpansalo, M., Kauhanen, J., Lakka, T. A., Manninen, P., Kaplan, G. A. & Salonen, J. T. (2005). Depression and early retirement: prospective population based study in middle aged men. *J Epidemiol Community Health, 59*(1): 70–4.
- Kennelly, B., Ennis, J. & O'Shea, E. (2005). The economic cost of suicide and deliberate self harm in Ireland. *'Reach Out' a National Strategy for Action on Suicide Prevention* Eds. Dublin: Department of Health and Children.
- Kessler, R. C. & Frank, R. G. (1997). The impact of psychiatric disorders on work loss days. *Psychological Medicine, 27*: 861–73.
- Kilian, R. & Becker, T. (2006). Macro-economic indicators and labour force participation of people with schizophrenia. *Journal of Mental Health, forthcoming*
- Knapp, M., Funk, M., Curran, C., Prince, M., Grigg, M. & McDaid, D. (2006). Mental health in low- and middle-income countries: economic barriers to better practice and policy. *Health Policy and Planning, 21* (3): 157–70.
- Knapp, M., Mangalore, R. & Simon, J. (2004). The global costs of schizophrenia. *Schizophrenia Bulletin, 2*: 297–93.
- Knapp, M., Novick, D., Genkeer, L., Curran, C. & McDaid, D. (2003). Financing health care in Europe: context for the Schizophrenia Outpatient Health Outcomes Study. *Acta Psychiatrica Scandinavia Supplementum*(416): 30–40.
- Kovess, V., Caldas de Almeida Jose, M., Carta, M., Dubuis, J., Lacalmontie, E., Pellet, J., Roelandt, J.-L., Moreno-Kustner, B., Walsh, D. & Wiersma, D. (in press). Professional team's choices of intervention towards problems and needs of patients suffering from schizophrenia across six European countries. *European Psychiatry*.
- Laing W & Buisson (2003). Thriving private hospital market. London, Laing & Buisson.
- Lucey, S., Corcoran, P., Keeley, H. S., Brophy, J., Arensman, E. & Perry, I. J. (2005). Socio-economic change and suicide. A time series study from the Republic of Ireland. *Crisis, 26* (2): 90–94.

- Mann, J. J., Apter, A., Bertolote, J., Beautrais, A., Currier, D., Haas, A., Hegerl, U., Lonnqvist, J., Malone, K., Marusic, A., Mehlum, L., Patton, G., Phillips, M., Rutz, W., Rihmer, Z., Schmidtke, A., Shaffer, D., Silverman, M., Takahashi, Y., Varnik, A., Wasserman, D., Yip, P. & Hendin, H. (2005). Suicide prevention strategies. A systematic review. *Journal of the American Medical Association*, *294*: 2064–74.
- Marwaha, S. & Johnson, S. (2004). Schizophrenia and employment: a review. *Social Psychiatry and Psychiatric Epidemiology*, *39*: 337–49.
- Matschinger, H. & Angermeyer, M. (2004). The public's preference concerning the allocation of financial resources to health care: results from a representative population survey in Germany. *European Psychiatry*, *19*(8): 478–82.
- McDaid, D. (2006). Cost of suicide in Scotland. *in submission*.
- McDaid, D., Curran, C. & Knapp, M. (2005a). Promoting mental well-being in the workplace: a European policy perspective. *International Review of Psychiatry*, *17*(5): 365–73.
- McDaid, D., Knapp, M. & Curran, C. (2005b). Funding mental health in Europe. Copenhagen, European Observatory on Health Systems and Policies.
- McDaid, D., Knapp, M., Curran, C. & MHEEN Group (2004). Financing arrangements for mental health in western Europe. *Mental Health Economics European Network. Phase I final report to the European Commission* Eds. Luxembourg: European Commission.
- McDaid, D., Oliveira, M. D., Jurczak, K., Knapp, M. & the MHEEN Group (2006). Moving beyond the mental health care system: an exploration of the interfaces between health and non-health sectors. *Journal of Mental Health, this issue*.
- McDaid, D. & Thornicroft, G. (2005). Balancing institutional and community based care. Copenhagen, European Observatory on Health Systems and Policies.
- Monks, J., Strube, J., Reckinger, P. & Plassman, R. (2004). Framework agreement on work related stress. Brussels, European Social Partners.
- Nordentoft, M., Laursen, T. M., Agerbo, E., Qin, P., Hoyer, E. H. & Mortensen, P. B. (2004). Change in suicide rates for patients with schizophrenia in Denmark, 1981–97: nested case-control study. *Bmj*, *329*(7460): 261.
- O'Dea, D. & Tucker, S. (2005). The Cost of Suicide to Society. Wellington, New Zealand Ministry of Health.

Office of the Deputy Prime Minister (2004). Mental health and social exclusion. Social Exclusion Unit report. London, Office of the Deputy Prime Minister.

Organisation for Economic Co-operation and Development (2003). *Transforming disability into ability: policies to promote work and income security for disabled people*. Paris: OECD.

Parker, C. (2005). Developing mental health policy: a human rights perspective. *Mental health policy and practice across Europe*. M. Knapp, D. McDaid, E. Mossialos and G. Thornicroft, Eds.: McGraw-Hill.

Platt, S., Halliday, E., Maxwell, M., McCollam, A., McLean, J., Woodhouse, A., Blamey, A., Mackenzie, M. & McDaid, D. (2006). Evaluation of the first phase of Choose Life. Final Report. Edinburgh, Scottish Executive.

Priebe, S., Badesconyi, A., Fioritti, A., Hansson, L., Killian, R., Torres-Gonzales, F., Turner, T. & Wiersma, D. (2005). Reinstitutionalisation in mental health care: comparison of data on service provision from six European countries. *British Medical Journal*, 330: 123–26.

RFV (2003). Långtidssjukskrivna – egenskaper vid 2003 års. [Characteristics of long-term hospital admissions in 2003], RFV-LS-undersökning.

Salvador-Carulla, L., Garrido, M., McDaid, D. & Haro, J. M. (2006). Financing mental health in Spain: context and critical issues. *European Journal of Psychiatry*, 20 (1): 29–44.

Salvador-Carulla, L., Tibaldi, G., Johnson, S., Scala, E., Romero, C. & Munizza, C. (2005). Patterns of mental health service utilisation in Italy and Spain. An investigation using the European Service Mapping Schedule. *Social Psychiatry and Psychiatric Epidemiology*, 40: 149–59.

Sartorius, N. (2002). Iatrogenic stigma of mental illness. *British Medical Journal*, 324: 1470–71.

Schneider, J. (2005). Getting back to work: what do we know about what works? *New Thinking about Mental Health and Employment*. B. Grove, J. Secker and P. Seebohm, Eds. Oxford: Radcliffe Publishing Limited.

Scott, S., Knapp, M., Henderson, J. & Maughan, B. (2001). Financial cost of social exclusion: follow up study of antisocial children into adulthood. *British Medical Journal*, 323 (7306): 191.

Sutherby, K., Szmukler, G. I., Halpern, A., Alexander, M., Thornicroft, G., Johnson, C. & Wright, S. (1999). A study of 'crisis cards' in a community psychiatric service. *Acta Psychiatr Scand*, 100 (1): 56–61.

Thomas, C. & Morris, S. (2003). Cost of depression among adults in England in 2000. *British Journal of Psychiatry*, 183: 514–19.

Thornicroft, G. & Tansella, M. (2004). Components of a modern mental health service: a pragmatic balance of community and hospital care. Overview of systematic evidence. *British Journal of Psychiatry*, 185: 283–90.

Tomov, T., Puras, D., Van Voren, R. & Keukens, R. (2005). Mental health policy in former Eastern bloc countries. *Mental health policy and practice across Europe*. M. Knapp, D. McDaid, E. Mossialos and G. Thornicroft, Eds.: McGraw–Hill.

Varekamp, I. (2004). Ulysses directives in the Netherlands: opinions of psychiatrists and clients. *Health Policy*, 70: 291–301.

Walsh, D. & Daly, A. (2004). Mental Illness in Ireland 1750 – 2002. Reflections on the rise and fall of institutional care. Dublin, Health Research Board.

Wittchen, H.–U. & Jacobi, F. (2005). Size and burden of mental disorders in Europe – a critical review and appraisal of 27 studies. *European Neuropsychopharmacology*, 15: 357–76.

World Health Organization (2001). The world health report 2001 – Mental Health: New Understanding, New Hope. Geneva, World Health Organization.

World Health Organization (2004). Changing History. The World Health Report 2004. Geneva, World Health Organization.

World Health Organization (2005a). Atlas. Mental health resources around the world. Geneva, World Health Organisation.

World Health Organization (2005b). Mental Health Action Plan for Europe. Facing the Challenges, Building Solutions. Copenhagen, World Health Organization.

World Health Organization (2005c). Mental Health Declaration for Europe. Facing the Challenges, Building Solutions. Copenhagen, World Health Organization.

World Health Organization (2005d). Suicide prevention website. Geneva, World Health Organization. **2005**.

Wynne, R. & MacAnaney, D. (2004). Employment and Disability: Back to Work Strategies. Dublin, European Foundation for the Improvement of Living and Working Conditions: 128.

Zechmeister, I. & Osterle, A. (2006). Distributional impacts of mental health care financing arrangements: a comparison of the UK, Germany and Austria. *Journal of Mental Health Economics and Policy*, 9: 35–44.

4. Screening of communicable diseases in the EU: TB and HIV/AIDS. Special focus on immigration

Key points:

- While overall prevalence of HIV in the EU is relatively low, this should be no cause for complacency. Incidence of HIV is increasing in certain high risk groups and in late 1990s a country bordering the EU, Russia, experienced the fastest growing the HIV epidemic the world had yet seen. Although overall rates have fallen in Europe, TB incidence has increased in certain countries, notably the UK. Since increasing rates of HIV and TB in many countries are in part attributable to cases among new entrants, immigrants are frequently targeted in screening campaigns
- Some countries continue with testing and vaccination of school children while others have abandoned this policy or are in the process of doing so. Seven countries do not use BCG systematically
- Some countries have no specific policy regarding TB screening in new entrants, some have comprehensive policies and some have legal requirements for TB screening (Malta, Latvia, the Netherlands, France and the Czech Republic fall into the latter category)
- HIV screening policies during pregnancy have been adopted most EU countries
- Bulgaria, Belgium, some parts of Germany, Cyprus, Greece, Spain, Estonia, Latvia, Hungary all have requirements for HIV testing for immigration. Countries conducting mandatory screening and/or refusing entry to people living with HIV/AIDS do so despite the International Guidelines on HIV/AIDS and Human Rights
- Differences in TB and HIV screening policies in the population and in high risk groups may be due to cultural differences between countries and the lack of clarity on both the public health benefits and cost effectiveness of the different approaches
- In light of the limited evidence supporting the policy of screening immigrants on arrival in order to decrease national incidence of TB and HIV, countries may experience greater success with controlling these and other diseases by considering broader and more integrated national strategies on immigrant health

4.1 Overview of TB and HIV in Europe

The successful control of smallpox and polio in the 1950s and 1960s was cause for optimism in the international medical establishment. It supported the theory of the epidemiological transition; the industrialised world has passed through and left behind the era of pandemics, chronic diseases taking their place as the primary public health challenge. However, this optimism is being challenged by (1) emergence of new infectious diseases; (2) re-emergence of old infectious diseases; and (3) persistence of intractable infectious diseases. 18 new human

pathogens were recognised in the last two decades alone (NIAID 2006), SARS, a deadly form of pneumonia, perhaps attracting the most attention worldwide. The most important new communicable disease to emerge in the 20th century, however, was HIV/AIDS, with an estimated 38.6 million people worldwide living with HIV at the end of 2005. While overall prevalence in the EU is relatively low, this should be no cause for complacency since incidence of HIV is increasing in certain high risk groups and in late 1990s a country bordering the EU, Russia, experienced the fastest growing the HIV epidemic the world had yet seen (UNAIDS 2006). Among the re-emerging infections, tuberculosis is the greatest contributor to human mortality. Although overall rates have fallen in Europe, TB incidence has increased in certain countries, notably the UK.

4.2 Screening for infectious diseases

In response to the resurgence of infectious disease, there has been a renewal of interest in screening for TB, HIV and other sexually transmitted infections in Europe. The concept of screening in health care – that is, actively seeking to identify a disease or pre-disease condition in individuals who are presumed and presume themselves to be healthy – is one that grew rapidly during the twentieth century and is now widely accepted in our society. It can be a powerful tool in the prevention of disease, although is essential to observe the long-established principles and criteria and resist the introduction of screening practices that do not meet these requirements (See Table 4.1). (For a general discussion of these requirements and screening in health care in Europe refer to the Health Status and Living Conditions in an Enlarged Europe report 2005).

TABLE 4.1 SUMMARY OF CRITERIA FOR SCREENING

Category	Criteria
Condition	The condition sought should be an important health problem whose natural history, including development from latent to declared disease is adequately understood. The condition should have a recognisable latent or early symptomatic stage.
Diagnosis	There should be a suitable diagnostic test that is available, safe and acceptable to the population concerned. There should be an agreed policy, based on respectable test findings and national standards, as to whom to regard as patients, and the whole process should be a continuing one
Treatment	There should be an accepted and established treatment or intervention for individuals identified as having the disease or pre-disease condition and facilities for treatment should be available.
Cost	The cost of case-finding (including diagnosis and treatment) should be economically balanced in relation to possible expenditure on medical care as a whole.

While some form of screening for both TB and HIV occurs at a population level in several EU countries (for example screening all school children or all pregnant women), in many countries the emphasis is on screening smaller high-risk groups, selected according to sub-national epidemiological patterns. Since increasing rates of HIV and TB in many countries are in part attributable to cases among new entrants, immigrants are frequently targeted in screening campaigns. In light of this, the screening of immigrants is a special focus of this report.

