World Health Organization

REGIONAL OFFICE FOR Europe

PORTUGAL HEALTH SYSTEM

PERFORMANCE ASSESSMENT

Ministério da Saúde

Alto Comissariado da Saúde

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Abstract

This report presents the main findings of an assessment of the performance of the Portuguese health system carried out by the World Health Organization Regional Office for Europe in 2008 and 2009 as part of the Biennial Collaborative Agreement between the Ministry of Health of Portugal and the Regional Office.

The objectives of this report are to assess the performance of the Portuguese health system and to provide policy recommendations to policy-makers to improve overall performance. The assessment was driven by a set of core policy questions grouped into sections. These policy questions focus primarily on performance in relation to the ultimate goals of the health system and its determinants. The findings of the assessment are based on: a statistical analysis of a core set of health system performance indicators derived from a conceptual framework for health system performance assessment; interviews with health system policy-makers and stakeholders at national, regional and local levels; a round table discussion with policy-makers and health system experts; and a selective review of the literature.

This report includes an executive summary and a short presentation of key messages. Annexes present a summary of performance dimensions, policy questions and performance indicators and a summary of findings and policy recommendations.

Keywords

OUTCOME AND PROCESS ASSESSMENT (HEALTH CARE)
HEALTH SYSTEMS PLANS – organization and administration – economics
HEALTH STATUS
HEALTH PROMOTION
QUALITY OF HEALTH CARE HEALTH SERVICES ACCESSIBILITY
SUSTAINABILITY
PROGRAM EVALUATION
GUIDELINES
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FOREWORD

Health systems performance assessment is a recognized approach for measuring and analysing how well a health system is meeting its ultimate goals (improved population health for example) and how its performance against intermediary objectives, such as access and coverage, contributes to helping achieve these goals. Following a proposal by the High Commissioner for Health, the Portuguese Minister of Health invited the World Health Organization (WHO) Regional Office for Europe, within the Biennial Collaborative Agreement between WHO and Portugal, to perform a health systems performance assessment. This assessment was complemented by a parallel external evaluation of the National Health Plan (NHP) for Portugal for 2004–2010. Both the evaluation and this report support the efforts of the Ministry of Health to improve the performance of the Portuguese health system and contribute to the evidence base necessary to develop the next NHP for 2011–2016.

The objectives of this report are to provide recommendations for policy-makers to improve overall health systems performance. There has been renewed recognition and impetus for assessment of health systems performance following the Tallinn Charter on Health Systems for Health and Wealth (2008), whereby WHO European Members States committed themselves to greater transparency and accountability for health systems performance.

In Portugal, there have been significant improvements in measures of population health status and in health care outcomes. For example, the rates of perinatal and infant mortality went from being the worst in Europe during the 1980s and 1990s to among the best in 2003. And life expectancy at birth has improved dramatically over the past 25 years, as mortality rates for some key causes of death under the age of 65 have decreased since 2000 (particularly mortality due to motor vehicle accidents and to circulatory diseases such as ischaemic heart disease and cerebrovascular accidents.

Despite this, however, there remain some significant challenges, particularly in the areas of morbidity, avoidable morbidity and noncommunicable diseases, and in improving the distribution of opportunities to be healthy within the population. Development of the next NHP provides an important platform and an opportunity to address some of the challenges raised, including, for example, strategies to promote healthy lifestyles, citizenship and quality in health care.

This assessment represents an important contribution to advancing this work. The report is also an important milestone in the biennial collaboration between Regional Office and Portugal for 2010–2011.

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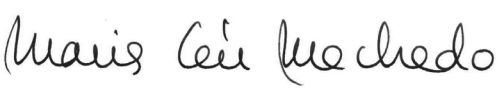

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KEY FINDINGS

There have been significant improvements in measures of population health status and in health care outcomes

- Life expectancy at birth has improved dramatically over the past 25 years; the gap in life expectancy compared to the average for the European Union (EU 15 group of countries)[15] decreased from 3 years in 1980 to 1½ years in 2007. Potential years of life lost (premature death) were 40% more than the EU 15 median in 1980 but only 20% more in 2003.
- Perinatal and infant mortality rates (deaths in the first 7 days and in the first year of life, respectively) were the highest of the EU 15 countries in 1980 but were better than the EU 15 average in 2007.
- Mortality rates for some key causes of death under the age of 65 years have decreased since 2000; in particular, mortality due to circulatory diseases such as ischaemic heart disease and cerebrovascular accidents has fallen substantially, as has the rate of death due to motor vehicle accidents. Thirty-day fatality rates following a stroke or heart attack have dropped by roughly a quarter since 2000. The 5-year survival rates for cancers detected at early stages have improved over the past 10 years.

Nevertheless, some results are troubling and significant challenges remain

- A number of morbidity indicators, such as self-assessed health status and disability-free life expectancy, have not shown similar improvement and results continue to be low in relation to other EU 15 countries.
- There are still sizeable inequalities[16] in health status between men and women and among geographical regions. Women live longer than men, but women appear to live in a poorer state of health with a shorter disability-free life expectancy and lower self-assessed health status than men. Life expectancy is shorter in the less populated and less urban regions of Portugal.
- Rates of obesity have been increasing for both men and women and across all age groups. There has been no improvement in the overall smoking rate in Portugal – a decrease in the rate among men has been offset by a very troubling increase in the rate among women.
- The Portuguese appear less satisfied with the availability and quality of health care than citizens of other EU 15 countries.
- Mortality amenable to health care and health promotion interventions improved between 1997–1998 and 2002–2003, but not as much as in other EU 15 countries, and Portugal had the highest rate of amenable mortality among the EU 15 countries in 2002–2003.
- Total expenditure on health has increased substantially over the past decade. However, the increase in private expenditure, including out-of-pocket payments and cost sharing, has been disproportionate, placing an additional burden on disadvantaged households and potentially limiting access to care.
- There are critical gaps in health information in Portugal that may limit the potential to develop health system policies and strategy on the basis of

[15] Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

[16] Health inequalities refers here to avoidable and unjust systematic differences in health status between different groups in a given society (inequities) and not all inequalities. Where the terms inequity or inequities are used in this publication it is because the particular reference or study used this term. For example, the final report of the Commission on Social Determinants of Health specifically refers to health inequities.

sound evidence. There were limited data on measures of safety and health and it is difficult to assess and monitor the extent of socioeconomic inequalities in health. The gaps in health information also limit the capacity to support transparency and accountability through public reporting of results.

Key Recommendations

There are opportunities to respond to these challenges and improve health system performance. However, two significant threats to the system may limit capacity to achieve results: (a) current patterns of risky health behaviour, in particular rates of smoking and the prevalence of obesity, will constrain improvement in health status; and (b), any responses to the challenges must be fiscally sustainable. Within this context, the following core policy recommendations can be formulated.

1. Promote health policies targeting health gains and reduced health inequalities in all sectors. Ensure that decisions and investments are planned and undertaken together with other ministries and agencies to exert influence on overall government effectiveness.

2. Invest in upstream and gender-responsive health promotion activities in order to tackle risk factors and integrate the determinants of health into public health, health promotion and disease prevention programmes.

3. Ensure a broader engagement of patients and the general public in health system decision-making and take the leadership for broader public engagement across government activities.

4. Increase value from investments in health by prioritizing spending on primary health care and public health, and by enhancing the efficiency of service delivery.

5. Clarify the role of the private sector through a coherent policy framework: regulate and ensure compliance with requirements for public reporting, standards of quality and safety, rules for dual employment, and pricing and payment mechanisms.

6. Improve the coherence of public coverage and subsystem coverage by progressively shifting the role of subsystems to supplementary coverage.

7. Develop more coherent approaches to the decentralization of health service delivery: further decentralize decision-making authority, including budgetary and financial autonomy, together with corresponding accountability and performance management.

8. Reduce barriers to the affordability of health care services: the relatively high level of out-of-pocket spending on health care services in Portugal requires policies to reduce their impact, particularly on disadvantaged households.

9. Develop strategies on human resources for health that include planning for both appropriate numbers and mix, addressing professional scope of practice, and clarifying the role of professional councils.

10. Ensure that health information capacity is sufficient to promote the use of evidence in developing policy and in responding to requirements for transparency and accountability.

A critical element in improving health system performance with limited resources is the ability to make policy choices to allocate resources in areas where they can be most effective in improving health and equity in health. It is essential to develop the policy decision-making capacity to address reallocation of resources based on evidence, recognizing that, although "health" is the ultimate goal of the health system, other social systems and policies have a significant impact on the level of health and on health inequalities.