Human migration has been the source of epidemics throughout history and concerns that diseases are imported from abroad are not new. Such concerns are often fuelled by the stigma associated with infectious disease though and are not necessarily based epidemiological evidence. For example, the influenza pandemic in 1918 was named the “Spanish flu” by the British, but the “French flu” by the Spanish, no country perceiving itself as the source of the outbreak which caused an estimated 20–40 million or more deaths worldwide. Today, while it is undeniable that increased population movement is a potent force in the reemergence of infectious disease, there is a danger of political and socio-cultural concerns overshadowing epidemiological evidence about the origin of disease outbreaks and how they spread in the process of policy development. Furthermore, in the context of wider concerns about the availability of resources to support the welfare state, fears about “health care tourism” also impact policy debates on public health (see Box 4.1).

Box 4.1 PROPOSALS FOR ENTRY RESTRICTIONS ON GROUNDS OF PUBLIC HEALTH CONCERNS IN THE UK

In 2003 the Conservative Party in the UK published a consultation paper entitled *Before It's Too Late: A new agenda for public health* (2003) which advocates that before individuals are given permission to remain in the UK ‘three tests must be met’:

1. They must not pose a risk of transmitting an infectious disease to the public
2. They must not create undue demand on restricted health resources
3. They must not create a long-term drain on the public purse (The Conservative Party 2003).

Therefore, as well as providing an overview of TB and HIV screening policies in the EU and analysis of whether they correspond with established criteria for screening, this report reviews policies and evidence relating to the relationship between immigration and TB and HIV/AIDS in Europe.

4.3 Screening for TB

In most EU countries, tuberculosis morbidity among the native population has declined dramatically in the twentieth century, although notification data indicate that the regular decline previously observed slowed down or was halted in several low-incidence countries in Europe in the 1990s, such as the Netherlands (Broekmans et al 2002). More recently in the United Kingdom, notification rates have been increasing progressively in cases aged 15–44 years, most of whom were of foreign origin in 2004 (EuroTB 2006) (see section 2.3.2 in *Part One* of this

report for further statistical information). Tuberculosis is often concentrated in large cities that have higher rates of human immunodeficiency virus (HIV), immigration, homelessness and overcrowding than other areas (Hayward et al 2003). For example in the UK, London accounted for over 40% of all reported cases in 2004 (Story et al 2006).

Although there are significant differences between countries, resurging TB in low incidence countries can be explained by three main factors: the gradually increasing relative and absolute importance of the importation of latent tuberculosis infection and tuberculosis from other countries with a high incidence of tuberculosis; the emergence of groups at particularly high risk of tuberculosis (e.g. HIV- infected patients, homeless persons, prisoners in certain settings, etc.); and the importation of drug-resistant and, particularly, multidrug-resistant tuberculosis from eastern European countries (Hayward et al 2003, Broekmans et al 2002).

The framework for tuberculosis control and elimination in countries with a low incidence of disease (Broekmans et al 2002) makes the case that in order to ensure that each generation will continue be replaced by a generation with less and less infection, it is essential to minimize the risk of new generations becoming infected through early identification and cure of newly emerging transmitters of infection, i.e. infectious cases. Furthermore, should they become infected, their infection must be prevented from progressing to overt disease. This combined approach is recommended as part of a strategy to progress towards elimination of tuberculosis from Europe.

The framework recognizes that case-finding limited to symptomatic individuals presenting to health services is commonly considered the most cost-effective approach but argues that a more aggressive approach in countries with low incidence of tuberculosis is nevertheless justified. Riskgroup management involves active rather than solely opportunistic case-finding, aimed at detecting both those with active disease and with latent infection. Specifically, the framework recommends active screening by chest radiography and tuberculin testing among residents and staff in institutional settings such as jails and prisons, hospitals, nursing homes/long-term residential homes for the elderly and shelters for the homeless and for new immigrants. In high-risk groups, the proposed targets are high; to screen 95% of the population at risk and to treat 95%. According to the framework, these activities need to be in concert with provision of effective treatment, preventive therapy and outbreak management as appropriate.

The framework also recommends evaluating the cost-effectiveness of national BCG vaccination programmes (a form of screening, since TB tests are carried out prior to BCG vaccination in people older than 12 months of age; this test is used to determine whether they require the vaccination) in low-incidence countries continuing its use and highlights the need for selective BCG immunization programmes/policies if case universal vaccination is discontinued.

4.3.1 National screening of TB in Europe¹⁹

Low-incidence countries in Europe follow the framework recommendations to varying degrees. In **Austria**, until 2000 the general vaccination-plan recommended inoculation against TB. Now only specific risk groups (e.g. hospital employees) are vaccinated though. In **Finland** the national policy on screening for TB is opportunistic i.e. it is based on identified cases. In **Portugal**, all newborns are vaccinated, but screening is opportunistic. In **Germany**, the Infectious Diseases Act of 2000 has modified the target groups of TB screening. Teachers and many other professional groups dealing with the public are no longer routinely screened for TB, while elderly moving to an elderly home and people seeking asylum are now to be screened for TB.

In **Sweden** there is no national screening program for TB. General vaccination ceased in 1975, and since then children have been protected by means of targeted action instead. In every case of TB, an analysis of the infection is carried out for survey purposes, and children who have come into close contact with the sick person are vaccinated. Vaccination is also recommended for all children of immigrants from countries where TB is more prevalent than it is in Sweden, as well as for children travelling to such countries and who will be living in close contact with the local population. All asylum seekers are offered a tuberculosis skin test (TST) at their first health check up, as are pregnant women if their history suggests they might be considered in the risk of having TB. The National Board of Health and Welfare in 1990 released guidelines on preventive measures concerning Tuberculosis but these are currently under revision.

In **Malta**, the *School Medical Service* that forms part of the *Primary Health Care Department* offers TB screening with Mantoux and BCG vaccination to all school children in 12–13 years of age. The *Chest Unit* of the Department of Public Health screens immigrants in Malta for TB with a Mantoux test. TB screening, active surveillance and control strategies are funded entirely by the public health care system. In **England and Wales**, new entrants are tested for TB. Until 2005, all school children aged 10–14 were tested for TB prior to receiving the BCG vaccination, but this policy has now been abandoned. Neonatal (BCG) vaccination for any baby at increased risk of TB (if a parent or a grandparent was born in a high-incidence country) is offered. Guidelines recommend that primary care organizations with a high incidence of TB should consider vaccinating all neonates soon after birth. The Mantoux test has replaced the Heaf test as the standard method of tuberculin skin testing. In **Greece** the International Union Against Tuberculosis and Respiratory Diseases (IUALATD) and the World Health Organization (WHO) have launched guidelines to promote anti-TB vaccination programmes. Emphasis is given to the vaccination of the following high-risk groups: immigrants; neonates whose mothers have been infected with HIV; family members of people with recognized tuberculosis; and Romany people. For the age groups of 12–15 months, 4–6 and 11–12 years Mantoux testing and vaccination is recommended. In **Ireland**, there is a vaccination against TB, with the BCG injection which is administered to all children in the first few months of life. It is not opportunistic.

¹⁹ Information is based on country-experts reports.

Turning to central, eastern and southeastern Europe, in the **Czech Republic**, health care workers in TB settings, TB laboratory personnel, students entering medical schools and persons entering correctional facilities are regularly screened for TB using a TST. BCG vaccination is obligatory and children aged 11 are screened. If they present negative result, they are re-vaccinated. Migrants in asylum camps are screened at entry with TST. There is a limited programme for screening of homeless people (x-rays screening for active TB) with incentives. TB screening is paid by health insurance. **Hungary** conducts screening based on a defined population register with a system for targeting and recalling individuals (aged 18+, on a yearly basis). Such a screening system operates only for TB. In 2003 134 stable and 48 mobile pulmonary screening stations were operated, and 3,717,518 screenings were carried out (43% of the adult population was screened).

Slovakia has a national policy on screening for TB and there has been a National TB register since 1988 to notify all cases. The groups targeted are: new-borne children; children in age 6; migrants; prisoners; and the older population, living in retirements homes. All costs are covered by health insurance. In **Slovenia**, there is a national policy of screening for TB. Vaccination of infants against TB was abolished in 2005 after a continued decline in incident cases over the past years. Now it is only done in cases of contacts or high risk of exposure. Screening will continue for children of school age at entry and at the end of elementary education. There is a register and targeting and recalling patients is possible. All preventative, diagnostic, treatment and rehabilitation services related to infectious diseases are fully reimbursed by the national health insurance and fully included in the basic services package.

In **Turkey**, there is a national policy for screening, monitoring and treating TB. TB prevention and control is carried out by the TB dispensaries and "*Fight against TB Associations*". National policy on screening TB is based on a defined population which includes primary school children (between 7–11 years of age), registered sex workers (once a year), and men conducting their compulsory military service (20–41). TB screening is also a procedural requirement for all job applications associated with joining any of the existing insurance schemes. TB screenings of primary school children and sex workers are financed from the government budget. Although all other beneficiaries have to pay for the TB test, the amount paid for this service at tuberculosis dispensaries is symbolic.

Estonia, Latvia, Lithuania and Romania are considered high burden countries with high priority for TB control by the WHO Regional Office for Europe for the prevention and control of TB (Veen and Godinho 2006). As such, a different emphasis on prevention and control strategies is recommended in these countries than in low-incidence countries, with increased importance attached to improving effectiveness of treatment and combating multidrug resistance (MDR) (EuroTB 2006). **Latvia** employed the WHO TB control strategy (for high incidence countries) to form the basis for the *National Tuberculosis Control Programme* aimed at diagnostics, treatment and prevention. TB diagnosis works on two levels: GPs provide annual examinations

of their patients (passive recognition); and check-up of the contact persons and patient high risk groups, e.g. prisons and immigrants, (active recognition). Patient recall is based on the TB patient register and patients are examined two years after the recovery. In addition to screening, *The State Agency of TB and Lung Diseases of Latvia* (SATLD) manages the *Latvian National TB Programme*, initiated in 1995, before the rest of the FSU adopted the WHO DOTS²⁰ strategy. The SATLD is a treatment, teaching and research facility with training in all aspects of TB management and control, including role of PHC, laboratories and surveillance. By 1999, nearly 95% population was covered by DOTS with 72% cure rate (compared to the WHO global target of 85%). Latvia was the first country in the region to perform large-scale treatment of MDR-TB patients according to WHO's DOTS-Plus strategy, with 200–250 patients annually being treated with drugs funded by the Latvian government. In **Lithuania** there is a national policy of selective tests on tuberculosis. Tests are performed for people with prolonged cough syndrome or other symptoms using microscopic analysis of expectoration. DOTS has been adopted. Tests are financed by the State Sickness fund.

In **Romania**, there has traditionally been massive TB screening. Thousands of people are screened by an X-ray examination: children entering to kindergarten and their parents, soldiers and recruits, teachers in schools every year, couples before receiving a marriage certificate, prisoners; and all workers in the food industry or those who are handling food need to have a yearly X-ray examination as well as all employees when entering into a new employment (costs borne by employer in these cases). Marrying couples and parents and their kindergarten children have to support the cost of the chest X-Ray. However, the *National Strategy for TB control*, introduced in 2000, is challenging this massive screening as ineffective, recommending a revision of the screening policy. As a result, more focused screening has started taking place, targeting well defined populations such as ethnic minorities with high TB incidence, prisoners and institutionalised people. This screening includes sputum smear bacteriological examination. Currently an evaluation of the period 2001–2005 is taking place with the support of WHO and the *Global fund for AIDS/TB and Malaria*.

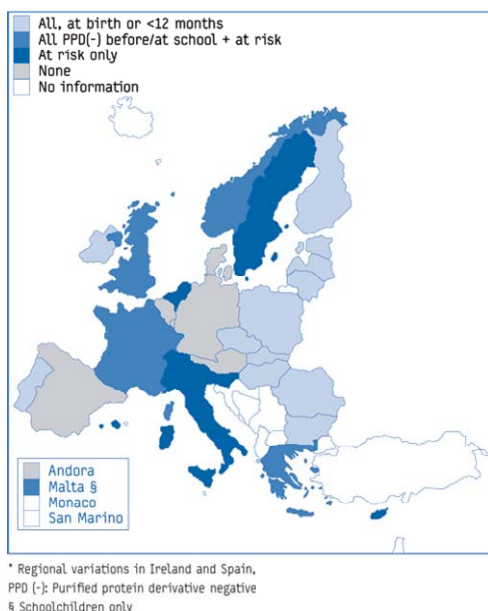
4.3.2 BCG policies

In 2005, all 25 EU countries, as well as Andorra, Bulgaria, Norway, Romania and Switzerland, participated in a survey on BCG vaccination in children (Infuso and Falzon 2006). The survey found that BCG was recommended nationally for children under 12 months in 12 countries, in older children in five countries and in children at risk (from origin, contact or travel) in 10 countries. Seven countries did not use BCG systematically (see Figure 4.1). In countries with universal vaccination, BCG coverage was high (83.0% to 99.8%). TB cases commonly occurred in

²⁰ DOTS, a TB control strategy launched by WHO in 1995, calls for: political commitment with increased and sustained financing; case detection through quality-assured bacteriology; standardized treatment with supervision and patient support; an effective drug supply and management system; monitoring and evaluation system, and impact measurement. DOTS stands for "directly observed treatment short course".

vaccinated children (at least 30%–98% in five countries using the universal or high-risk approach), although revaccination has not been found to be effective in preventing TB.