EXECUTIVE SUMMARY

The people of Portugal have enjoyed substantial improvements in their health status over the last 25 years. Life expectancy is approaching the European Union (EU 15)[17] average, and rates of perinatal and infant mortality have gone from being the worst through the 1980s and 1990s to among the best in 2003 (1,2). Despite these remarkable improvements, however, there are still important health inequalities – between men and women, regions and socioeconomic groups – and most health system performance indicators have not yet reached the level of the EU 15 or OECD averages. Furthermore, health care expenditure rose from 8.0% of GDP in 1996 to 10.0% in 2007 (2), raising the question of value for money and financial sustainability of the health system (3). This document summarizes the key findings from an assessment of the performance of Portugal's health system (4) and lays out key policy recommendations to further improve the health status of the people of Portugal and meet the significant challenges described above. The report assesses how the Portuguese health system performs in: achieving better health for the Portuguese population; ensuring confidence and satisfaction in good quality, accessible health services; ensuring social solidarity; and addressing health system sustainability and efficiency.

[17] The EU 15 group comprises the countries that were EU Member States before 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

There has been a significant improvement in population health status measures and some health care outcomes ...

Portugal began the 1980s with some of the lowest results among the EU 15 countries for indicators of population health, but improvement over the following 25–30 years was continuous and, although some results are still among the lowest of the EU 15, the gap has closed significantly. In 1980, life expectancy at birth was 71 years, a difference of 3 years compared to the EU 15 average; by 2008, the gap had closed to just under 1½ years (2,5). Potential years of life lost before the age of 65 years (a measure of premature death) was 40% greater than the median for the EU 15 countries in 1980, whereas by 2003 it was only 20% greater (2). In the case of infant and perinatal mortality (deaths in the first year and first 7 days of life, respectively), the rates for Portugal are now better than the EU 15 averages, with infant mortality falling from a rate that was twice the EU 15 average in 1980 (5,6).

In terms of more recent results (since 2000), the mortality rates for some of the most important causes of death under the age of 65 years have decreased. In particular, mortality due to circulatory diseases such as ischaemic heart disease and cerebrovascular accidents has fallen substantially, as has the rate of death due to motor vehicle accidents (5). There has also been some improvement in the outcomes of health care services over the same period. Improved clinical care is likely to have been a contributing factor to lower fatality rates in the 30 days following a stroke or acute myocardial infarction (AMI). These have fallen from 14% to 10% for heart attacks and

from 14% to 11% for stroke (5). The 5-year relative survival rate following diagnosis for selected cancers that are treatable when detected at an early stage has also improved over the past 10 years (5).

… but some results are troubling and significant challenges remain

Morbidity. Despite improvements in mortality, indicators of morbidity have not shown similar improvement and results continue to be low in relation to other EU 15 countries. For instance, close to 14% of people assessed their own health as being "bad" or "very bad" in a 2005/2006 Portuguese survey (7,8). Conversely, only 40% assessed their health as "good" (or better); none of the other EU 15 countries had a result lower than 50% and only one had a result lower than 60% (2). Nevertheless, progress on this performance indicator between 1999 and 2005 should be noted, especially among the elderly. There has also been no improvement in life expectancy adjusted for an individual's state of health (disability-free life expectancy or healthy life years). In 2007, Portuguese males had a disability-free life expectancy that was over 3 years less than the EU average[18] and the gap for females was 5 years (9).

Health equity. There are still sizeable inequalities in health status between men and women and among geographical regions. Although the gap has closed over the past 25 years, women live longer than men by about 7 years and the rate of potential years of life lost for men is twice that for women (2,5). Men bear the burden of deaths that occur at earlier ages, for example, from suicide, motor vehicle accidents and HIV/AIDS (5). Nevertheless, although women live longer, they appear to live in a poorer state of health, with a shorter disability-free life expectancy and lower self-assessed health status than men, particularly in older age groups (2,8). Population health status also varies according to geography. Lower life expectancies and higher rates of potential years of life lost are driven by higher mortality rates for younger people in the less populated regions of Portugal. Suicides and motor vehicle accidents take a much higher toll in these regions, as does ischaemic heart disease, which also weighs heavily in Lisbon (5). Although there is little information available with which to analyse differences in health status among socioeconomic groups, the results of work by Mackenbach et al. (10) suggest that inequalities in self-assessed health with respect to level of education in Portugal are among the highest of 19 European countries, and that there are inequalities with respect to income level.

Healthy behaviour. Trends in lifestyle choices that are key determinants of health status are not encouraging. Rates of obesity have been increasing for both men and women and across all age groups; and, in contrast to many other countries, there has been no improvement in the overall smoking rate in Portugal – a decrease in the rate among men has been offset by an increase in the rate among women. There are also notable inequalities in rates of obesity and smoking according to level of education. Among women in particular, the proportion of those who smoke is much higher for those who have completed at least secondary education, while the proportion of those considered obese is higher for those who have not completed secondary education (8).

Responsiveness: Systematic international comparisons of confidence in and satisfaction with health system responsiveness are limited, but available surveys suggest that the Portuguese lack confidence in the capacity of the health system to provide good quality, accessible care. In a 2008 survey, less than two thirds of people indicated that they were satisfied with the availability of quality health care in the city or area where they lived (2), the third lowest rate among 14 of the EU 15 countries. Furthermore, in a 2007 survey, the Portuguese rated their health system the lowest or second lowest with respect to the affordability of dental care and medical and surgical specialists, the quality, availability of and access to family doctors and the quality of dental care (11).

[18] All 27 EU Member States.

Access to, quality of and outcomes of care. Although measurements indicate some recent improvement in waiting times for surgery and access to primary care, some concerns about the safety, appropriateness and quality of care exist. For example, the rate of caesarean section deliveries has increased since 2000 and is the second highest of the EU 15, well over twice the WHO suggested upper limit of 15% (2,12). Although cancer survival and fatality rates following stroke and heart attack have improved, the 30-day fatality rates remain higher than those of many EU 15 countries: in 2005, Portugal ranked ninth out of 11 countries having reported data for in-hospital mortality rates following acute myocardial infarction, and eighth out of 12 for in-hospital mortality rates following stroke (13). Moreover, there has been no overall change in the hospital admission rate for a number of chronic conditions[19] that can be effectively managed in the community. The rate of mortality due to causes amenable to health care[20] improved between 1997/1998 and 2002/2003, but not as much as in the other EU 15 countries; in 2002/2003 Portugal had the highest rate of amenable mortality among these countries (14).

Financing, affordability and protection. In common with most developed countries, total expenditure on health, both as a percentage of GDP and on a per-capita basis, has increased significantly over the past decade. In the most recent years, however, a disproportionate amount of this increase has come from private sources and the portion of spending that is funded from public (state) sources has decreased. Private expenditure on health as a percentage of total health expenditure has remained consistently above the EU 15 average (6). More worrisome is that private out-of-pocket spending (through co-payments and cost sharing) accounts for well over one fifth of the total, while most EU 15 countries have rates below 17% and WHO has proposed a rate of 15% or lower as being most effective in protecting against catastrophic household health care expenditure (15). This high proportion of out-of-pocket spending limits the affordability of health care and places an undue burden on poorer households, with 8% of households in the lowest income quintile reporting more than 40% of their non-food expenditure going on health care services and medicines (5). Limitations in affordability indeed exist. As documented by van Doorslaer & Masseria (16), Portugal had one of the highest rates of income-related inequality in use of physician services for 13 of the EU 15 countries: it ranked last for income-related inequality in use of specialist visits and second to last for use of general practitioners.
There are also questions about duplication of coverage for health services. Basic health services are covered for all citizens and are delivered through the National Health Service, which is publicly funded primarily through general tax revenues. However, close to one fifth of the population has duplicate insurance coverage provided through health subsystems that are defined on the basis of occupation or employment (17,18). This coverage may result in some individuals having faster and easier access to services.

Health information limitations. Throughout the course of this performance assessment, a number of health information gaps were identified that could restrict the capacity to develop, analyse and monitor the effectiveness of policy options, as well as making it difficult to formulate an assessment of performance in some important areas. Good health system information is also required to support transparency and accountability within the system. For example, there were limited data on measures of safety and quality of health care. It is also difficult to assess and monitor the extent of socioeconomic inequalities in health or in access to health care services.

[19] These conditions include epileptic seizure, chronic obstructive pulmonary disease, asthma, diabetes, heart failure, hypertension and angina.

[20] Causes amenable to health care are defined as causes of death that should not occur in the presence of effective and timely health care *(14)*.

Challenges and opportunities to improve health in a sustainable way

The challenge for the health system is to consolidate and further improve the recent gains in health status, together with improving equity in health, and to be more responsive to the expectations of the Portuguese population. However, capacity to respond to this challenge is threatened in two ways: current patterns of risky health behaviour, in particular rates of smoking and the prevalence of obesity, will constrain improvement in health status; and given the fiscal capacity of public funding, any attempt to improve the situation by spending more on the health system is challenging. Indeed, although the proportion of the health system financed through public spending was the lowest of the EU 15 countries in 2007, at the same time Portugal's rate of public spending on health care as a percentage of GDP was at the median of the EU 15 and spending on health care consumed over 15% of total government spending (3). Additional challenges include the need to develop coordinated and cohesive health policies across health sectors, the Ministry of Health and all government ministries.

However, there are a number of opportunities for developing policies and strategies in a National Health Plan (NHP) to meet this challenge. These are summarized in the following key policy recommendations, which are further expanded in the full report.

Policy recommendations

1. Develop leadership and invest in capacity building for incorporating health in all policies and strengthen mechanisms for interministerial coordination and intersectoral action focused on health gains.

2. Invest in upstream and gender-responsive health promotion activities in order to tackle risk factors and integrate determinants of health into public health, health promotion and disease prevention programmes.

3. Undertake a comprehensive review of social determinants of health and of health inequalities and develop health information systems allowing regular reporting and monitoring of health equity with respect to socioeconomic factors, while respecting the privacy of individuals.

4. Ensure a broad engagement of patients and the general public in health system decision-making and pave the way for broader public engagement across government activities.

5. Further invest in primary health care reforms and public health as a foundation for attaining health gains and better management of chronic diseases.

6. Enhance the role of the Regional Health Authorities in pursuing efficiency and productivity gains at the local level through better planning according to the needs of the populations served. Balance efficiency gains with quality and safety improvements through optimal planning.

7. Pursue and align policies related to cost containment, purchasing of health care services and pharmaceuticals. Further develop support policies to ensure the sustainability of the health system, such as human resources for health, innovation and research and development, and information management policies.

8. Enforce the compliance of public and private providers with minimum standards and ensure reporting on a core set of performance indicators, and establish a platform for health professionals to share best practices and develop mechanisms to promote continuous quality improvement of health services.

9. Clarify the role of the private sector through appropriate regulation: develop and ensure compliance with requirements for public reporting, standards of quality and safety, rules for the dual employment of health professionals, and payment mechanisms rewarding performance for both the public and private sectors.

10. Review the most regressive elements of the financing system in order to improve equity in health financing.

11. Progressively shift the role of subsystems to one of complementary coverage, starting by ensuring that the budget transfers are equivalent to the health care needs of the populations covered.

12. Develop an integrated strategy for health system information management in order to report regularly to the public on health and health care system

performance and ensure the availability of timely, valid and reliable information to planners and policy-makers.

13. Lead the development of an integrated strategy related to human resources for health through multi-stakeholder collaboration, and clarify and promote the role of professional organizations with regard to policy on human resources for health.

Conclusion

The key policy recommendations listed above are highly related to each other. They all have implications for the sustainability of the health system and for making policy decisions given constraints on fiscal capacity. A key component of improving health system performance with limited resources is the ability to make policy choices on allocating resources in areas where they can be most effective in improving health and equity in health. Increasing investment in one area to realize benefits will mean reducing spending in another area where it is not as effective. Although improvements in efficiency and the cost of delivering services will help, it is critical to develop the policy decision-making capacity to address reallocation of resources in order to achieve health gains for the population as a whole and for subgroups.

INTRODUCTION

Portugal has enjoyed substantial improvements in the health status of its population over the last 25 years. Life expectancy has converged to the European Union (EU) average: for the 2006–2008 period, average life expectancy at birth was 78.9 years while the average for the EU 15 group in 2007 was 80.4 years (1,5). Despite remarkable improvements, however, there are still important inequalities in health between men and women and among regions and socioeconomic groups, and most health system performance indicators have not yet reached the level of the EU or OECD averages. Furthermore, health care expenditure rose considerably over the last ten years, while at the same time the general economy grew slowly and the income gap with the EU 15 increased (19). The overall economic context for health raises the question of value for money and financial sustainability of the health system in Portugal (3,20).

The Ministry of Health of Portugal, through the Office of the High Commissioner for Health, requested the WHO Regional Office for Europe to carry out an assessment of the performance of its health system. This assessment is complemented by a parallel external evaluation of the NHP for 2004–2010 (21). These studies are part of a broader Collaborative Agreement between Portugal and the Regional Office, spanning the period 2008–2009 (22). This project builds on the collaboration between the Ministry of Health and the Regional Office on the development and implementation of the NHP since 2002. Both the evaluation report and this report support the efforts of the Ministry of Health in improving the performance of the Portuguese health system and are part of a process to gather together the critical evidence base necessary to develop the 2011–2016 NHP.

In 2008, Portugal endorsed the Tallinn Charter (23). The purpose of the Charter is to improve people's health by strengthening health systems while acknowledging the social, cultural and economic diversity across the WHO European Region. Member States committed themselves to promoting transparency and to being accountable for health system performance to achieve measurable results. This health system performance assessment report is one of the first steps for Portugal in implementing the Tallinn Charter. Overall, its main objective is to contribute to enhancing the accountability of the health system towards its different constituents, including the

general public, and to support decision-making by bringing forth evidence on health system achievements and shortcomings. Furthermore, regular performance assessments ensure that the health system has a strategic direction focusing on achieving health gains for the population, that policy decisions are informed by appropriate intelligence on health problems and their determinants and that all government policies contribute to better health.

Health systems can be defined as "all actors, institutions and resources that undertake health actions – where the primary intent of a health action is to improve health" (24). This definition implies that the boundaries of health systems encompass broader government policies aiming primarily at improving health, as well as broader health determinants directly actionable by the health system. Although health systems throughout the world vary widely in their design, content, management and level of performance, they generally share the same core goals of good health (level and distribution of health across the population), responsiveness to people's expectations, and social and financial risk protection (25). Performance in achieving the intermediate objectives of the health system (such as access, coverage, quality and safety of health services) contributes to meeting these goals. Achieving health system goals depends on the successful implementation of four generic functions of health systems, which are closely inter-related: health system stewardship, service delivery, resource generation and financing (25). Adapted to the specific objectives and strategies of Portugal, these core goals, intermediate objectives and functions provided a framework for assessing how well the health system is performing.

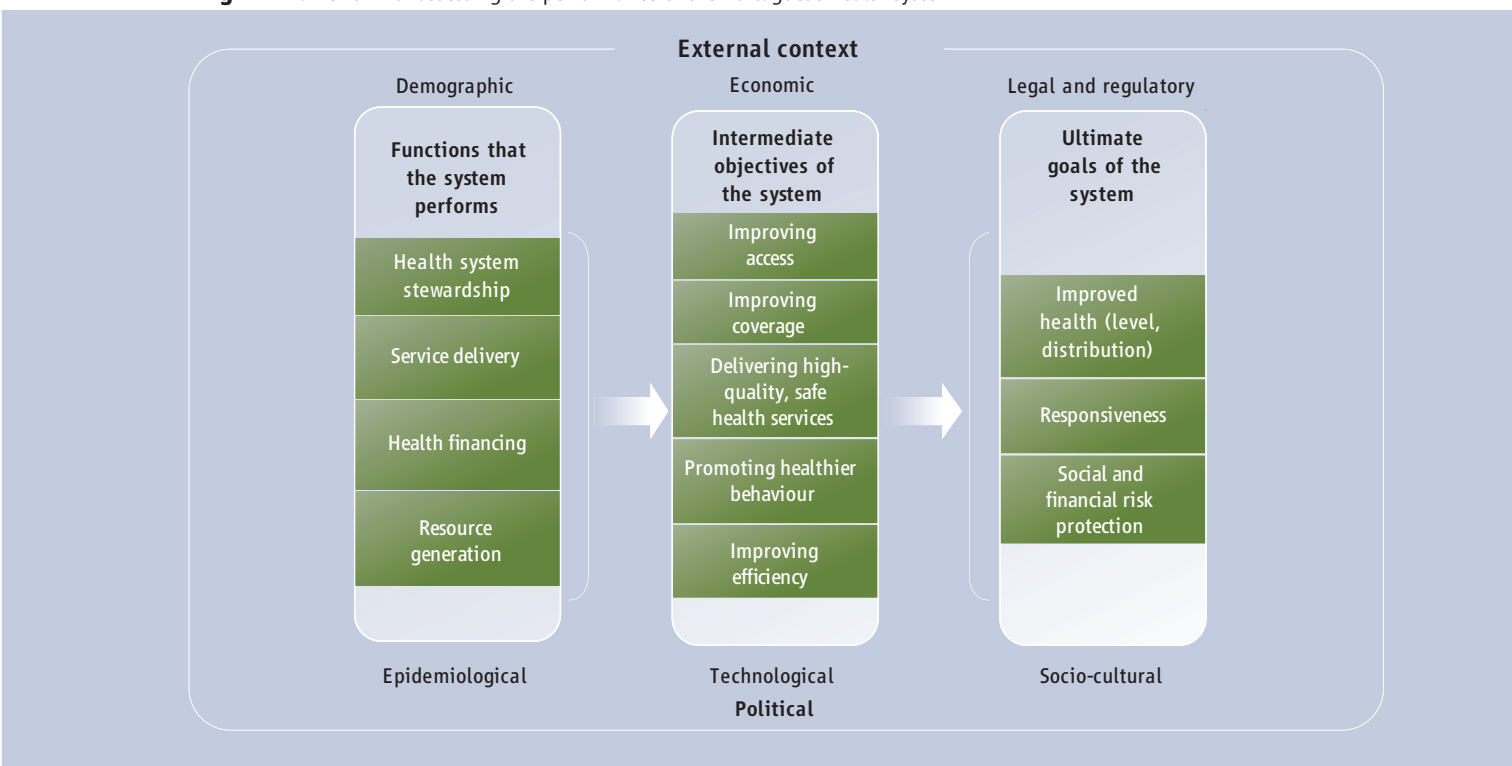
Methods

This health system performance assessment was carried out through a mix of quantitative and qualitative methods. Quantitative methods comprised the collection, analysis and interpretation of a core set of health system performance indicators derived from a conceptual framework for health system performance assessment (Fig. 1). A national expert panel discussed both the framework and the core set of indicators in February 2009. Indicators were collected and calculated by various national institutions, including the National Statistical Institute (INE), the Central Administration Services of the Ministry of Health (ACSS), the Directorate General for Health of the Ministry of Health (DGS) and the National Institute for Pharmaceuticals (INFARMED). (For a full list of sources see Annex 1.) Qualitative methods comprised: a functional review of the Portuguese health system (carried out through four expert missions on, respectively, health system stewardship and decentralization, health system stewardship and information management, health system service delivery and health system financing and resource generation) between October 2008 and May 2009; numerous interviews with policy-makers, service providers and health system stakeholders, including interest groups at national, regional and local levels; policy analysis; and visits to health facilities in the public and the private sectors. This assessment was further informed through the findings of the parallel evaluation of the NHP for 2004–2010 (21). Finally, a selective review of the literature in English and in Portuguese was carried out to support this project.