Figure 4.1 Groups of children targeted in national BCG recommendations



Source: Reproduced from Infuso and Falzon 2006

4.3.3 Screening immigrants for TB

In most EU countries, between 1998 and 2004 there has been an increase in the proportion of cases of foreign origin from 30% to 40%, since the average annual decrease in the numbers of cases was more marked in nationals than in cases of foreign origin (EuroTB 2006). In a few countries, overall notification rates of cases of foreign origin have been increasing, notably in the United Kingdom (EuroTB 2006). In light of this trend, the screening of immigrants for TB has become the subject of renewed attention in policy analysis. The first comparative surveys of TB screening practices for immigrants in Europe were completed only recently and found that approaches to screening immigrants to European countries for tuberculosis vary widely across Europe (Coker et al 2006, Coker et al 2004, Hayward et al 2003).

TABLE 4.2 COUNTRIES WITH TB SCREENING PROGRAMMES FOR NEW ENTRANTS IN THE EU*

Country	Legal Requirement	National Guidance	Screening location	If latent TB identified, course of action	BCG offered?
MT	Y	Y	Refugees, asylum seekers, illegal immigrants, students, prisoners and adopted children at chest unit	Preventive treatment given	BCG offered if <45 years and not vaccinated before
BE	N	Y	Asylum seekers at port of entry Refugees and asylum seekers at reception/holding centres or in the community	Preventive treatment offered. Clinical and CXR follow-up. Patient given advice	No action except asylum seekers staying in reception/accommodation centres given health education sessions on TB
LV	Y	Y	Refugees and asylum seekers in the community	Preventive treatment offered <15 years	No action
NL	Y	Y	Refugees and asylum seekers at camps or community centres. Immigrants in the community from high-risk countries	<12 years, if positive TST and CXR normal, preventive treatment offered. Others followed up	BCG offered if positive TST
England, Northern Ireland	N	Y	Refugees and asylum seekers in the community or port of entry (on UK mainland). Other new entrants also screened	England: Preventive treatment offered to under 16 if grade 2 or greater. Considered in 16-34 years if grade 3 or 4 Northern Ireland: Preventive treatment offered if <34 years and positive TST	England: BCG offered if <16 years with negative TST Northern Ireland: BCG offered if negative TST and <16 years old Patient given advice
DK	N	Y	Refugees and asylum seekers at reception/holding centres	Patient given advice	No action
EL	N	N	Refugees in hospitals Asylum seekers in reception/holding centres	Preventive treatment offered	No action
FR	Y	N	Refugees, asylum seekers and workers at reception/holding centres	No action. <15 years sent to hospital for preventive treatment	Given advice
PT	N	N	Refugees at reception/holding centre	Preventive treatment offered. Follow-up with CXR. Patient given advice	BCG offered and patient given advice
CZ	Y	Y	Refugees and asylum seekers at reception/holding centres	Clinical follow-up. Given advice	Given advice No action

TST = tuberculin skin test; CXR = chest X-ray; BCG = bacille Calmette-Guérin immunisation.

*Potential respondents in 51 European countries were contacted. Of these, 26 responded. Of the 26 respondents, 13 carried out no specific tuberculosis screening for new entrant groups: Austria, Romania, Yugoslavia, Krygystan, Spain, Italy, Hungary, Poland, Turkey, Albania, Moldova, Bulgaria and Croatia. Thirteen countries had a screening programme for new entrants.

Source: Adapted from Coker et al 2004

A study of 20 cities in 11 European countries²¹ (Hayward et al 2003) also identified a diversity of policies. It found that although most cities attempted screening of new entrants, Rome and the cities studied in Portugal, Greece and Denmark did not. There was also little consistency in the types of treatment offered to those with evidence of latent infection. However, free treatment was said to be available to all patients if required, except in Italy, where there was no free treatment for illegal immigrants. In London, even though treatment is theoretically free to patients on very low income, other patients just above this income level need to pay separate prescription charges for each drug prescribed. The study argues that some new entrants do not have the necessary paper work or language skills to complete forms for free prescriptions, and thus prescribing costs can be an important barrier to treatment in some groups. Eight cities had the option of compulsory treatment. Compulsory admission for poorly compliant patients was also possible in all cities except Antwerp, Brussels, Copenhagen, Aarhus and Paris, although powers to enforce this were very rarely used (Hayward et al 2003). The most common point at which to carry out screening was at specialist local clinics.

4.3.4 Discussion

That policies in the Baltic states, Romania and some central and eastern European countries differ from other EU countries is to be expected, given the greater incidence of TB in these countries. However, there also appears to be diversity between low-incidence countries in western Europe and CEE. Some countries continue with testing and vaccination in all neonates or school children while others have abandoned this policy. The 2005 BCG (Infuso and Falzon 2006) survey found that there is a wide variation among BCG recommendations in Europe, and nearly half the countries surveyed were considering revisions, at a time when the European Centre for Disease Prevention and Control is advocating for harmonised vaccine strategies. It also found that data on monitoring of BCG coverage in target groups is often lacking in Europe. It recommends that information on BCG status and eligibility should be collected routinely through TB case notification.

There are also differences in Europe in the type of test used. These differences may be due to the lack of clarity on the cost effectiveness of the different approaches to TB screening. While the framework for tuberculosis control and elimination in countries with a low incidence of disease (Broekmans et al 2002) recommends that the selection of the special groups targeted for screening is to be based on cost-effectiveness evaluation, it recognizes the limitation of this, namely that studies investigating cost-effectiveness of active screening are not yet available in Europe. The cost-effectiveness of screening is identified as an urgent issue to be addressed. Since the publication of the framework, the Royal College of Physicians in the UK (2006) published a guideline on the clinical diagnosis and management of tuberculosis and

²¹ The study sites were: Belgium (Antwerp, Brussels); Denmark (Copenhagen, Aarhus); Finland (Helsinki); France (Paris); Greece (Athens, Thessalonica); Iceland (Reykjavik); Ireland (Cork, Dublin); Italy (Milan, Rome); The Netherlands (Amsterdam, The Hague); Portugal (Lisbon); United Kingdom (Belfast, Cardiff, Glasgow, London).

measures for its prevention and control which featured a cost effectiveness study on universal screening of TB in schools. The study found that the schools programme was not cost effective, and was in fact extremely expensive with an incremental cost-effectiveness ratio between £696,000 and £767,000 for low risk individuals.

There is also a diversity of approaches to TB screening in relation to new entrants in European countries and cities. Some countries have no specific policy regarding TB screening in new entrants, some have comprehensive policies and some have legal requirements for TB screening (Malta, Latvia, the Netherlands, France and the Czech Republic fall into the latter category). Screening locations vary, as does the course of action if latent TB is identified (see Table X). Furthermore, no two countries take the same clinical approach to the detection of tuberculosis disease and infection²² (Coker et al 2004). Furthermore, it is not always clear from studies to what extent screening policies are enforced, and if screening is compulsory, conditional or voluntary. Alongside lack of cost effectiveness analyses as described above, part of the variation in policy reflects differences in the epidemiology of TB in different countries. Transmission rates between immigrant groups and the autochthonous population vary from country to country, since many different factors may influence the magnitude of active transmission. For example, in Denmark, transmission between Danes and Somalis, who represent 38.6% of all immigrants in Denmark and whose country of origin has one of the highest TB rates in the world, is nearly nonexistent (0.9%) (Lillebaek et al 2001). Thus while those individuals in whom tuberculosis is identified early can benefit from treatment, little evidence exists to show that early detection of tuberculosis in foreign born individuals conveys appreciable public health benefit to those born in the host country. If the health of immigrants is the cause for concern, it has been argued that then this should be an explicit rationale (Coker 2004).

Even in countries where there is a higher transmission rate between immigrants and local populations, the notion that screening immigrants detects those with the disease and therefore benefits public health is not straightforward. Although increases in rates of tuberculosis may be associated with immigrants, or immigrants may account for an increasing proportion of cases, it has been argued that this does not translate into a cogent argument in favour of screening new entrants (Coker 2004). For example, in the Netherlands it has been found that most active tuberculosis infections appear sometime *after* immigration and high incidence in immigrant populations can persist a decade after immigration (Van Burg et al 2003). Thus although 17% of the TB cases among the resident Dutch population were attributable to active transmission from non-Dutch source cases (van Wolleswinkel et al 2002, Borgdorff et al 1998), screening before or on arrival would not necessarily prevent onward transmission.

Practical problems such as treatment and follow-up in immigrants who have just arrived and are unsettled have also led to questions about the effectiveness of such schemes (Feil et al

²² These include screening tools such as chest X-ray, tuberculin skin tests, clinical history and physical examination

2004). Attendance rates for screening have been found to be lower and costs of screening higher in special “vertical” TB screening schemes for new entrants as compared to screening of new entrants in a general primary care setting (Bothamley et al 2002). Another important practical problem in screening for active tuberculosis is that the tool used, mainly the chest x ray, results in large numbers of false positive results, which can incur substantial human and capital cost (Eurosurveillance Weekly 2004). The reported lack of treatment in France and Italy and the possible financial constraints to treatment in the UK are particularly worrying.

BOX 4.2 PRACTICAL PROBLEMS WITH FOLLOW-UP AFTER SCREENING

In Malta, because of very poor compliance among immigrants, preventive treatment for TB is now being offered in a targeted manner to migrant schoolchildren and to those immigrants with abnormal chest x-rays findings consistent with a history of TB. Any immigrant who wishes to be tested for TB infection and offered preventive treatment is free to do so. Preventive treatment is offered and can be refused by the patient. Patients with active tuberculosis are given treatment free of charge. Treatment is supervised daily by a nurse to make sure that it is taken properly and regularly (DOT).

Since screening takes often place in reception/holding centres, types of providers of TB control services in these contexts can be assumed to vary. For example while the Danish Red Cross is responsible for the health condition of asylum seekers routinely offered health screening when arriving in Denmark, a private commercial contractor Veritas is contracted to deliver health care in immigration detention centres in England. Regulation of these different types of service providers is an important issue which has not been investigated at a pan-European level, at least in relation to TB control. A clear and well organised approach to treatment is a key criterion of effective screening. In the case of TB, this is particularly vital in order to prevent drug resistance.

4.4 Screening of HIV

In 2004, 184 newly diagnosed cases of HIV infection were reported in 23 EU countries (excluding Italy and Spain), representing a rate of 68 HIV infections per million population. The most affected were Estonia and Portugal, Latvia, Luxembourg and United Kingdom where there were more than 100 new infections per million population. In the Baltic states the HIV epidemic has been concentrated amongst injecting drug users (EuroHIV 2005). In western Europe the predominant transmission mode is heterosexual contact. The proportion of heterosexually acquired cases of infection in persons known to originate from countries with generalized HIV epidemics is high in many countries, but varies across Europe – from 22% in Portugal to 71% in Belgium and Sweden (EuroHIV 2005). This reinforces the need to ensure that prevention and care services are adapted to reach migrant populations in Europe, although targeting these populations only would by no means be sufficient. The number of HIV reports among men who have sex with men (MSM) from 14 western European countries also increased (EuroHIV 2005).

Furthermore, the number of diagnoses of HIV infection in people who are thought to have acquired their infection through heterosexual intercourse in the autochthonous European population is rising in the UK (The UK Collaborative Group for HIV and STI Surveillance 2005). Further statistics on HIV incidence and prevalence are presented in section in 2.3.1 on sexually transmitted infections *Part One* of this report.

4.4.1 National HIV/AIDS screening in Europe²³

UNAIDS advocates a policy of voluntary counselling and testing (VCT) (UNAIDS 2001) and the European Commission has reinforced this by recommending European countries to implement VCT (EC 2005). The aims of VCT are: prevention of HIV transmission by HIV positive people; prevention of HIV acquisition by HIV negative people; early and appropriate uptake of service by positive tested people and help with counseling for adherence to therapies. VCT is also reported to have societal benefits, including normalization of HIV, challenging stigma, promoting awareness, and supporting human rights (UNAIDS 2001). Although it can be assumed that VCT services are offered in all European countries, not all European countries have fully bought into the policy (see box 2).

BOX 4.3 DISCREPANCIES IN APPLYING THE PRINCIPLES OF VCT IN EUROPE: BELGIUM AND GERMANY

While it might seem obvious that VCT is an important strategy for the prevention and control of HIV/AIDS, it has not always been adhered to in Europe. For example, a Belgian study of a GPs surveillance system between 1993 and 2000 found that 453 HIV tests were (illegally) performed without patient consent (ie they were not voluntary). This corresponds to 3.9% of all tests performed (Devroey et al 2003).

In Germany national policy does not encourage HIV testing, but rather focuses on practical protection messages (condoms, risk prone situations, negotiation skills) as well as solidarity with those affected. German public education encourages only voluntary counselling but does not proactively promote testing (see the web site of the Federal Centre for Health Education (BzgA 2006)). It is considered this approach avoids any false sense of security and the misleading use of “health certificates” leading to a reduction in safe behaviour. For the same reason testing was even discouraged among homosexuals in the early and mid 1990s.

There are increasing calls by public health authorities and policy-makers to modify or abandon the well established model of VCT for HIV in favour of models that do not necessarily preserve the elements of informed consent, pre- and post-test counselling and confidentiality of test results, more aligned to the concept of HIV screening, or “routine testing”. This may mean that everyone in a given setting or circumstances is tested without regard to individual consent. Other approaches that have been considered include “opt-out testing” (i.e., the default option

²³ Information is based on country-experts reports.

in a given situation is to test everyone unless a person clearly opts out, which in some cases may require or give the impression that a person must demonstrate a reason for not being tested); and “provider-initiated testing” (generally understood as synonymous with “opt-out testing”) (Candaian HIV/AIDS legal network 2005). However, there are no established principles on these forms of HIV screening and, perhaps for this reason, approaches to HIV screening in Europe vary widely.