The assessment was driven by a set of core policy questions grouped into the chapters of this report. These policy questions focus primarily on performance in relation to ultimate goals of the health system and its determinants. The analysis was supported by the core set of performance indicators and a functional analysis of the health system carried out through the four WHO expert missions mentioned above. The list of performance indicators used for this assessment and mapped to the framework and policy questions is presented in Annex 2. Policy recommendations were built on the basis of the quantitative and qualitative findings and on the evidence available on effective policy interventions, as well as on the advice of experts.

Results for the selected performance indicators are presented and organized in order to answer specific policy questions associated with each chapter. Where available, results are analysed over time, across regions within Portugal, against international comparators and, if possible, among social groups. Finally,

Fig. 1 Framework for assessing the performance of the Portuguese health system



each chapter closes with a summary of the current situation and assessment, together with recommendations for policies to address gaps in performance and strengthen the health system.

The results of the health system performance assessment are presented in four main sections corresponding to different components of the health system performance framework presented in Fig. 1: (a) achieving better health for the Portuguese population (improved health and distribution of health, health literacy and risk factors, and impact of broader health determinants); (b) ensuring confidence and satisfaction in high-quality, accessible health services (health system responsiveness, access, quality and safety, and health care outcomes); (c) ensuring social solidarity (social and financial protection, coverage, and inequalities in access to health care services); and (d) health system sustainability and efficiency (health system expenditure, human resources for health, innovation and health technology, and health system effectiveness and efficiency).

SECTION 1:
Achieving Better Health for the Portuguese Population

Improving the health of the population is the defining goal of health systems; health system performance should therefore be viewed primarily from the perspective of how health systems manage to improve the overall average level of population health and reduce inequalities in health (25). This implies that health systems aim both at improving the health of the population in general and at achieving greater gains in the health status of those who have been in poorer health. It is important to recognize that both the overall level of health and equity in health result from the interaction of other social systems and determinants of health that lie outside the health system (26), such as those related to living and working conditions: agriculture and food production, education, the working environment, unemployment, water and sanitation, health care services, and housing (27).

Improving the health status of the Portuguese

Broad indicators of population health, such as: life expectancy at birth; perceptions of health status by individuals; number of years individuals can expect to live without disabilities (called disability free life years); and indicators of premature mortality (through an indicator of potential years of life lost, putting more weight on deaths at an earlier age, and causes of death before age 65) can be used to assess progress in the goal of improving overall health.

Policy Questions	Key findings
Do people live longer?	**Life expectancy at birth** increased by over 25% from roughly 64 years in 1960 to 71 in 1980 to 78.9 in 2006 (2,5). The most recent result is still over one year less than the EU 15 average of 80.4 (Fig.2).
	Potential years of life lost (PYLL) decreased from 5600 per 100 000 population in 2000 to 4125 in 2008 (5). In 2006, Portugal had the highest rate of PYLL of the EU 15 countries, but the improvement in the rate from 1970 to 2004 was by far the highest among these countries (18).

What are the trends in mortality?	**Perinatal mortality** (fetal deaths after 28 weeks' gestation and deaths within the first 7 days of life per 1000 live births) decreased from 6.2 in 2000 to just under 4 in 2008 (5). Since 1997, Portugal's rate has been lower than the average for the EU 15 countries[7] (2,6,28).
	Infant mortality (deaths per 1000 live births within the first year of life) decreased from 5.7 in 2000 to 3.3 in 2008 (5). Over a longer period of time, the improvement has been more dramatic: it decreased from 55 in 1970 to being among the lowest third of the EU 15 countries in 2007 (Fig. 3) (2).
	Standardized mortality rates for **main causes of death under age 65** targeted in the NHP decreased between 2000 and 2008, including rates of death due to ischaemic heart disease, cerebrovascular accidents, motor vehicle accidents, AIDS and breast cancer (5). Rates for other causes of death, including cervical and colon/rectum cancers, along with suicide and alcohol-related deaths, have not improved or have increased (Fig. 4).
Do individuals live their lives in a better state of health?	Close to 14% of Portuguese **assessed their own health** as "bad" or "very bad" in 2005/06 (5,8). Results are influenced by perceptions and cultural expectations of health; however, at 40%, Portugal had the lowest percentage of population who assessed their health as "good" (or better); none of the other 13 EU 15 countries that reported had a result less than 50%, and in only one was the result less than 60% (2).
	Disability-free life expectancy (DFLE) is essentially unchanged for Portugal over the period 1996–2003 (9) for both males and females. The DFLE for males was 58.3 years in 2007 compared to an EU (EU 27)[8] average of 61.6; the result for females was 57.3 compared to the EU 27 average of 62.3 (9).
	The **rate of low birth weight infants** (weighing less than 2500 g at birth) increased from 7.1% in 2000 to 7.7% in 2008. Although rates increased in most EU 15 countries over this period, Portugal went from having one of the lowest rates in the 1980s to the highest in 2007 (2).

[7] Caution must be used when comparing international results for perinatal mortality, as different criteria (gestational age or birth weight) are used by different countries.

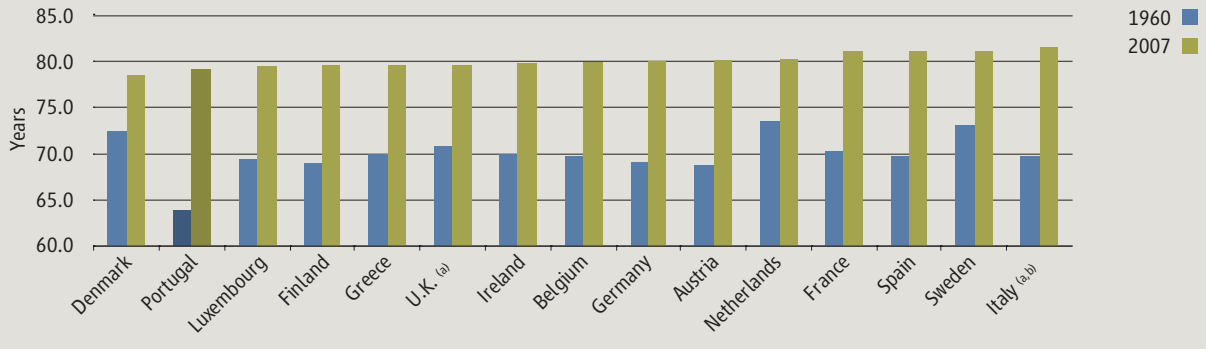
[8] The European Union countries are currently Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom.

The significant reduction in the rates of infant and perinatal mortality over the past 20–30 years has been a key factor in both the increase in life expectancy and the decrease in the rate of PYLL (premature death) (28). There have also been improvements in the rates of death due to other causes under the age of 65. These include significant drops in the rates of death due to motor vehicle accidents and HIV/AIDS, both of which impact the life expectancy of young adults and therefore such indicators as PYLL. However, the rate of death due to HIV/AIDS still remains over twice that of the average for the EU (1). Also, there has been no improvement in the rates of death due to suicide or related to alcohol, suggesting that mental health (including addictions and substance abuse) continues to have an impact on the overall health status of the population.

The main causes of death at any age in Portugal include diseases of the circulatory system (including ischaemic heart disease and cerebrovascular accidents), malignant neoplasms (all types), and diseases of the respiratory system. Together, these accounted for two thirds of all deaths in 2006. However, the standardized death rates for these diseases were substantially lower than the EU averages in 2006 (9).

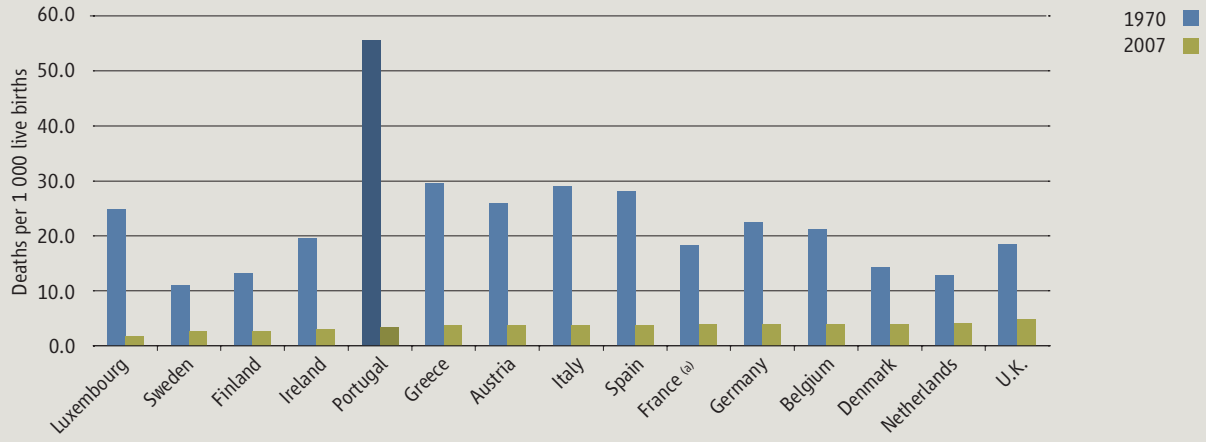
DFLE, also referred to as "healthy life years", is a measure of years of life lived free from significant disabilities and provides an indication of the impact of morbidity on population health. Results reported for Portugal show DFLE essentially unchanged over the period 1996–2003 for both males and females. And, although life expectancy and perinatal and infant mortality rates indicate broad gains in population health,

Fig. 2 Life expectancy at birth, EU 15 countries, 1960 and 2007



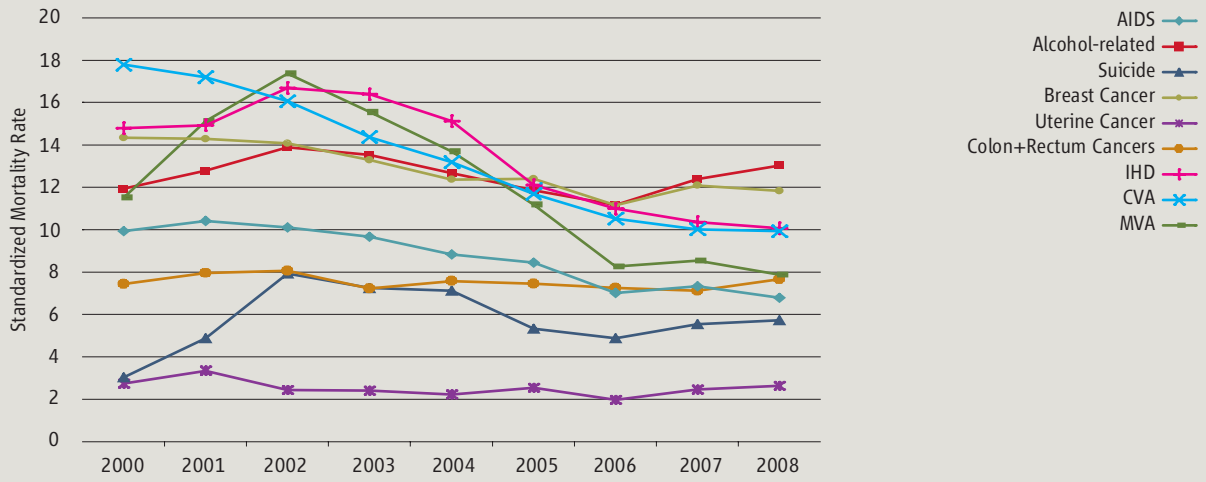
Source: OECD (2) (a) 2006, (b) 1961

Fig. 3 Infant mortality, EU 15 countries, 1970 and 2007



Source: OECD (2) (a) 2006

Fig. 4 Standardized mortality rates age < 65 years for selected causes, mainland Portugal, 2000–2008



Source: National Statistics Institute (5).

survey results suggest that the Portuguese assess their own state of health as being worse than that of people in other European countries.

Low-birth-weight infants (weighing less than 2500 g at birth) are at greater risk of poor health and are more likely to develop disabilities that will stay with them throughout life. A number of factors are related with low birth weight, including premature birth, maternal age, maternal health (smoking habits and nutrition) and multiple births (18). There is some evidence that the proportion of low-birth-weight infants born to migrant mothers has been increasing, since the proportion of babies born to migrant mothers (as a percentage of all births) has been increasing (5). This pattern, together with other factors, is a likely contributor to the increase in Portugal's rate of low-birth-weight infants over the past 10 years, a rate that is now greater than those of other EU 15 countries. Strategies to enhance existing prenatal care services to address the issues related to low birth weight and maternal health may provide an avenue for improving these results.

The population health status results illustrate clear trends: improvements in life expectancy and PYLL but little or no improvement in morbidity, along with low personal perceptions of health status; and significant reductions in mortality rates for key causes of premature mortality such as heart disease and stroke but no change or some increase in rates for others, including cervical, colon and rectal cancers, suicides and alcohol-related deaths.

Improving equity in health

Improving equity, or reducing the variation in health status, particularly among disadvantaged populations, is the second aspect of the key goal of improving health. Among the EU 15 countries, Portugal had the highest level of income inequality in the mid-2000s (29). A health system that improves equity in health can help to ensure that those who are less well-off do not suffer from poorer health. Variations in results for some of the measures of health status – by sex, geographical region, education, income and other socioeconomic factors – provide useful information to assess equity in health and guide the development of health and social policy strategies to address them.

In common with all developed countries, women have a longer life expectancy than men and have lower rates of PYLL (2). Although the discrepancy has decreased over the past 15 years, the main driver is the higher incidence among men of the causes of death that occur at earlier ages, such as suicide, HIV/AIDS and motor vehicle accidents. Women, although living longer, appear to have a poorer state of health as reflected by a shorter disability-adjusted life expectancy along with lower self-assessed health status, particularly in the older age groups.

Population health status also varies according to geography. Here too, lower life expectancies and higher rates of PYLL are driven by higher mortality rates for causes that strike at younger ages in the less populated and less urban regions of Alentejo and Algarve. Suicides and motor vehicle accidents take a much higher toll in these regions, as does ischaemic heart disease, which also weighs heavily in Lisboa e Vale do Tejo. On the other hand, self-assessed health status is roughly equal across all geographical regions.

It is expected that health status will change with age. However, the extent to which older people remain healthy is a reflection of the way in which the health system has supported their health throughout life and can assist them in maintaining good health. Although self-assessed health status improved across all age groups between 1998/1999 and 2005/2006, the percentage of those in older age groups rating their health status as "bad" or "very bad" far exceeded the targets established for the NHP.

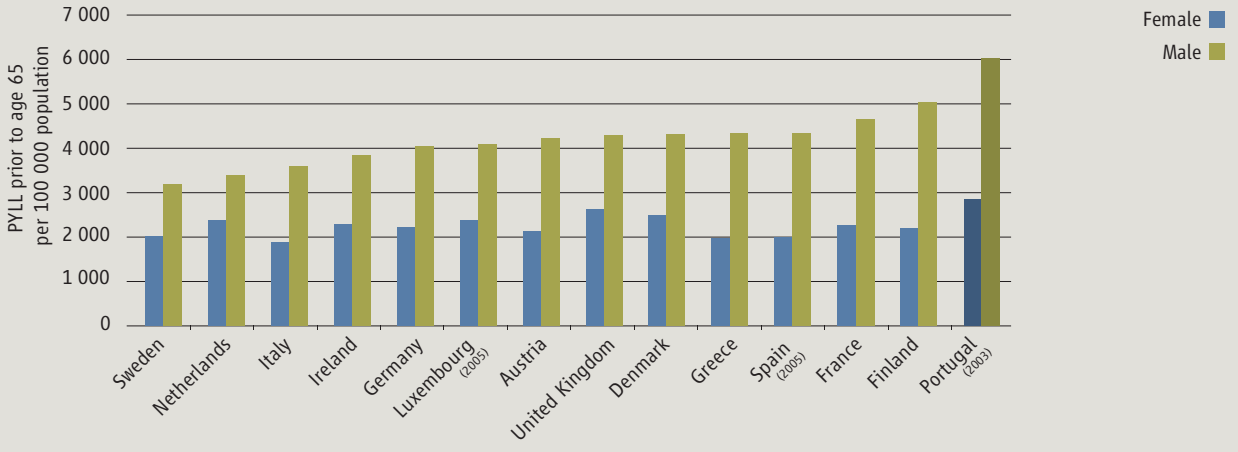
Information available to assess variations in health status by socioeconomic status variables (such as education, income level or employment status) is limited. However, the results of work by Mackenbach et al. (10) suggest that inequalities in self-assessed health with respect to level of education in Portugal are among the highest of 19 European countries, and that inequalities with respect to income level, while not the highest, still exist (10). Unfortunately, owing to a narrow interpretation of the data confidentiality law, there is currently no mechanism for systematic reporting or monitoring of health status indicators by level of education or income.