In the **UK**, HIV screening is compulsory for blood and organ donors. Since 1999 it has been offered to all women in the early stages of pregnancy with clear referral paths for positive cases and. Over 90% of HIV-infected pregnant women had their infection diagnosed prior to delivery in 2004 meaning that the risk of passing HIV to their newborn infants was greatly reduced through treatment (HPA 2005). This is a big improvement on the 1997 figure, when only 13% of undiagnosed HIV infection in pregnant women was picked up on antenatal testing, resulting in many preventable paediatric infections (Ades et al 1999). HIV screening is also offered to pregnant women in **Finland, Portugal, Ireland, Sweden, the Netherlands and France** although it is not compulsory. It is encouraged in **Germany**. In **France** screening is compulsory for donors of blood, organs, sperm or milk.

Turning to CEE, in the **Czech Republic**, HIV screening is compulsory for donors of blood, organs or any biological material and for pregnant women. In **Estonia**, it is compulsory during pregnancy, when entering the military service and for prisoners. In **Latvia**, the target population includes pregnant women, individuals to be recruited for military service, those involved in the national armed forces and international peace maintenance, and prisoners. In **Lithuania** there is screening among people from high risk groups and pregnant women. In **Slovenia**, HIV screening is performed on pregnant women, patients with a newly established diagnosis of syphilis and in all donors of blood or organs. In **Hungary**, there are plans under the national public health programme to introduce legally regulated mandatory HIV testing among sex workers. In **Turkey**, it is compulsory for blood donors, registered sex workers (once every three months), illegal migrant sex workers, men recruited for military service, any patient undergoing a blood test at a public health unit, pregnant women, patients before undergoing surgery, and couples intending to marry. Although vertically-acquired HIV infection is becoming increasingly important in **Romania**, no antenatal HIV screening programmes currently exist there (Cocu et al 2006).

4.4.2 Screening of immigrants for HIV

Because rising rates of HIV in many west European countries are related to new entrants, some countries screen new entrants for HIV and refuse entry to positive cases (see Table 4.3) or have considered doing so (see Box 4.4). In Denmark the National Board of Health is currently developing a set of general guidelines on screening of health problems among immigrants

which may include HIV screening. The guidelines will be distributed to all GPs within the coming months.

BOX 4.4 RECENT POLICY DEBATES ON TESTING IMMIGRANTS FOR HIV ON ENTRY TO THE UK

Recently in the UK there has been considerable publicity concerning the increase in HIV cases among new entrants, with claims that the NHS is being overstretched, and calls for mandatory testing for HIV with the implication, sometimes but not always explicitly stated, that those who test positive should be refused entry to the country or denied access to medical treatment. In response in 2003 the All-party parliamentary group on AIDS conducted an inquiry into the impact of the UK nationality and immigration system on people living with HIV (All-party parliamentary group on AIDS 2003).

The resulting report recommended that: the UK Government should not adopt a policy of mandatory testing upon entry. Rather it should support policies which encourage HIV testing for the purpose of ensuring more effective access to treatment and care; the UK Government should not detain, solely for immigration purposes, individuals with serious communicable diseases if it cannot provide for their care inside removal centres; the Government should develop and implement national best practice guidance on asylum seekers living with HIV that involves both immigration and Social Services responsibilities, including training for senior personnel on how to monitor and maintain good practice and a revision of the dispersal and benefits system; the Government should work to finalise the Doha trade negotiations with regard to international treatment access, to channel increased resources to health systems development in developing countries and increase long-term support to initiatives like the Global Health Fund.

Countries outside of Europe have also pursued this policy. For example in Canada in 2002 75 potential immigrants with HIV/AIDS were turned away because the federal government said that they would place excessive demands on publicly funded services. Another 207 people with HIV/AIDS were allowed to enter Canada, mainly because of exemptions to the excessive-demand provisions (Garmaise 2003).

TABLE 4.3 NATIONAL POLICIES REGARDING ENTRY FOR PEOPLE WITH HIV IN EUROPE

Country	Policy
AT	There appear to be no entry restrictions as such although the city of Klagenfurt requires persons applying for a residence permit to be certified as HIV-negative. Health certificate is required with application for a residence permit for more and six months from non-EU citizens.
BE	All non-European Community nationals intending to study or undertake work permit employment must undergo an HIV test by a Belgian-approved doctor in their country of origin. No visas are granted for people who test HIV-positive.
BG	Foreign nationals intending to stay for 30 days or longer are tested within 72 hours of arrival. The test is also required from Bulgarian nationals who have been abroad for longer than 30 days.
HR	No restrictions.
CY	All foreign workers and students are required to undergo medical examinations, including an AIDS test. Under immigration laws, any carriers of contagious and infectious diseases, including HIV, are considered illegal immigrants and permission of entry is at the discretion of the Minister of the Interior.
CZ	No restrictions.

Health and Living Conditions

DK	No restrictions.
EE	No restrictions on entry for HIV-positive individuals unless applying for a work permit or residence.
FI	No restrictions. However, according to a clause in the Finnish law persons who “knowingly transmit” HIV may be deported.
DE	Foreign nationals applying for residence in Bavaria and tourists staying more than four months must undergo an HIV test. Certain nationalities are exempt.
EL	Non-EU foreign students and foreigners wishing to work in Greece are required to take an HIV test, as are women intending to work in ‘entertainment centres’.
HU	No restrictions for short-term tourist stays. No HIV testing on entry. An HIV test is required for anyone who wants to stay in the country for more than one year. Additionally, some employers may require their staff to undergo HIV testing. All students over 18, anyone between the ages of 18 and 70 with a visa valid for at least one year and anyone extending a stay to a year or more must provide evidence of their HIV status. Accredited journalists and diplomats are excluded from this requirement.
IE	There are no specific entry or residence regulations for people with HIV.
IT	No restrictions for people with HIV.
LV	No HIV testing on entry, but anyone seeking a residency permit has to present a test result.
LU	No specific regulations regarding the entry of people with HIV, although Luxemburg law stipulates that entry can be denied on health grounds.
MT	No restrictions.
NL	No restrictions.
PL	Applications for long-term stays require medical testing for HIV/AIDS.
PT	No restrictions.
RO	No restrictions.
SK	No restrictions for short-term tourist stays of up to three months.
ES	Anyone seeking residence, or a work or student permit, must submit to a medical exam, which may include an HIV test.
SE	No restrictions for people with HIV. In case of doubt, the health authorities may oblige a foreign national to undergo an HIV test. According to Swedish law, persons who come to Sweden and who have reason to believe they could be HIV-positive must consult a doctor and follow that doctor’s advice.
TR	There are no entry or residence restrictions applicable to HIV-positive persons.
UK	HIV positive status alone is not grounds for refusing entry to the UK. Immigration officers are able to refer persons seeking leave to enter the UK, including those seeking asylum, to medical inspectors at ports of entry. The policy is to refer for medical examination anyone who mentions health or medical treatment as a reason for their visit, or who appears not to be in good mental or physical health, or who intends to remain in the United Kingdom for more than six months and comes from an area of the world which is high risk for tuberculosis. In addition, the Immigration Rules state that those seeking leave to enter the UK for more than six months should normally be referred. People applying abroad for entry clearance to the United Kingdom are not subject to mandatory medical inspections, but the entry clearance officer has the same discretion as an immigration officer to refer applicants for entry clearance for medical examination. In addition, asylum seekers attending the induction centre at Dover are given basic health screening, which includes full medical history and tuberculosis screening and referral as appropriate (Coker 2003).

Source: Adapted from Aidsmap 2006 and Coker 2003 for the UK.

4.4.3 Discussion

HIV screening policies during pregnancy have been adopted in all the 15 European countries for which information was received, except Hungary. Interventions in pregnancy can substantially reduce the chance of vertical transmission of HIV. The use of any antenatal HIV testing strategy can have important implications for health service resources. Crucial components of such an analysis would be the cost of paediatric HIV/AIDS that could potentially be averted by an antenatal testing strategy and the additional care cost and life-years experienced by an HIV-infected child whose mother's HIV infection was recognized before birth as a result of antenatal screening (Gibb et al 1999). In the UK, in 1999, it was estimated that assuming NHS willingness to pay £10 000 per life year gained, universal testing would be much more cost effective than selective testing throughout London on any reasonable assumptions on costs, prevalence, and uptake of testing. Outside London, universal testing would also be cost effective, including 2-4 minutes for pretest discussion, provided that test costs were no more than £0.60 and uptake exceeded 90%. The study concluded that universal testing with uptake of 50% may be less cost effective than a well run selective programme though (Ades et al 1999).

Another study, also based on UK data, calculated direct lifetime medical and social care costs of childhood HIV infection at £178 300, and on this basis estimated that in high prevalence areas screening pregnant women for HIV was a cost effective intervention with a net cost of less than £4000 for each life year gained. For areas with comparatively low prevalence rates, cost effectiveness was estimated to be less than £20 000 per life year gained, depending on the number of pregnant women who were unaware that they are infected and local screening costs (Postma et al 1999). It is important to note that the data used in these studies, which influenced the introduction of the policy of antenatal screening in the UK, are now out of date, as mother-to-child transmission rates and the cost of drugs have changed as practices and technologies have improved.

In the US, a more recent study found that in all but the lowest-risk populations, routine, voluntary screening for HIV once every three to five years is justified on both clinical and cost-effectiveness grounds. It also found that one-time screening in the general population may also be cost-effective, based on the estimate that 280,000 Americans are unaware of their human immunodeficiency virus (HIV) infection and the increasing effectiveness of antiretroviral therapy (Paltiel et al 2005).

A voluntary universal screening policy may also be more cost effective than selective testing since it may have a higher uptake rate. A study examining an opt-in approach (women had to make an active choice to be tested) found that some women were uncomfortable with this, feeling that it indicated high risk behaviour. The research found that when testing was routine unless the woman declined, uptake of testing improved by more than two-fold (Simpson 1999).

The results of tests for HIV are much more reliable than those for TB. The antibody tests are both highly specific and sensitive and can be rapidly conducted. This means that problems associated with false positive results (and false negative results too) are much less problematic than in TB. One potential problem though, is that a period exists after infection before antibodies develop reliably so it is possible for an individual to be infected yet screening results to be negative if exposure was recent, within the past three months. However, recently developed tests offer the potential that early infection can also be reliably detected (Coker 2003, Rawal et al 2003).

If the evidence-base regarding the public health benefits of screening immigrants for tuberculosis is somewhat unclear, then the evidence-base suggesting public health benefits from screening for HIV are even scantier (Coker 2003). Nevertheless, Bulgaria, Belgium, some parts of Germany, Cyprus, Greece, Spain, Estonia, Latvia, Hungary all have requirements for HIV testing for immigration. Countries conducting mandatory screening and/or refusing entry to people living with HIV/AIDS do so despite the International Guidelines on HIV/AIDS and Human Rights (UNHCHR/UNAIDS, 1998: para 105) which stipulate that "[t]here is no public health rationale for restricting liberty of movement or choice of residence on the ground of HIV status." The UNHCR is strictly against mandatory testing and the exclusion of those infected with HIV from countries purely on the grounds of their HIV status (Spiegel and Nankoe 2004). Furthermore, in 1987 experts convened by the WHO's Global Programme on AIDS, concluded that screening of international travellers was likely to be ineffective and impractical. They argued that, 'rather than screening of international travellers, resources must be applied to preventing HIV transmission among each population, based on information and education, and with the support of health and social services.'(WHO 1987). The reasons put forward in 1987 remain convincing today (Coker 2003). However, under the European Convention on Human Rights, although asylum seekers cannot be legally denied the right to seek asylum based on a positive HIV test result, those immigrating for economic purposes can (Coker 2003).

In absolute terms, the financial costs that may need to be shouldered by the recipient country in admitting those infected with HIV may be considerable. A Canadian cost effectiveness study predicted the total cost of immigrant screening for HIV between 1988 and 1998 to be \$3.3 to \$3.4 million. The in-hospital costs of treating HIV-infected immigrants in whom AIDS developed between 1989 and 1998 would have been \$5.0 to \$17.1 million. Accordingly, the study estimated that screening would have saved \$1.7 to \$13.7 million over the 10 years after immigration (Zowall et al 1990). In Europe, as a proportion of health spending, the sums spent on HIV/AIDS are relatively small. Of the total NHS budget, approximately 1 per cent is spent on HIV prevention, treatment and care, a total of £335 million. If we imagine that this budget is divided in proportion to the origins of infection, then about one quarter of one per cent the NHS budget might be spent on people who acquired their HIV abroad (Coker 2003). This must be offset against the cost of compulsory screening. In relative terms, then, the costs of treating HIV positive immigrants are probably not excessive, especially when offset against the costs of implementing and enforcing a compulsory screening programme (data unavailable).

The other main issue is whether screening immigrants would enhance public health in Europe. Undeniably, countries refusing entry to immigrants infected with HIV would reduce their national burden of disease and future transmission. However, since the incidence of HIV is rising in non-immigrant groups in Europe (for example men who have sex with men and in the heterosexual population in the UK) screening immigrants alone would not be a sufficient measure to halt the spread of HIV/AIDS. Also, such a policy does little to address global burdens of disease, and may stigmatise those infected with HIV further, both in Europe and abroad. Furthermore, there is the danger that an HIV screening policy resulting in refusal to grant entry would simply result in illegal migration of people living with HIV/AIDS, worsening rather than improving the situation.

4.5 Conclusion and recommendations

In response to the resurgence of infectious disease, there has been a renewal of interest in screening for TB, HIV and other sexually transmitted infections in Europe. As part of risk group management in infectious disease control, new entrants to European countries have become a focus of TB and HIV programmes. In many countries this public health issue has overlapped with debates on immigration and asylum policy, high on the political agenda of west European countries.