Policy question	Key findings
What is the extent of differences in health status related to sex?	Female **life expectancy at birth** was 6.2 years greater than that for males in 2007. The gap was 7 years in the mid-1990s.
	The rate of **PYLL** per 100 000 population for men (5678) was over twice that for women (2598) in 2008 (5). Eleven of the EU 15 countries had smaller proportional differences in 2006[9] (Fig. 5) (2).
	Males had much higher rates than women of death from the key **causes of mortality before the age of 65** targeted in the NHP. In 2008, the rate of alcohol-related deaths for men was more than 6 times that for women while the rate for ischaemic heart disease was more than 4 times greater; the rates for HIV/AIDS, suicide and motor vehicle accidents were all more than 3.5 times greater for men.
	In 2005/2006, women had lower **self-assessed health status** than men: 17.4% of females rated their health as "bad" or "very bad" compared to 10.4% of males. The differences were larger among older age groups (55 years and over) (Fig. 6) (8).
	DFLE was one year less for women (57.3 years) than for men (58.3 years) in 2007. The difference in the EU averages was less, with women on average having a DFLE 0.7 years greater than men (9).
What is the extent of geographical variations in health status?	The rate of **PYLL** has declined consistently since 2000 over the three larger regions – Norte, Centro and Lisboa e Vale do Tejo. In 2008, however, the rate in Algarve was 31% greater than the national average and in Alentejo 19% greater. These differences were greater than those in 2000 (5).
	In Alentejo and Algarve, **rates of death (under age 65) due to targeted causes** were much higher for suicide (over twice the national average), ischaemic heart disease (more than one half higher than the national average) and motor vehicle accidents (more than one third higher than the national average). The rate of death due to ischaemic heart disease was also much higher in Lisboa e Vale do Tejo (Fig. 7) (5).
What is the extent of variation in health status related to age?	**Self-assessed health status** improved across all age groups between 1998/1999 and 2005/2006. However, among the older age groups (55 years and over), there is a larger gap compared to the NHP targets (7,8) (Fig. 6).
What is the extent of variation in health status related to education and other socioeconomic factors?	There are few data with which to report and monitor differences in health status by education, income, employment status or other socioeconomic variables. A study of socioeconomic inequalities in health status (10) found that Portugal had the highest (of 19 European countries) level of **inequality in self-assessed health status by level** of **education**, both for men and for women.

[9] The results reported for Portugal in the OECD comparison are from 2003. This is the most recent year for this specific performance indicator. The OECD defines PYLL as death before the age of 65. By comparison, the results reported for Portugal for 2008 are from the Portuguese statistical agency. Here PYLL is defined as death before the age of 70; thus the result will be higher than if age 65 were used in the definition.

Improving equity in health presents the challenge of developing both health and corresponding social policies to address specific differences among groups: women live longer than men but in poorer health, and different geographical regions have different challenges with respect to reducing mortality for selected causes of death. Policy responses may have to be customized to address local or community health and social issues. This challenge is exacerbated by the current lack of information systems required for monitoring changes and evaluating the success of policies. If the necessary steps were taken to overcome data privacy and regulatory constraints for research and policy-making purposes, this would allow for the col-

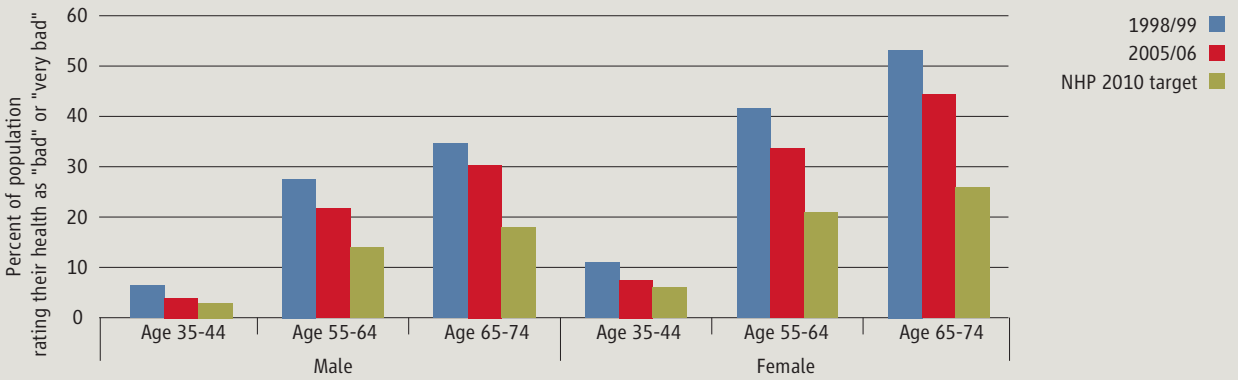
Fig. 5 Potential years of life lost for EU 15 countries, 2006



Source: OECD (2)

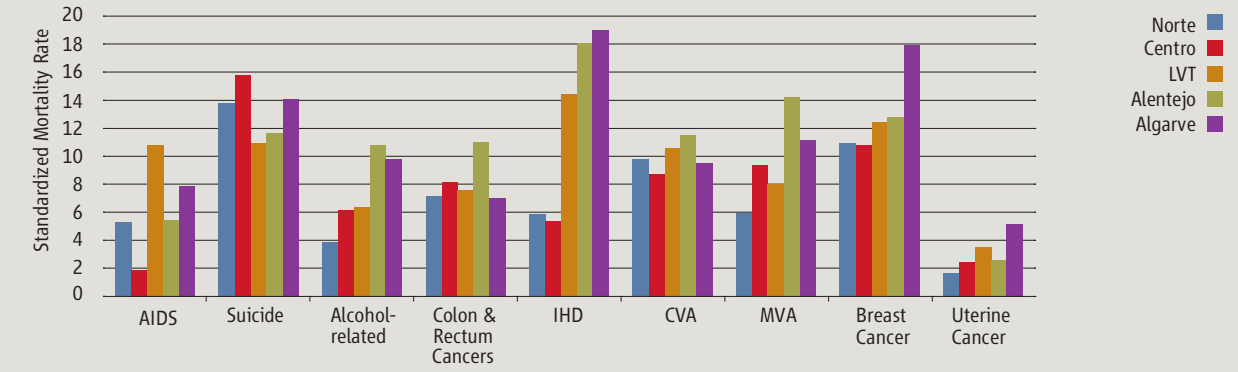
Note: The result for Belgium is not available.

Fig. 6 Percentage of the population rating their health as "bad" or "very bad", by age group and sex, 1998/1999, 2005/2006 and NHP target



Source: National Statistics Institute (7,8).

Fig. 7 Standardized mortality rates per 100 000 population age < 65 years for selected causes of death, by region, 2008



Source: National Statistics Institute (5).

lection of data disaggregated by social determinants of health such as education, level of income and employment; the development of a minimum data set of health equity data; and a baseline profile of social determinants of health and health inequalities. Based on a further review of the evidence on effective health interventions, a number of health and social policy recommendations are proposed in order to further improve the level and distribution of the health of the population.

Addressing the main risk factors and promoting healthier lifestyles

Lifestyle choices made by individuals, such as smoking or nutrition habits, level of physical activity, alcohol consumption and driving habits, are predictors of future health status and future health system performance. Health promotion, disease prevention and public health policies attempt to promote healthier types of behaviour. These policies interact with social factors and social policies related to areas such as education, transport and the regulation of illegal or prohibited substances.

Available performance indicators focus on the prevalence of risk factors and behaviour that promote health. From a policy perspective, we are interested in how these have changed over time in response to initiatives to encourage healthy behaviour. It is also important to understand differences in results for these indicators among population subgroups, as these help to explain some of the health inequalities and may suggest approaches to developing health literacy and changing behaviour. It is possible to examine some behavioural risk factors directly, such as the prevalence of smoking. In other cases, the information to assess behaviour directly is not available, but it is possible to review the outcomes related to a specific risk factor. For example, deaths resulting from alcohol-related motor vehicle accidents provide information about drink–driving habits, although factors such as road and vehicle safety and trauma treatment also contribute to the result. Rates of obesity and overweight provide information about combined health behaviour related to nutrition and physical activity.

Use of tobacco has been identified as the largest avoidable risk to health in OECD countries (18). The most recent reported rate of smoking is not high relative to other European countries, but it has not improved over the past 10 years, while most other countries have made progress in lowering the rate. And, although the rate of smoking among males has declined since 1998/1999, this has been offset by a large and troubling increase in the rate among females. Also disturbing is the much higher prevalence of smoking among women with a secondary or higher level of education.

Policy Questions	Key findings
How has the prevalence of smoking changed over time and how does it vary across population subgroups?	Nearly 20% of Portuguese aged 18 and over reported **smoking on a daily basis** in 2005/2006[10] (8). Among the EU 15 countries, only Sweden had a lower rate of smoking (2). However, Portugal's rate is essentially the same as that reported in 1995/1996. Only two EU 15 countries had a rate that increased over this period; in all other countries the rate decreased.
	Smoking is **more prevalent among males** aged 18 and over (28%) than among females (11%). However, the rate among males has decreased over the past 10 years from 33% to 29%, while the rate for females has increased from 8% to 11% (7,8). The rate for females with a secondary or post-secondary education in 2005/2006 (22% and 16%, respectively) is much higher than that among females who did not complete secondary education (8%). Portugal was one of 5 of 19 European countries where the relative index of inequality of smoking with respect to education was negative – the higher the level of education, the higher the rate of smoking (10).

What does the prevalence of obesity[11] tell us about healthy nutrition and physical activity habits?	The **prevalence of obesity** among the adult population was approximately 15% in 2005/2006. This was an increase from 12% reported in 1996 (7,8). The 2005/2006 rate was third highest among the EU 15 countries (17).
	There is little variation in rates of obesity **by geographical region or sex**. However, the analysis by Mackenbach et al. (10) placed Portugal in a group of European countries with the highest inequalities for obesity with respect to education. The index of inequality was highest for women and fifth highest for men among 19 European countries.
What are the patterns of responsible consumption of alcohol related, in particular, to driving?	The total number of deaths resulting from **alcohol-related motor vehicle accidents**[12] decreased from 358 in 2004 to 285 in 2008, a reduction of 20% (Fig. 9) (30). However, alcohol-related deaths as a percentage of all motor vehicle accident deaths remained constant at roughly 30% over this period.
	A 2006 survey covering **alcohol consumption among adolescents** found that 21% of males and 15% of females aged 13–18 years reported having had one or more intoxication episodes in the previous 12 months (31). These rates were unchanged from those reported in a previous survey in 2001 (32). There was substantial variation across regions, with the 2006 rate ranging from a low of 13.8% in Norte to 30.2% in Alentejo.

[10] The prevalence of smoking reported by the Portuguese statistical agency is for all adults aged 18 years and over. The OECD reports smoking rates for individuals aged 15 year and over.
[11] Body Mass Index (BMI) greater than or equal to 30.
[12] Blood alcohol reading greater than or equal to 0.5 g/l.

The prevalence of obesity and overweight reflects behavioural patterns and habits related to both nutrition and physical activity. The rate of obesity for adults (aged 18 and over) was among the highest of the EU 15 countries. Rates by age group and sex are well above targets established in the NHP and have increased since 1998/1999.

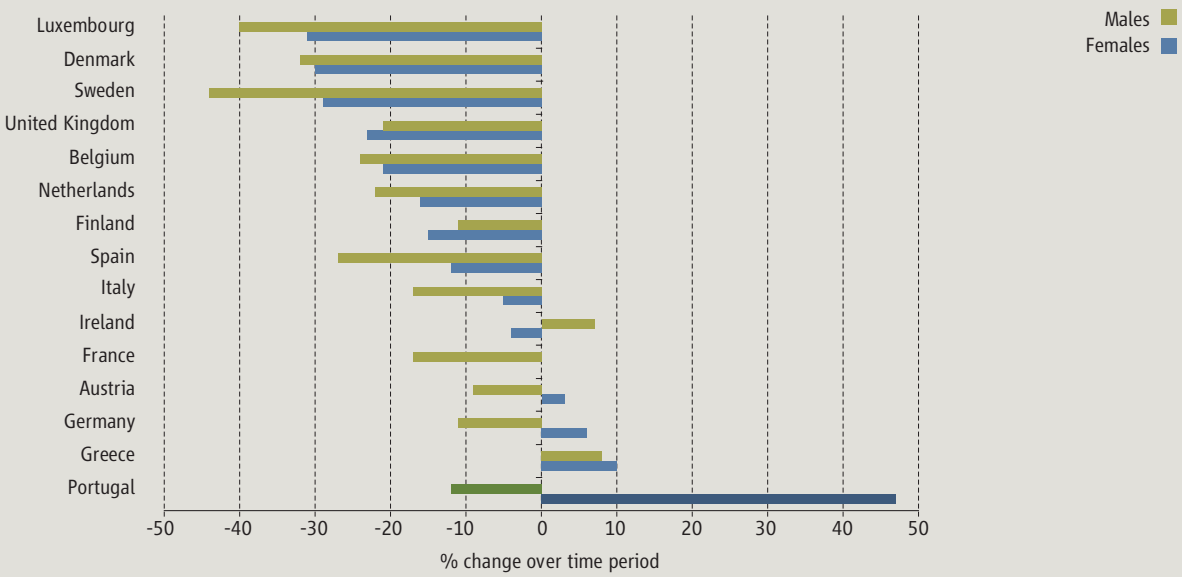
The total number of deaths resulting from alcohol-related motor vehicle accidents has decreased significantly since 2004 but has remained relatively constant as a percentage of all deaths from motor vehicle accidents. This makes it difficult to attribute the decrease to changes in the patterns of alcohol consumption or in drink–driving behaviour. Fewer deaths from motor vehicle accidents overall could be due to improvement in emergency medical care, vehicle and road safety, driving habits and/or less motor vehicle use. Also, with respect to alcohol use, the reported rates of intoxication among adolescents did not change between 2001 and 2006 and there is significant variability in the rates across geographical regions, suggesting that there are opportunities to develop habits of responsible alcohol use in regions where the reported rate is high.

The lack of improvement in health behaviours that are key factors in population health status is not encouraging. Rates of obesity have been increasing for both men and women and across all age groups; and, in contrast to many other countries, there has been no improvement in the overall smoking rate – a decrease in the rate among men has been offset by an increase in the rate among women. There are also notable inequalities in rates of obesity and smoking related to the level of education. Although deaths from motor vehicle accidents have decreased, the proportion that is alcohol-related has remained constant since 2004. There has also been no reduction in the percent of adolescents who reported abusing alcohol between 2001 and 2006.

Furthermore, in the mid-2000s, Portugal had the highest level of income inequality among the EU 15 countries, a level essentially equal to that of the United States (28). And, in 2007, the upper-secondary graduation rate for Portugal (the percentage of an age

cohort that has graduated) was 65%, the lowest of the EU 15 countries. All other EU 15 countries had rates over 70% and most were over 80% (33). The results for these two important social determinants of health are not encouraging. The WHO Commission on Social Determinants of Health found that "the poor health of the people, the social gradient in health, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services, globally and nationally, the consequent unfairness in the immediate, visible circumstances of people's lives – their access to health care, schools, and education, their conditions of work and leisure, their homes, communities, towns, or cities – and their chances to lead a flourishing life" (27). These factors are predictors of future performance and

Fig. 8 Change in smoking rates by sex, 1995–2007 (or nearest year), EU 15 countries



Source: OECD (8)

Fig. 9 Total motor vehicle accident deaths (subject to autopsy), by blood alcohol reading, 2004–2008

Source: National Legal Medicine Institute, 2009 (30)

call for integrated action across government and at regional and local levels to address determinants of health. As pointed out by the WHO evaluation of the NHP for 2004–2010, there has been progress in stimulating intersectoral action and monitoring health gains through the Office of the High Commissioner for Health and its Survey Committee. Nevertheless, more progress has to be made in implementing effective intersectoral action targeting health gains; the current fragmentation of the stewardship function of the Ministry of Health has to be overcome, and the decentralization of management and planning responsibilities to Regional Health Authorities has to be completed (21). This will ensure that strategies for health gains pertaining to the NHP can be cascaded appropriately to the regional and local levels. The introduction of mechanisms for regular public reporting, preferably by the Government to Parliament, about developments in health and welfare should also be considered.

Policy recommendations

1 Develop leadership and invest in capacity building for incorporating health in all policies and strengthen mechanisms for interministerial coordination and intersectoral action focused on health gains.

2 Invest in upstream and gender-responsive health promotion activities in order to tackle risk factors and integrate determinants of health into public health, health promotion and disease prevention programmes.

3 Further invest in primary health care reforms and public health as a foundation for attaining health gains and better management of chronic diseases.

4 Commission a review of social determinants of health and of health inequalities in order to develop a detailed profile of health inequalities and identify priorities to further reduce health inequalities.

5 Develop health information systems allowing regular reporting and monitoring of population health needs, with a focus on health equity in respect of socioeconomic factors, in particular education level, income and employment status while respecting the privacy of individuals.

6 Build on lessons learned from the implementation of successful health policies (such as maternal and child health policies) in addressing the most significant causes of mortality and morbidity.

7 Promote health literacy, shared decision-making for self-care and self-management of chronic conditions through a renewed policy on the engagement of citizens and patients in health decision-making.

8 Develop an integrated strategy to address the male–female gap in health status by enhancing the regulatory and organizational environment, and promote the exchange of information about gender inequalities.

9 Develop health and social strategies focused on the young, e.g. by re-energizing school health programmes and by promoting positive choices related to nutrition, physical activity, smoking and alcohol consumption.