A review of HIV and TB screening in the EU reveals a considerable variety of policies and practices. That TB policies in the Baltic states, Romania and some central and eastern European countries differ from other EU countries is to be expected, given the greater incidence of TB in these countries. However, there also appears to be diversity between low-incidence countries in western Europe and CEE. Some countries continue with testing and vaccination in all neonates or school children while others have abandoned this policy. There is also a diversity of approaches to TB screening in relation to new entrants in European countries and cities. Some countries have no specific policy regarding TB screening in new entrants, some have comprehensive policies and some have legal requirements for TB screening. HIV screening policies during pregnancy have been adopted in almost all the 15 European countries for which information was received. Bulgaria, Belgium, some parts of Germany, Cyprus, Greece, Spain, Estonia, Latvia and Hungary all have explicit legal requirements for HIV testing for specific categories of new entrant, while most of the other EU countries either have no restrictions or have guidelines which are not necessarily enforced.

This diversity in policy is likely in part to be due to political and sociocultural factors and in part due to the lack of clarity on the public health advantages and cost effectiveness of the different approaches to screening. However, limited evidence suggests that in low incidence countries population wide screening and vaccination of school age children for TB is probably not cost effective, while antenatal screening for HIV probably is. The evidence for screening immigrants is also scanty although it seems that screening new entrants for TB is not necessarily effective

in terms of promoting public health at a national level. Screening immigrants for HIV on the basis that positive cases would be refused entry probably would make a marginal difference to health care expenditure and would be effective in national public health promotion. However, the policy would be questionable in legal and ethical sense and difficult to implement in light of problems with controlling illegal immigration. In light of the lack of evidence on these issues though, countries should increase efforts to document the outcome of screening activities. There is also a need for further research in this area.

Several countries have recently taken steps in improving access to primary healthcare services among immigrants once they have settled. For example, the Spanish government recently published a draft of a national “Strategic Action Plan for Citizenship and Integration 2006–2009” (Ministry of Labour and Social Affairs 2006) which aims to: guarantee immigrants’ right to health protection; improve the identification of health and social needs of the immigrant population; and to provide health professionals with specific training for effective management of health and social problems of the immigrants. In light of the limited evidence supporting the policy of screening immigrants on arrival in order to decrease national incidence of TB and HIV, countries may experience greater success with controlling these and other diseases by considering broader and more integrated national strategies on immigrant health.

References

- Ades, A E, Sculpher M J, Gibb D M, Gupta R, Ratcliffe J (1999) Cost effectiveness analysis of antenatal HIV screening in United Kingdom *BMJ*;319:1230–4
- Aidsmap web site <http://www.aidsmap.com/en/docs/C92D5639-E779-44EC-B8F8-0CECCC23275A.asp> Accessed 20.08.06
- All-party parliamentary group on AIDS (2003) Inquiry into the impact of the UK nationality and immigration system on people living with HIV
- Borgdorff, M. W., Nagelkerke N., van Soolingen D., de Haas P. E, Veen J., and van Embden J. D. (1998) Analysis of tuberculosis transmission between nationalities in the Netherlands in the period 1993–1995 using DNA fingerprinting. *Am. J. Epidemiol.* 147:187–195.
- Bothamley, G.H. Rowan J P, Griffiths C J, Beeks M, McDonald M, Beasley E, van den Bosch C, Feder G (2002) Screening for tuberculosis: the port of arrival scheme compared with screening in general practice and the homeless *Thorax*;57:45–49
- Bwire, R., N. Nagelkerke, S. T. Keizer, J. A. C. M. Année-v. Bavel, J. Sijbrant, J. L. van Burg and M. W. Borgdorff (2000) Tuberculosis screening among immigrants in The Netherlands: what is its contribution to public health? *The Netherlands Journal of Medicine* Volume 56, Issue 2 , February, Pages 63–71
- Bzga 2006 Federal Centre for Health Education (BZgA) web site <http://www.bzga.de/?uid=8abd9bc5b77b31603b927930df7bca7f&id=aidspraevention> Accessed 21.08.06

- Canadian HIV/AIDS legal network (2005) Briefing Paper November 2005 Outcomes of the Symposium on HIV Testing and Human Rights Montréal, 24–25 October 2005 <http://www.aidslaw.ca/publications/interfaces/downloadFile.php?ref=273> Accessed 21.08.06
- Cocu, M. C. Thorne, R. Matusa, V. Tica, C. Florea, S. Asandi, C. Giaquinto, for the Romanian Angel Appeal (2006) Prevalence of HIV–1 infection in pregnant women in Romania http://www.iasociety.org/abstract/show.asp?abstract_id=10885 Accessed 21.08.06
- Coker, R. A. Bell, R. Pitman, J–P. Zellweger, E. Haldal, A. Hayward, A. Skulberg, G. Bothamley, R. Whitfield, G. de Vries and J. M. Watson (2006) Tuberculosis screening in migrants in selected European countries shows wide disparities *Eur Respir J*; 27:801–807
- Coker, R. A. Bell, R. Pitman, A. Hayward, J. Watson (2004) Screening programmes for tuberculosis in new entrants across Europe *Int J Tuberc Lung Dis* 8(8):1022–1026
- Coker R. (2004) Compulsory screening of immigrants for tuberculosis and HIV [editorial]. *BMJ*; 328:298–300.
- Conservative Party (2003) *Before It's Too Late: A new agenda for public health*
- Devroey, D; Van Casteren, V; Sasse, A; Wallyn, S (2003) Non–consented HIV testing by Belgian general practitioners *AIDS* Volume 17(4) 7 March pp 637–642
- EC (2005) Communication from the commission to the council and the European Parliament on combating HIV/AIDS within the European Union and in the neighbouring countries, 2006–2009 http://ec.europa.eu/health/ph_threats/com/aids/docs/com_2005_654_en.pdf Accessed 20.08.06
- Eurosurveillance Weekly (2004) Tuberculosis screening programmes in new entrants to countries across Europe. [1812–075X]. Aug 5;8(32) 040805. Available from: <http://www.eurosurveillance.org/ew/2004/040805.asp#4>
- Feil F, Dreesman J, Steffens I. Tuberculosis screening of Aussiedler at the Friedland border immigration centre, Germany. *Eurosurveillance Weekly* 2004; 8(18): 29/04/2004.
- Garmaise D. Mandatory HIV testing used to bar potential immigrants. *HIV AIDS Policy Law Rev.* 2003 Apr;8(1):20–1
- Gibb DM et al. (1999) Costs and benefits to the mother of antenatal HIV testing: estimates from simulation modelling. *AIDS* 13: 1569–1576,.
- HPA (2005) Mapping the Issues. HIV and other Sexually Transmitted Infections in the United Kingdom
- Infuso A and Falzon D (2006) European survey of BCG vaccination policies and surveillance in children, 2005 *Euro Surveill*;11(3):6–11
- Lillebaek T, Andersen AB, Bauer J, Dirksen A, Glismann S, de Haas P, Kok–Jensen A. (2001) Risk of *Mycobacterium tuberculosis* Transmission in a Low–Incidence Country Due to Immigration from High–Incidence Areas *J Clin Microbiol.*, Mar., p. 855–861
- Ministry of Labour and Social Affairs (2006) “Strategic Action Plan for Citizenship and Integration 2006–2009” http://www.mtas.es/migraciones/Integracion/PlanEstrategico/PlanEstrategico_Indice.htm.
- NIAID (2006) website <http://www3.niaid.nih.gov/research/topics/emerging/list.htm> Accessed 21.08.06

- Paltiel AD et al. (2005) Expanded screening for HIV in the US – an analysis of cost-effectiveness. *N Eng J Med* 352: 586 – 95,.
- Postma MJ et al. (1999) Universal HIV screening of pregnant women in England: cost effectiveness analysis. *Br Med J* 318: 1656–1660,.
- Rawal B D *et al* (2003) ‘Development of a new less-sensitive enzyme immunoassay for detection of early HIV-1 infection’ *Journal of Acquired Immune Deficiency Syndrome* 33, 349
- Royal College of Physicians in the UK (2006) Clinical diagnosis and management of tuberculosis and measures for its prevention and control
- Simpson WM. (1999) Antenatal HIV testing: assessment of a routine voluntary approach. *Br Med J* 318: 1660–1661
- Spiegel P. B. and Nankoe, A. (2004) UNHCR, HIV/AIDS and refugees: lessons learned. Forced migration review 19 February p21–23
- Story, A, van Hest, R, Hayward, A. (2006) Tuberculosis and social exclusion. Developed countries need new strategies for controlling tuberculosis *BMJ* 2006;333:57–8
- UNAIDS (2006) Report on the global AIDS epidemic
- van Wolleswinkel *et al* (2002) ‘The impact of immigration on the elimination of tuberculosis in the Netherlands: a model based approach’, *International Journal of Tuberculosis and Lung Disease* 6:130–6
- Van Bentham BHB et al. (2000) Pregnancies before and after HIV diagnosis in a European cohort of HIV-infected women. *AIDS* 14: 2171–2178
- Van Burg JL, Verver S, Borgdorff MW. The epidemiology of tuberculosis among asylum seekers in the Netherlands: implications for screening. *Int J Tuberc Lung Dis* 2003;7: 139–44
- UNAIDS (2001) The impact of Voluntary Counselling and Testing: A global review of the benefits and challenges. Best practice collection. Geneva
- Zowall H, Fraser RD, Gilmore N, Deutsch A, Grover S. (1990) HIV antibody screening among immigrants: a cost-benefit analysis. *CMAJ*. Jul 15;143(2):101–7

5. National public health policies in Europe: Special focus on tackling inequalities

Key points:

- National public health policies exist, or are under development, in most countries; in many of the new Member States and Accessing/Candidate Countries they are largely modelled after WHO Health for All guidelines.
- Reducing inequalities in health is a goal of the national or regional public health or broader health policy in most EU countries
- Significant policy developments aimed at reducing health inequalities have been seen in some countries (e.g. England, Sweden and at local level in the Netherlands), although to date there has been little evidence that they have been successful
- Many initiatives have been taken across Europe that are designed to reduce inequalities in health, but the effects of only a very few of these initiatives have been assessed
- In new Members States, Accessing and Candidate Countries, policies to tackle health inequalities are more limited than in the west, although actions to address poverty and social exclusion have been, or are in the process of, being developed and implemented
- Advanced, formal coordination across sectors and levels of government is seen in some countries (e.g. Ireland, Sweden and the UK); It is vital that countries move towards this model of policy-making if improvements in health inequalities are to be realised.
- The majority of countries in the EU do not incorporate health targets into their policies to reduce health inequalities
- Data collection and accuracy on health and health inequalities is limited in several countries (e.g. Malta, Czech Republic), making developing policies difficult; recent efforts to build an evidence base have been seen in some countries (e.g. Hungary).

5.1 Overview of public health policies in the EU

Public health is defined as the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society. While historically public health efforts focussed on environmental hazards and sanitation, more recently, attention has been paid to better understanding and targeting the social determinants of health to improve health and quality of life and reduce health inequalities. There have been numerous changes in the landscape of public health policy in recent years, with increasing focus on targeting lifestyle-

related risk factors such as tobacco smoking, drugs and alcohol abuse, physical inactivity, in addition to policies targeting specific groups such as immigrant populations and older people. The aim of this section is to provide an overview of the state of policy development in the area of health inequalities in the EU Member States and Acceding/Candidate Countries.

Health inequalities have in recent decades become a priority issue in health and social policy across the world. Reducing inequalities in health requires a multi-sectoral approach that addresses not only health and social care and poverty alleviation, but also housing, environment, diets, smoking and alcohol consumption and physical activity. Despite the progress made in measuring and understanding the problem and implementing initiatives to target social inequalities in health, it appears inequalities continue to increase in much of Europe, where data are available (Mackenbach et al 2003). Statistical data on health inequalities is presented in section 2.7 in *Part One* of this report. Thus, many European national public health policies address this challenge, and in those that don't, there are specific, smaller-scale programmes in place with similar aims to reduce inequalities.

There are many potential areas to focus on that may lead to a reduction of health inequalities. Among these include health-related behaviours (smoking, alcohol consumption, diet, obesity), psychosocial factors (psychosocial stressors, social support, social integration), material factors (housing conditions, working conditions, financial problems), and health care factors (access to good quality services). Most European countries have explicit public health policies addressing some or all of these areas.

In addition, at national and European level, there is widespread attention on poverty and social inclusion. Many countries have their own national policies (e.g. Czech Republic – the National Action Plan of Social Inclusion (NAPSI) approved in 2004). Also, since 2000 in accordance with the Open Method of Coordination, the EU Member States have been cooperating in efforts to prevent poverty and social exclusion. National action plans were developed and revised in 2001 and 2003 respectively (e.g. Joint Inclusion Memoranda in Czech Republic in 2003 and Turkey in 2006), and in 2005 many prepared implementation and update reports on progress based on the common set of indicators. In 2006 Member States will submit their “National report on social protection and social inclusion strategies” which will be evaluated at European level.

In light of the strong and increasing evidence pointing to widening health inequalities within European countries, and other difficult persisting and emerging health threats, countries are increasingly coordinating and strengthening public health policy at national level. National public health policies exist, or are under development, in most countries; however there are differences in the extent these policies are formally defined and developed, and on the most part there is only limited monitoring and evaluation.

Some of the challenges in developing effective strategies in many countries centre around the limited availability of data on health and health inequalities, lack of political will, and fiscal

pressures limiting the resources available for implementing strategies. Overall, more needs to be done across the EU in developing coherent and effective strategies to reduce health inequalities. Furthermore, although some tools have been developed (Tugwell et al. 2006), there is a need to greatly increase the evidence base of what policies are achieving a reduction in inequalities, as pioneered in the Netherlands at local level, and to communicate this research at an international level.

Despite widespread attention paid to socioeconomic inequalities in health across countries, there is no EU Member State that is making a concerted effort to reduce the social gradient in health and there remains considerable variation in the form and nature of the policy goals and targets (Judge et al. 2005). Although significant policy developments have been seen in some countries in reducing health inequalities, to date there has been little evidence that they have been successful. While some have more central-led policies such as in England and Ireland, another model is seen in the Netherlands which is based on a programme of local experiments with a strong emphasis on evaluation. Unfortunately national implementation of these strategies in the Netherlands has been hindered due to a period of political instability between 2002–2003.

European countries are at different stages of developing comprehensive policies to reduce health inequalities. As part of the UK Presidency, experts were given the task of reviewing EU Member States' health policies to identify where progress has been made (Judge et al 2005). They found that only the UK and Ireland have well-developed and coordinated action plans, which has also been noted elsewhere (Crombie et al 2005). A number of countries appear to incorporate health equity into broader public health policies – the Netherlands, Finland, Denmark, Hungary, Italy, Poland and Sweden (Judge et al 2005). Others, including Belgium (Flanders region) and France, have developed a series of programmes to reduce health inequalities, but they are not necessarily part of a broader policy. It appears while Cyprus and Greece lack a distinctive focus on health inequalities, they have developed some programmes directed towards social determinants of health at national and local levels. Finally, the remaining countries have no explicit national health inequalities policy, but many acknowledge the problem, as reflected in various policy statements.

The remainder of this section offers some case studies from the EU Member States (first from the EU15, then the New Member States) and Candidate Countries that demonstrate the current state of policy attention in the area of health inequalities.

5.2 Policies to reduce health inequalities in the EU

England is the only country in the EU that has a comprehensive, multi-sectoral policy to reduce inequalities in health. In the past decades, there has been considerable effort directed to researching and developing policies to reduce health inequalities. Indeed some argue that the programme in the United Kingdom is one of the most coherent and ambitious to date (Couffinhal et al. 2005). In July 2003, a national health inequalities strategy was launched: *Tackling Health Inequalities: A Programme for Action*. This strategy intends to review progress against the 2010 health inequalities Public Service Agreement (PSA) target from 2002 and 12 national headline indicators. The overall aim was to prevent health inequalities from worsening, given that the long-term trend showed that the gap in mortality between professional (social class I) and unskilled manual men (social class V) has increased by two and a half times since 1930–32. The target was:

By 2010 to reduce inequalities in health outcomes whole by 10% as measured by infant mortality and life expectancy at birth.– both between routine and manual groups and the population as a whole, and local authorities with the fifth of areas with lowest life expectancy at birth and the population as a whole.

This *Programme for Action* followed a public consultation and a review led by the Treasury on inequalities in health – *Cross-Cutting Review* (Department of Health 2002). This review recommended that tackling health inequalities should be incorporated into priority programmes and concluded that in order to achieve the targets set, action would be required across government. It identified five areas and named the government departments required to take the lead (Box 5.1). An evaluation of progress towards the overall goals was conducted in 2005. It appeared that by 2004, there was no narrowing of health inequalities against the PSA target. On the contrary, there was a widening of inequalities in infant mortality and life expectancy (between 1997 and 2005), reflecting the long-term trend. However, on a more positive note, some progress has been made in reducing child poverty (the proportion of children in absolute poverty has been halved in five years) and improving housing conditions (specifically, the proportion of households living in non-decent housing) (*Tackling Health Inequalities: Status Report on the Programme for Action 2005*; Department of Health 2005).

BOX 5.1 AREAS TO ADDRESS IN THE ENGLAND STRATEGY TO REDUCE HEALTH INEQUALITIES

Breaking the cycle of health inequalities

Several actions are suggested such as: to reduce poverty through measures in the tax and benefit system; to improve educational attainment among disadvantaged children; to reduce teenage pregnancy and improve antenatal, maternal and child health services for disadvantaged and minority ethnic groups; and to promote healthy schools, particularly in disadvantaged areas.

Tackling the major killers

Promoting smoking cessation; improving screening; improving nutrition; increasing physical activity; and reducing accidents, particularly among disadvantaged groups, are identified as key areas for action.

Improving access to public services and facilities

Some examples are: ensuring services are accessible to all, taking into account cultural and language barriers; improving primary care services in underserved inner city or rural areas; improving access to affordable food; and improving accessibility of disadvantaged groups to core facilities.

Strengthening disadvantaged communities

Neighbourhood renewal of deprived areas, including action on work and enterprise, crime, education, health and housing; promoting environments where people feel safe to go out; and improving housing conditions are included as areas for action.

Supporting targeted interventions for specific groups

Targeted interventions include ensuring that services can meet the complex needs of vulnerable people such as minority ethnic groups, older people, homeless people, prisoners, refugees and asylum seekers and people with long-term medical or mental health problems.

In **Sweden**, the national public health policy from 2003 is structured around inequalities in health. Since that time there has been little revision to the overall structure, and little evidence of effectiveness. This recent national public health programme has the primary goal of creating the “societal conditions that ensure good health on equal terms for the entire population” (Agren 2003). Improving the health of the most vulnerable groups is particularly important; the strategy focuses on those factors that influence public health: living conditions, environments, products and lifestyles. The policy is based on 11 objectives containing what they found to be the most important determinants of public health; these objectives can be divided into structural (the first six) and lifestyle-related factors (the last five):

1. Participation and influence in society
2. Economic and social security
3. Secure and favourable conditions during childhood and adolescence
4. Healthier working life
5. Healthy and safe environments and products
6. Health and medical care that more actively promotes good health
7. Effective protection against communicable diseases
8. Safe sexuality and good reproductive health
9. Increased physical activity

10. Good eating habits and safe food

11. Reduced use of tobacco and alcohol, a society free from illicit drugs and doping and a reduction in the harmful effects of excessive gambling

Similar to Sweden, **Northern Ireland** has a comprehensive approach to tackling health inequalities by tailoring broader public health policies around this aim (Department of Health, Social Services and Public Safety 2002). The public health strategy, *Investing for Health*, launched in March 2002, contains a broad framework for action to improve health and wellbeing and reduce health inequalities (See Box 5.2). It is based on a partnership approach, and builds on existing networks such as Healthy Cities projects, Health Action Zones, Healthy Living Centres, and Local Strategy Partnerships. The cross-cutting domains, objectives and targets, shown in Box 5.2, were devised in recognition of known determinants of health and health inequalities, historical trends and other health improvement programmes and strategies. The strategy is being implemented locally by four *Investing for Health* partnerships comprising the key statutory, community and voluntary organizations in the area. These partnerships are responsible for developing health improvement plans to address the identified health needs of people in their area in line with the priorities identified in the strategy.

BOX 5.2 INVESTING IN HEALTH – NORTHERN IRELAND'S PUBLIC HEALTH STRATEGY 2001

PHYSICAL and FUNCTIONAL HEALTH AND WELL-BEING

Goal I: To improve the health of the population by life expectancy and healthy life expectancy.

- **Target I:** To improve the levels of life expectancy to the levels of the best EU countries, by increasing life expectancy by 3 years for men and 2 years for women between 2000 and 2010.

Goal II: To reduce inequalities in health between geographic areas, socioeconomic and minority groups.

- **Target I:** To halve the gap in life expectancy between those living in the 5th most deprived electoral wards and the life expectancy here for both men and women between 2000 and 2010.
- **Target II:** To reduce the gap in the proportion of people with a long-standing illness between those in the lowest and highest socioeconomic groups by a fifth between 2000 and 2010.

TACKLING POVERTY AND SOCIAL EXCLUSION

Objective 1: To reduce poverty in families with children.

EDUCATION

Objective 2: To enable all people and young people in particular to develop the skills and attitudes that will give them the capacity to reach their full potential and make healthy choices.

- **Target I:** In the 25% of primary schools with the highest percentage free school meal entitlement (FSME), to reduce the proportion of pupils not achieving the expected level (level 4) at Key Stage 2 to 25% in both English and Mathematics by 2005/2006.
- **Target II:** In the 25% of secondary schools with the highest percentage FSME, to reduce the proportion of year 12 pupils achieving no GCSEs to 5% by 2005/2006.

MENTAL HEALTH AND EMOTIONAL WELL-BEING

Objective 3: To promote mental health and emotional well-being at individual and community level.

- **Target I:** To reduce the proportion of people with a potential psychiatric disorder (as measured by the GHQ-12 score) by a tenth by 2010.

THE LIVING AND WORKING ENVIRONMENT

Objective 4: To offer everyone the opportunity to live and work in a healthy environment.

- **Target I:** To lift at least 20,000 households out of fuel poverty by December 2004.
- **Target II:** Over the 2-year period April 2002 to March 2004, to support housing providers to build around 2,400 lower cost, affordable homes for people on lower incomes.

THE WIDER ENVIRONMENT

Objective 5: To improve our neighbourhoods and wider environment.

- **Target I:** To reduce levels of respiratory and heart disease by meeting the health-based objectives for the seven main air pollutants by 2005.

ACCIDENTAL DEATHS AND INJURIES

Objective 6: To reduce accidental injuries and deaths in the home, workplace and from road collisions.

- **Target I:** To reduce the death rate from accidents by at least one-fifth between 2000 and 2010.
- **Target II:** To reduce the rate of serious injuries from accidents by at least one tenth between 2000 and 2010.

MAKING HEALTHIER CHOICES

Objective 7: To enable people to make healthier choices.

- **Target I:** By 2010, to reduce the proportion of men who are obese to less than 17%, and of women to less than 20%.
- **Target II:** By 2010 to increase the levels of 5-year-old children with no dental decay experience to 50% and to reduce the gap between the best and worst DMFT scores to 20%.

Spain is a highly decentralized country, with health policies largely a regional responsibility. However, there is increasing attention at national level in the importance of overseeing and facilitating efforts for regions to tackle health inequalities. In March 2006 a new plan was published at national level – the Spanish Health System Quality Plan – which includes among others the strategy to :

Analyse the existing health policies and to promote actions leading to inequality reduction and to strengthen the gender approach to health equity.

Within this strategy were two objectives. The first was to create a supportive institutional environment for providing knowledge of gender inequalities in health and to promote a gender-focused approach to health and health care policies. Specific projects towards this objective were: to draft and publish a report on Gender and Health on an annual basis; to provide comprehensible and high quality information on health and gender on the web site of the Ministry of Health and Consumer Affairs; to identify and disseminate good practices on health policies addressing gender inequalities; to build an understanding among health professionals of gender issues and the skills to address them; to create guidelines for sexual and reproductive health attention, as well as to identify, promote, and diffuse good practices in collaboration with women organizations and health professionals societies; to develop policies to prevent unwanted pregnancy, especially among the population groups where this problem is more frequent, among others. The second objective is to generate and disseminate knowledge on health inequalities and to encourage good practices in health care equity promotion and in health and health care inequality reduction. The specific projects to achieve this objective are listed in Box 5.3.

BOX 5.3 SPANISH HEALTH SYSTEM QUALITY PLAN 2006 – FOCUS ON HEALTH INEQUALITIES

Projects related to Objective 4.2 of the Spanish Health System Quality Plan 2006:

- i) To draft a evaluation report on how are health inequalities aspects included in health strategies and heath plans both at regional level and internationally.
- ii) To conduct a pilot study on access to and utilization of health care services provided by the SHS by socio-economic characteristics and by educational status.
- iii) To elaborate a survey containing information on access to and utilisation of health care services provided by the SHS by socio-economic characteristics and by educational status. Data collection should be completed by the end of 2007.
- iv) To define and evaluate health and health care needs of the disabled physically impaired.
- v) To define and evaluate, in collaboration with the mediating organizations, health and health care needs of sex workers (men and women).
- vi) To collect examples of good practices and instruments in improving access to and utilisation of appropriate health services for people who are at increased risk of social exclusion (and in particular, the immigrant population). Special emphasis is to be put on primary and emergency care, as well as on health promotion and prevention programmes.
- vii) To develop strategies, based on a multicultural approach (including informal care aspects, nutrition habits and gender violence), aimed at health care promotion with a special focus on women and children.
- viii) To promote the inter-institutional collaboration, especially with local public administrations, in fulfilling the objective of improving the efficiency of health care programmes focusing at the disadvantaged groups.

Finland's national health policy – *Health 2015* – was developed in 2000 and serves the period 2000–2015 (Ministry of Social Affairs and Health 2000). The programme has two broad aims:

1. increasing healthy and functional life years, and
2. reducing health inequalities.

The attainment of the goals and changes in the associated key indicators are monitored in regular meetings organized both at the national level and by regional sub-committees. Intermediate reporting is undertaken as new data on the indicators become available. The most recent progress report was in 2006 – the Report on Social Affairs and Health 2006.

This report identifies the Health 2015 as a joint venture that provides a broad framework for health promotion in various areas of society. It reaches across different sectors of administration and every-day life, such as: lifestyles, living environment, quality of products and factors affecting community health. The amended Primary Health Care Act states that local authorities must take health and its promotion into account in all sectors of municipal activities. The Finnish National Healthy Cities Framework governed by the National Research and Development Centre for Welfare and Health (STAKES) monitors the implementation of the Health 2015 programme at the local level (municipalities). The municipalities are

required to draft a long-term implementation strategy conforming to the Health 2015 programme. The local level implementation strategies are processed in municipal councils; the first plan is scheduled for the period 2005–2008. The main focus of municipality specific strategies is on reducing inequalities in health.

Health inequalities was identified relatively recently as a serious issue in **France**; however to date there is no national health policy explicitly addressing reduction of inequalities. Instead in the Public Health Act of 2004, the reduction of health inequalities is one of the nine principles taken into account for the definition of public health objectives. Moreover, two of the 100 objectives directly address health inequalities:

- Objective 33: *Reduce financial barriers to health care access for people whose revenue are just above the CMU threshold.*
- Objective 34: *Reduce inequalities in health and in mortality by increasing life-expectancy of deprived people (the gap between life-expectancies at 35 is 9 years).*

In addition, there are a number of targeted policies whose prime objective is to address and improve health needs of the most vulnerable groups of society. One of the underlying goal of these policies is to ensure a better access to health care of the most deprived groups of population, the most significant of these was the CMU (Couverture Medicale Universelle) Act in 1998 (and extended in 2000) introducing universal health care coverage. Furthermore, at the regional level, programs to improve access to prevention and health care services (PRAPS: *Programmes régionaux d'accès à la prévention et aux soins*) were created in 1998 and target the most deprived groups; the second generation of these programmes was launched in 2003–2006. The impact of the first programme appeared to have improved the access to health insurance and to health care, but the prevention component of the programme was still underdeveloped (Fourcade et al 2004).

Similar to France, there is no a consistent public health strategy on the national level in **Germany** and likewise no strategy on reducing health inequalities. Health inequalities have only recently been officially recognised as a health policy topic; for a long time it has largely been assumed that everybody is covered by social health insurance and thus everybody enjoys the same access to care; however, even after recognising that there is a problem the system is slow to respond to this challenge. This is largely a consequence of the way the German health care system has been organised. Due to its corporate character, the principle of subsidiarity and federalism much of the responsibility for health care is devolved to the *Länder*, to statutory health insurance funds, professional organizations and local initiatives of the so-called “social partners” (all stakeholders involved in health care). The government’s/Ministry of Health’s ability to directly influence public health policy is limited. Also, the social health insurance system in itself creates an obstacle for the implementation of public health strategies (including strategies to reduce inequalities), as it largely focuses on curative care while ignoring the socio-economic determinants of health; there has also been a tendency to emphasis the responsibility of the patient to actually seek care. In the absence of a national framework, public health

policies are fragmented with a multitude of actors involved in a broad range of regional and local activities.

Although the Ministry of Health also participates in the EU-initiative “Closing the Gap” which is co-ordinated by EuroHealthNet and the BZGA. The project was initiated in 2004 and will run until 2007. The aim of this initiative is to develop a European knowledge base and infrastructure for the implementation of strategies and actions addressing health inequalities (EuroHealthNet 2005).

Among the new Member States, many have developed promising health inequalities strategies within their overall public health policies. Examples from Hungary, Latvia and Lithuania are illustrated below. Data limitations is one of the main barriers to developing and implementing an effective policy to reduce health inequalities. While some progress has been made in gathering evidence of inequalities in some countries, such as Hungary (see below), this has not been seen in other countries, e.g. Czech Republic.

The National Public Health Programme in **Hungary** covers the period 2003–2012. It identifies two courses: (1) protecting and improving the health of individual citizens throughout their entire lives (2) reducing the prevalence of major illnesses, injuries, and causes of death, and cutting down related suffering. Furthermore, one of the fundamental goals of the policy is the reduction of inequality. While a national health inequalities strategy has not been developed, first what is needed is a comprehensive health inequality overview of the country in order to identify the most pressing challenges, translate them into equity-related health targets, and outline potential strategies for health policy development, health care provision and public health prevention programs for the attainment of short and long term health objectives. To achieve this, WHO initiated a study – *Inequalities of Health and Health Care in Hungary* – to provide analyse geographical and social inequalities in health, health behaviour, and access to and utilization of health services in Hungary (results of this study should be available by end of September 2006).

One component of the Hungarian National Public Health Programme is “Equal opportunity for health” with the goal of improving the health of socially excluded population groups – the Roma, persons with disabilities, and the homeless, although without specific targets. With regards to health inequalities between the Roma and general populations of Hungary, a health interview survey on inhabitants of Roma settlements in the North-East regions – *Roma Health Survey* – was carried out and results were compared to Hungarian general population based on the National Health Interview Survey 2003.²⁴ Studies that have been conducted to date show sufficiently accurate data are not available on the Gipsy colonies (number, location, population,

²⁴ Results of this study will be published in a forthcoming issue of the American Journal of Public Health. They reveal large inequalities in functional limitations, self-reported health, smoking rates, unhealthy diet and utilisation of health services between the Roma and general populations.

children population), partly due to the related different definitions and partly because this issue of public health importance is not treated uniformly; yet the hygienic situation of the Gipsy colonies appears to be unacceptable.

In **Poland**, health inequalities are a relatively new subject on the political agenda. However, the new National Health Programme for the years 2006–2015 puts more emphasis on health inequalities than the previous. The overall goal of the programme is to improve health and quality of life for the population. Its first operational objective is to decrease territorial and social health inequalities. In addition, the new National Development Plan (2006–2013) has been designed with a view of reducing health inequalities through actions in other policy areas. Some relevant priorities of the NDP include: reduction of social exclusion, building of social capital, support for families and better access to education.

Among the Baltic States, Latvia and Lithuania have shown some recent developments in public health policy at a national level. **Latvia's** national public health policy was approved in 2001 – its overall aim is to enhance social solidarity among income, gender, ethnic and age groups and reducing inequalities between them. More recently, the Public Health Action Programme for the years 2004–2010 contain clear measures, timetables, financial resources and responsible institutions for the implementation of the measures. Ministry of Health is responsible for the overall implementation of the Strategy. Taking in to account the multisectoral nature of the Strategy the Intersectoral Co-ordination Commission in relation to the public health issues performs co-ordination, advisor and consultant functions in monitoring of its implementation. Furthermore, the National Action Plan on Poverty and Social Exclusion for 2004–2006 was the first national acknowledgement of the need to foster social inclusion in order to improve health and wellbeing.

As in Latvia, **Lithuania's** national public health priorities are to reduce mortality and increase average life expectancy, improve equity in health and health care, and improve quality of life (as outlined in the Lithuanian Health Program 1997–2010). For the goal of health equity, certain targets were set:

- By the year 2010 to reduce differences in health and health care between various socioeconomic groups of population by 25%
- to reduce income disparities among socio-economic groups of population
- to reduce risk of unemployment
- to implement measures facilitating favourable possibilities for education and improvement of qualifications
- to improve living and working conditions
- to ensure promotion of healthy lifestyles
- to ensure accessibility, acceptability and appropriateness of health care
- implementation of the Law of Patients Rights and Compensation of Health Damage

Moreover, according to the recently developed and approved Lithuanian Public Health Strategy for the period of 2006–2013 and its action plan for 2006–2008, emphasis is on improvement

of disease prevention, development of quick response to health threats, and reforming of the public health system – especially expanding it at the municipality level. While these aim to improve overall health of the population, it also targets those most vulnerable in society thus reducing inequalities.

Monitoring and evaluation is performed on international level (within Health for All 21st century context), national, regional, and municipal levels. It includes evaluation of existing data, collection of additional data if necessary, data analysis and interpretation within result-based policy formulation. For the implementation and evaluation of the program at central level, responsibility is taken by the Ministry of Health, to some extent – Health Committee of the Parliament, State Public Health Service, and National Health Board. For the implementation of particular targets, different ministries, institutions or organizations at the national or regional levels are responsible. In 2005, an intermediate evaluation (for the period of 1998–2004) of the Lithuanian Health Program was performed. Official statistical data from Lithuanian Health Information Center, Lithuanian Department of Statistics and research and other institutions. This evaluation served the basis for the subsequent action plan for further implementation of the program (for the years 2005–2010).

A recent analysis of health inequalities in Lithuania found that inequalities in mortality by education are increasing due to a declining mortality rate among the better educated alongside an increasing mortality rate among the lower educated groups. The authors speculate continually increasing inequalities in the near future (Kalediene and Petrauskiene 2005).

5.3 Policies to reduce health inequalities in the Acceding/Candidate Countries

Overall the Acceding/Candidate Countries do not explicitly address inequalities in health in national health policy. Some developments have been seen, however in Bulgaria, Romania and Turkey.

In **Bulgaria** inequalities in health is incorporated into the overall plan for health care reform. For instance, the main priorities related to health promotion and prevention in the national health strategy addresses reducing the risk factors affecting the health of disadvantaged groups of the population. The Ministry of Health does *not* address basic socioeconomic issues such as the impact of unemployment and poverty/low incomes on health. However, the Directorate for Health Prophylactics and State Sanitary Control (Ministry of Health) as well as the Hygiene and Epidemiology Inspectorates have developed programmes to reduce tobacco consumption, alcohol and drug misuse, HIV and sexually transmitted diseases and improving diet.

Also, in the recent **Romanian** government's governance paper health inequalities are identified as a key area of concern, but specific objectives or programmes have not been developed. The main initiative in regards with the inequalities in health is the Government Decision no.

829/2002 that approves the National Anti-Poverty and the Social Inclusion Plan elaborated by the Anti-Poverty and Social Inclusion Commission set up in April 2001. The Commission's role is to support the structures that co-ordinate the implementation of the National Anti-Poverty Plan and also to monitor the general impact of anti-poverty strategies. At district level district anti-poverty and social inclusion commissions have been set up to develop local anti-poverty plans. The plans, however, focus largely on the health system and improving access to health services for the population, particularly vulnerable groups. Like in Hungary, one of the important challenges related to health inequalities in Romania centres around the health discrepancies between Roma and general populations.

BOX 5.4 HEALTH INEQUALITIES IN ROMANIA: FOCUS ON ROMA POPULATION

The Roma population, one of several minority ethnic groups in Romania, is estimated to number between 1,800,000–2,500,000. Roma health in terms of mortality and morbidity continues to be less than that of the general population; life expectancy and infant mortality rates are respectively ten years shorter, and forty percent higher, amongst Roma, than among the general population. Risk factors are also higher among this population group: the percentage of smokers in the Roma population is about 30% compared to 20% in the general population.

The major public policy document in the area of Roma health and living conditions is *the Romanian Government Strategy for the Improvement of the Roma Situation*: it is the first governmental initiative that takes a comprehensive approach to the problems of the Roma minority. The Strategy lays down 10 directions of action: *community development and public administration; housing; social security; healthcare, justice and public order; child protection; education; culture and cults; communication and civic participation*. It combines the two perspectives on the Roma issues: discrimination and poverty.

National Anti-Poverty and Social Inclusion Plan (NAPinc)

In April 2001, the Governmental Anti-Poverty and Promotion of Social Inclusion Commission, which developed the NAPinc. This complex documents is a program of social construction for a European society, a common goal of the entire continent, and it is based on a series of principles, including *social solidarity, activation, accountability, social economy, social support as an instrument of social inclusion, partnership/participation*. NAPinc includes a whole chapter (Chapter 14) on reduction of poverty and of social exclusion of the Roma. The program pursues to strengthen the participation of Roma communities in the economic, social, educational and political life of the Romanian society, and improvement of their access to healthcare services.

In **Turkey**, although social justice and equity are among the catchphrases of almost all policy documents related to health issues, serious policies toward improving living conditions and alleviating poverty are missing. The recent action plan to tackle social exclusion – Joint Inclusion Memorandum – was being drafted in Summer 2006, and focuses on poor people in general (with an emphasis on those living in the shanty towns of metropolitan cities), in addition to addressing marginalized people (the old, the disabled, internally-displaced people, the roman, street-children, etc.), and broad problems like unemployment (increasing labour market participation), education (improving schooling rates and the quality of education) and urbanity (ensuring decent and affordable housing).

5.4 Conclusions and recommendations

This overview of public health policies in Europe highlights that social inequalities in health has become a widely recognised challenge. While a comprehensive policy to tackle health inequalities can only be found in England, other countries have explicitly addressed the issue in broader public health policies, or in local strategies. In many new Member States and Accessing/Candidate countries, there is relatively less attention paid on a national level to reducing health inequalities, due in large part to limited data availability and financial resources, and in some cases political will. However, these countries have developed, or are in the midst of developing, strategies to reduce poverty and social exclusion, with considerable guidance from the European level.

Many challenges remain for policy makers and researchers in the area of health inequalities. These can be grouped into four broad areas: (1) understanding the extent and drivers of inequalities; (2) developing strategies that cross sectors and levels of government and monitoring them; (3) gathering evidence of effectiveness of initiatives to reduce inequalities; and (4) collaborating across countries and communicating policy and research developments.

While there has been considerable progress made in recent decades in measuring health inequalities and developing a better understanding of its multiple causes, more research is needed to monitor trends in health inequalities, and facilitate data collection in countries with limited capacity at present. More resources and research skills for data collection and analysis are needed. In part, gaps in research capacity could be filled by facilitating cross-country research exercises. Furthermore, standardised surveys, preferably longitudinal, of health status and living conditions should be developed that can be implemented across all of Europe.

Many countries have introduced national and regional policies targeting health inequalities, however, in order to be effective these policies require a multi-sectoral, multi-level approach. Thus, all government sectors should play a sustained role in the development and implementation of the strategy (as seen in England). Moreover, once developed, it is crucial that monitoring and evaluation take place in a systematic way. Measurable indicators and targets should be developed, based on evidence from within the country and from other countries, and monitored on an annual basis.

There is very limited evidence of the effectiveness of programmes that have been implemented to date to reduce inequalities. The Netherlands has seen the most comprehensive strategy to link policy implementation with explicit evaluation, demonstrating that the difficulties in evaluating public health policies, of which there are many, can largely be overcome. All countries that implement a strategy should develop an explicit evaluation plan, one that can help revise and shape future policies, and ensure resources are used effectively.

There has been increasing collaboration across countries with the aim of achieving health equity and much guidance from the European Commission with recommendations for public health and social policies, however greater exchange of evidence, experience and ideas across countries is needed. While it is widely recognised that there is no 'one size fits all' strategy that can be implemented to effectively reduce inequalities, and policies have to be adapted to the particular country context, some lessons, such as setting up effective evaluation protocol, and developing data collection and analyses techniques, should cross borders.

References

- Agren G. *Sweden's new public health policy. National public health objectives for Sweden*. Stockholm, Swedish National Institute of Public Health, 2003 [accessed 01 September 2006] available at http://www.fhi.se/shop/material_pdf/newpublic0401.pdf
- Couffinhal, A., Dourgnon, P., Geoffard, P-Y., Grignon, M., Jusot, F., Lavis, J., Naudin, F., Polton, D. (2005). Policies for reducing inequalities in health, what role can the healthcare system play? A European perspective. Part II. Experience from Europe. *News bulletin in economy of health*, no. 93. Paris: IRDES.
- Crombie IK, Irvine L, Elliott L, Wallace H. (2005). Closing the Health Inequalities Gap: An International Perspective. Geneva: World Health Organization. [accessed 01 September 2006] available at: http://www.who.int/social_determinants/resources/closing_h_inequalities_gap.pdf
- Department of Health (2002) *Tackling Health Inequalities. 2002 Cross-Cutting Review*. London, UK parliament. [accessed 01 September 2006] available at <http://www.dh.gov.uk/assetRoot/04/06/80/03/04068003.pdf>
- Department of Health, Social Services and Public Safety (2002). *Investing for Health*. Belfast: Department of Health, Social Services and Public Safety.
- Department of Health (2005) *Tackling Health Inequalities: Status Report on the Programme for Action 2005* [accessed 01 September 2006] available at <http://www.dh.gov.uk/assetRoot/04/11/76/98/04117698.pdf>
- EuroHealthNet and Bundeszentrale fuer gesundheitliche Aufklaerung (2005): Closing the gap: Strategies for action to tackle health inequalities in Europe. A European project from 2004 to 2007. Interim project report for year 1. EuroHealthNet and BZGA, (Ed.): Brussels, Cologne.
- Fourcade M, Jeske V, Naves P. (2004) Synthèse des bilans de la loi d'Orientation du 29 Juillet 1998 relative a la lutte contre les exclusions: Inspection Generale des Affaires Sociales.
- Judge, K., Platt, S., Costongs, C., and Jurczak K. (2005). Health inequalities: a challenge for Europe. Report prepared for the UK Presidency of the EU.
- Kalediene R, Petrauskiene J.(2005) Inequalities in mortality by education and socio-economic transition in Lithuania: equal opportunities? *Public Health*;119(9):808-815.

Mackenbach J, Bos V, Andersen O, Cardano_M, Costa G, Harding S, Reid A, Hemstrom O, Valkonen T, Kunst AE. (2003) Widening inequalities in mortality in Western Europe. *Int J Epidemiol*;32:830-7

Ministry of Social Affairs and Health, Finland. *Government Resolution on the Health 2015 public health programme*. Helsinki, 2001. [accessed 01 September 2006] available at: <http://pre20031103.stm.fi/english/eho/publicat/health2015/health2015.pdf>

Tugwell P, O'connor A, Andersson N, Mhatre S, Kristjansson E, Jacobsen MJ, Robinson V, Hatcher-Roberts J, Shea B, Francis D, Beardmore J, Wells GA, Losos J. (2006) Reduction of inequalities in health: assessing evidence-based tools *Int J Equity Health*. 27;5:11

Concluding remarks: Part two

This part of the report has been concerned with policies pursued by governments to address some of the health issues described in Part One. We have focused on five topics: tobacco control; obesity control; screening for TB and HIV; mental health; and health inequalities. As such, we have covered policies that address a broad range of health issues, from chronic diseases to communicable diseases and the pattern of disease across social groups. The five health topics covered are by no means the only ones of importance in Europe at this time; as evidenced in Part One of the report, there are many other health challenges meriting national and international attention, some of which will be presented in future editions of this report.

The aim of these policy sections is to present new information on national policies in the EU Member States, and, to less extent, in Acceding/Candidate countries (ACC). Further, it aims to draw contrasts and comparisons between the countries in order to highlight possible areas of policy that are particularly successful, unsuccessful or underdeveloped. Policies at the EU level are also considered. We aim to present an overview of the key issues and some recommendations for future policy development, and not a comprehensive literature review or exhaustive analysis of the topics.

The picture that emerges is one of considerable activity and attention paid by governments to addressing key health challenges. Much has been achieved in recent years: in tobacco control, policies in Ireland, the UK, Norway, and Iceland appear to have been effective in reducing national smoking rates over the last 20 years, where prevalence declined by 20% to 25%. Furthermore, the evidence base for tobacco control policies is growing: increases in cigarette prices and taxes and the passage of comprehensive clean air laws have been successful in reducing smoking rates. With regards to the emerging health threat that is sweeping across Europe – obesity – many countries across the EU have introduced public health programmes in 2005 focusing on improving nutrition and levels of physical activity in the population. At long last, European and several national governments have raised mental health problems up the political agenda and are showing signs of tackling the stigma, discrimination and health threats from mental illness. In light of the resurgence of communicable diseases in Europe, there has been renewed attention to preventing and controlling TB and HIV. Finally, social inequalities in health have generated much attention in recent years, and public health programmes aimed at reducing health inequalities have been developed and implemented in several countries, in particular England, Sweden and at local level in the Netherlands.

However, a common limitation observed across these policy interventions is the lack of evidence to support policy decisions and to evaluate effectiveness of programmes. More research is needed to evaluate the effectiveness and cost-effectiveness of national tobacco strategies and individual policy interventions to combat obesity. In terms of mental health, while the evidence base on the availability of cost effective pharmaceutical and psycho-social treatments continues to grow, there are substantial gaps in our knowledge on the prevalence of

mental health disorders. It seems there is also a lack of clarity on both the public health benefits and cost effectiveness of the different approaches to HIV and TB screening. Furthermore, despite policy developments aimed at reducing health inequalities, to date there has been little evidence that they have been successful.

As well as making evaluation of national policy difficult, this lack of evidence has hindered EU-wide strategy development. Difficulties in assessing the effectiveness of individual policy interventions to combat obesity has hindered EU-wide strategy development. EU-wide policy holds a particularly important place because of the transnational nature of some aspects of factors influencing obesity rates, such as food manufacturing and agricultural policies. Therefore, the results of the 2005 European Commission green paper for consultation on fighting obesity are eagerly awaited. The sections on HIV and TB screening, mental health and health inequalities all highlight that policy is highly heterogeneous across Europe and recommend that steps to encourage the collection of data evaluating the effectiveness of policy are needed to aid future European comparative analysis. For example, spending on mental health varies widely across Europe; only five countries spend at least 10% of their health budget on mental health, with the lowest levels of under 2.5 % and 3% in CEE countries. In TB control, some countries continue with testing and vaccination of school children while seven countries do not use vaccination systematically. Some countries have no specific policy regarding TB screening in new entrants while some have legal requirements for TB screening. Meanwhile Bulgaria, Belgium, some parts of Germany, Cyprus, Greece, Spain, Estonia, Latvia, Hungary all have requirements for HIV testing for immigration, while the other EU countries do not. In terms of policy addressing health inequalities, in new Members States and ACC, policies are more limited than in the west, although some progress has been seen in developing actions to address poverty and social exclusion.

CONCLUSIONS

Improvements have been seen over the past few decades in both health status and the conditions in which people live and work in Europe. However, with the process of enlargement begun in 2004, the debate on socioeconomic inequalities in health has been high on the European political agenda. The level of heterogeneity in living conditions as indeed widened tremendously, and it is expected to continue. The diversity in living conditions has translated into a diversity in patterns of health across the region.

The first section of the report finds that although health status has improved in all EU-15 Member States since the 1970s, significant inequalities remain between and within countries. In terms of the new Member States in which the political and economic transition significantly worsened health, some have experienced noticeable improvements in recent years and in some cases approach or surpass the EU average in health attainment. However, like the EU-15, the new Member States and ACC are beginning to face recognize important public health challenges: inequalities in health and ageing population. The Baltic states, Turkey, Bulgaria, Romania and TFYR Macedonia, however, lag behind both the CEE countries and EU-15 averages in many mortality and morbidity indicators.

Analyses of avoidable mortality also reveal that CEE countries lag behind the EU, suggesting improvements can be made both in public health programmes and in health care. Treatable mortality refers to deaths that can be treated by timely and effective medical care. The countries with high performance in treatable mortality include France, Sweden, Spain, Italy and the Netherlands. On the contrary, countries with consistently high levels of avoidable mortality are Romania, Latvia, Estonia, Bulgaria and Hungary. Indeed Romania and Bulgaria have the highest level of avoidable mortality among all the countries analyzed, accounting for almost half of total mortality in men in the former. In addition to treatable mortality, an analysis of preventable conditions reveals that some countries have inadequate preventive policies. Poor performing countries for lung cancer, road traffic accidents and liver cirrhosis are Hungary, Slovenia, Romania, Lithuania, Latvia and Estonia for men, and Hungary, Slovenia, Romania, United Kingdom, Estonia and Netherlands for women. In these countries, more needs to be done to improve public health policies – such as in the areas of tobacco control.

The section on risk factors confirms that “nutritional/physiological” behaviours mainly contribute to absolute differences in cardiovascular diseases; tobacco to differences in vascular diseases and lung cancer as well; and alcohol is the leading risk factor for injuries. The health gap between EU-15 and new Member States can largely be explained by disease patterns (namely CVD, injuries and violence, cancer, and alcohol-related diseases) and their underlying risk factors: smoking, diet and alcohol consumption.

Good health can be considered one of the most fundamental resources for social and economic prosperity. While the goal to improve average levels of population health is important for any government, there has also been an increasing focus on these disparities both at the national and European level. Therefore, investigating differences in health status within countries and between European countries provides the focus of the first half of the report.

Part Two is concerned with the policies pursued by governments to address the health issues described in the first section. Sections on the following topics have been presented: controlling two important risk factors for chronic diseases – tobacco consumption and obesity respectively; screening for TB and HIV, two communicable diseases that are resurging in some parts of Europe; mental health problems; and finally, socioeconomic inequalities. These sections present new information on national policies in the EU, and draw contrasts and comparisons between these in order to highlight possible areas of policy that are particularly successful, unsuccessful or underdeveloped.

The picture that emerges from the five policy sections is one of considerable activity and attention paid by governments to addressing key health challenges. Much has been achieved in recent years. For example, tobacco control policies have proven to be effective in Ireland, the UK, Norway, and Iceland. Evidence suggests that increases in cigarette prices and taxes and the introduction of comprehensive clean air laws have been successful in reducing smoking rates. There has also been renewed attention to obesity, mental health, TB and HIV control and addressing health inequalities.

While significant developments can be seen in developing public health policies, a common limitation observed across these policy interventions is the relative lack of evidence to support policy decisions and to evaluate effectiveness of programmes. More research is needed to evaluate the effectiveness and cost-effectiveness of national tobacco strategies, although many individual programmes have already been shown to be cost-effective in some contexts. It has also been difficult to assess the effectiveness of individual policy interventions to combat obesity, due in large part to their only recent introduction but also in the difficulties in collecting accurate data that can be compared within and across countries. In terms of mental health, while the evidence base on the availability of cost effective pharmaceutical and psycho-social treatments continues to grow, there are substantial gaps in our knowledge on the prevalence of mental health disorders. It seems there is also a lack of clarity on both the public health benefits and cost effectiveness of the different approaches to HIV and TB screening. Despite policy developments aimed at reducing health inequalities, to date there has been little evidence that they have been successful. This relative lack of evidence is due on the one hand to the long time lags from policy implementation and changes in population health, and on the other hand limited capacity for research and evaluation. Furthermore, in many countries, data collection and accuracy on health and health inequalities is limited, making developing policies difficult.

Finally, in each section, we underline the relevance of collaboration across sectors and levels of government for each area of public health. Multi-sectoral policy development and implementation is vital to tackle the persisting and emerging health threats. It has been shown that tobacco control requires comprehensive strategy covering not only national legislation and guidance, but community-directed actions and monitoring. The importance of multi-sectoral policies is especially important for policies tackling obesity, that require the support and involvement of all sectors, including schools, environment, media and the food industry. The same is true for the challenge of reducing health inequalities – an area that clearly goes beyond the scope of health policy – that requires cross cutting strategies addressing the broad spectrum of social determinants of health, including, among others, employment, housing, and schooling. Thus it is imperative that countries move towards formal coordination across sectors if improvements in public health and health inequalities are to be realized.

In the 2005 Annual Report (Health status and living conditions network 2005) we identified several limitations with the surveys available for comparing data between European countries and proposed a series of recommendations which are still relevant this year. These recommendations were categorized into four areas: (1) scope (the scope of many surveys focus is limited by excluding certain population groups or by focusing on specific subject areas); (2) comparability (when comparing epidemiological data, collection methods need to be standardized); (3) motivations of behaviours (without understanding the reasons behind changes in health related behaviour, it is difficult to know where to direct future research and policy decisions); and (4) accessibility (it would be valuable to have access to micro-level data).

Improved data would not only improve the evaluation of national policy, but would also aid EU-wide strategy development. The policy sections find that difficulty in assessing the effectiveness of individual policy interventions has hindered EU-wide strategy development. The wide heterogeneity in policy across Europe reported in Part Two in some cases justifiably reflects differences in epidemiology and health issues.