10 Develop and implement a concerted and coordinated mental health strategy based on community-based services and focusing inter alia on reducing suicide and alcohol-related death rates.

SECTION 2:
Ensuring Confidence and Satisfaction in High Quality, Accessible Health Services

Health system responsiveness

Responsiveness to people's expectations is one of the three intrinsic goals of health systems. The concept of responsiveness includes the extent to which individuals are treated with dignity, autonomy and confidentiality; it also includes receiving prompt attention, the quality of basic amenities, access to social support networks during care and choice of care provider (24). A patient-oriented approach to the assessment of responsiveness is the measurement of satisfaction, based on the assumption that the elements of responsiveness relate to the individual needs of patients and of all inhabitants.

User satisfaction with health services, while subjective by nature, provides information about how well the health system responds to the expectations of the population. Ideally, indicators of responsiveness would focus on measuring perceptions of the dimensions listed above. However, aside from the 1997 survey on health system responsiveness used for The world health report 2000 (24), most comparable international surveys do not systematically address these concepts but instead focus on overall impressions of satis-

Policy Questions	Key findings
How do individuals perceive the health system in general?	Some 80% of the Portuguese population surveyed on **overall satisfaction with the health care system** in 2002 indicated they felt the system required either fundamental change or should be completely rebuilt (2). This was the highest level of expression of need for change among the EU 15 countries. By comparison, the EU 15 average was 51%.
How do individuals assess the availability and/or quality of health care services?	In 2008, 64% of Portuguese indicated that they were **satisfied with the availability of quality health care** in the city or area where they lived (2). Of results reported for 14 of the EU 15 countries, Portugal was tied third last with Ireland on this measure.
	Portugal scored second lowest or lowest of the 27 EU Member States in a 2007 survey on the **aspects of health system responsiveness** dealing with: affordability of dental care and medical and surgical specialists; quality, availability or access to family doctors; and quality of dental care (11).
	In Portuguese surveys of **levels of satisfaction of long-term care and primary health care users**, over 80% of users in most regions and for both services indicated they were "satisfied" or "very satisfied" (34–36). The one exception was in Lisboa e Vale do Tejo, where 77% of long-term care users indicated satisfaction.

faction/dissatisfaction with aspects of the health care system.

Although components of health system responsiveness as defined by WHO are not regularly tracked and monitored, rates of overall satisfaction with the health care system in Portugal (as expressed in surveys) are among the lowest in the EU 15. The Portuguese also expressed low levels of satisfaction relative to EU Member States for specific aspects of affordability, availability and quality of certain services.

Clearly, satisfaction with the health system and perceived responsiveness depend on many aspects of service delivery, such as access to services (considering financial and other barriers), waiting times, perceived technical quality of care received, and the way individuals are treated by providers of care. Policies related to the delivery and financing of health services are critical to addressing responsiveness and satisfaction. Areas of relatively low satisfaction, such as affordability, availability and access, were indeed identified.

To more fully understand expectations of responsiveness, there should ideally be surveys directed towards the defined components, and also broken down for specific health care service providers, for example, primary care, hospitals, long-term care and specialists. This information would help in determining priorities for policies and actions and would enable tracking to determine whether policies were having the intended impact. Understanding and addressing perceptions of responsiveness from an equity perspective is also desirable. The health system should be responsive to all citizens, without regard for social circumstances. The creation of Local Health Councils is a good opportunity to look for a broader and more effective engagement of citizens and stakeholders at local level.

Access to health services

A health system that delivers high-quality and safe health services that can be accessed without barriers promotes responsiveness. Access to quality health care services is also critical for achieving improved health. Barriers to access to health care services may take different forms: limited supply of services, including limitations related to regional or geographical areas and opening times, excessive cost or unaffordability of services, and lack of information about available services or how to obtain them. These barriers can be expressed and are often seen as lengthy waiting times for services, and unexpected or unplanned variability in patterns of utilization. For example, cost barriers to primary care services or a limited supply of primary care providers might drive individuals to relative higher use of hospital emergency departments.

International studies show that the strength of a country's primary care system is associated with

Policy Questions	Key findings
Are there problems with planning services to respond to health care needs that result in unreasonable waiting times?	The **percentage of surgical interventions completed within established target waiting times** increased from 75% in 2005 to over 80% in 2008. Improvement occurred in all regions and there was less variability in results among regions in 2008 (Fig. 10) (37).
	Over the same period, there was a decrease in the number of individuals who had been **waiting more than 120 days for surgery** (37).
Do individuals access services at the appropriate level?	The **ratio of emergency department visits to outpatient appointments** fell from 0.75 to 0.63 between 2004 and 2008. This ratio declined significantly in Norte and Centro, while in the other three regions there was no improvement or a small increase in the ratio (5).
	The **influenza vaccination rate for individuals over 65 years of age** has increased steadily since 2004, from under 40% to more than 50% in 2008 (5). Nevertheless, despite the improvement, this rate was 12th lowest among 14 of the EU 15 countries in 2007 (2).

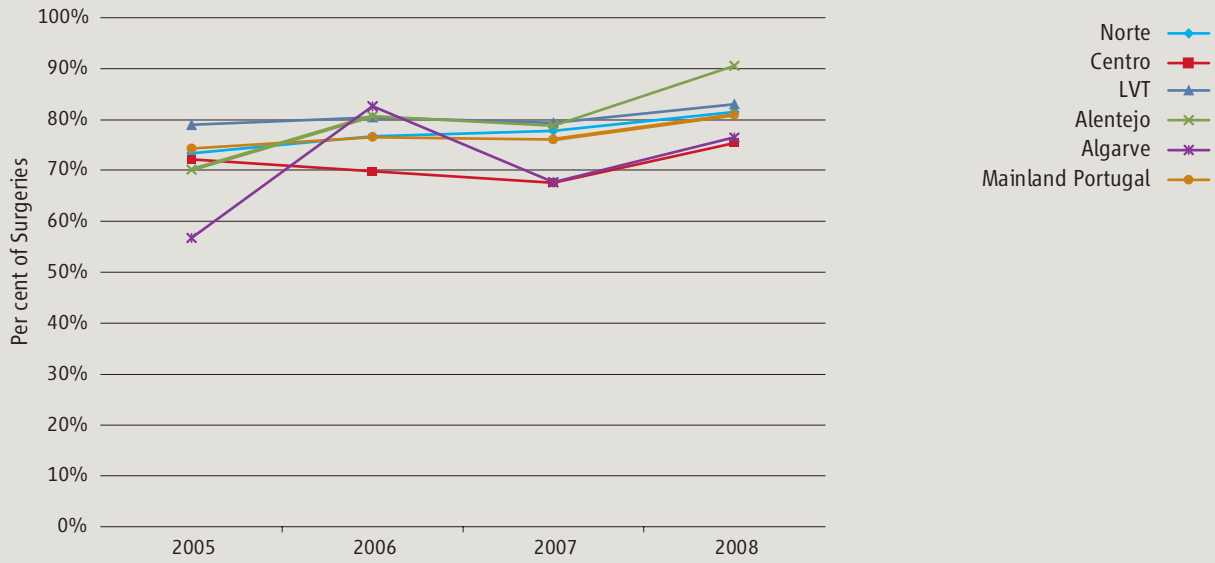
improved population health outcomes for all-cause mortality, all-cause premature mortality, cause-specific premature mortality from major respiratory and cardiovascular diseases, higher patient satisfaction, and reduced aggregate health care spending (38). If primary care services are not easily accessible, if there are barriers or if quality is perceived to be low, individuals may instead use emergency departments or other secondary care services directly (39). The ratio of emergency department visits to outpatient visits has fallen over the past few years, suggesting improved accessibility of primary care services. Nevertheless, the total number of emergency department visits has also remained almost unchanged over the same period.

At the same time, although the percentage of those over age 65 receiving influenza vaccination has increased, the rate remains low in relation to the EU 15 countries. The rate of just over 50% for Portugal in 2007 compares poorly with rates of around 70% for France, the Netherlands and the United Kingdom. The lower rate for Portugal may indicate that barriers to access – whether financial or informational – exist for this basic recommended service and should be addressed, perhaps through emphasizing the role of primary care in providing this service.

The degree to which waiting times are decreasing (or increasing) provides information about whether capacity is sufficient (or insufficient) to meet current needs. The percentage of surgical interventions completed within defined target waiting time has increased following the establishment in 2005 of policies and programmes to manage and report on surgical waiting times (37).

Although there are signs that access to services has been improving based on available performance indicators, the results of surveys on the responsiveness of the health system indicate that affordability and availability of services is a concern. To develop policies to address access and health system responsiveness, it is critical to understand the roots of observed problems with access. Limited access due to an inadequate supply of services could be related to poor planning for capacity or inadequate reimbursement for services. The interaction of demand with supply is also of concern – service capacity may be adequate for appropriate (clinically determined) demand but inappropriate excess demand could lead to lengthy waiting times.

Fig. 10 Percentage of surgical interventions completed within established target waiting times, mainland Portugal and regions, 2005–2008



Source: SIGIC database (37).

Quality, safety and outcomes of health care services

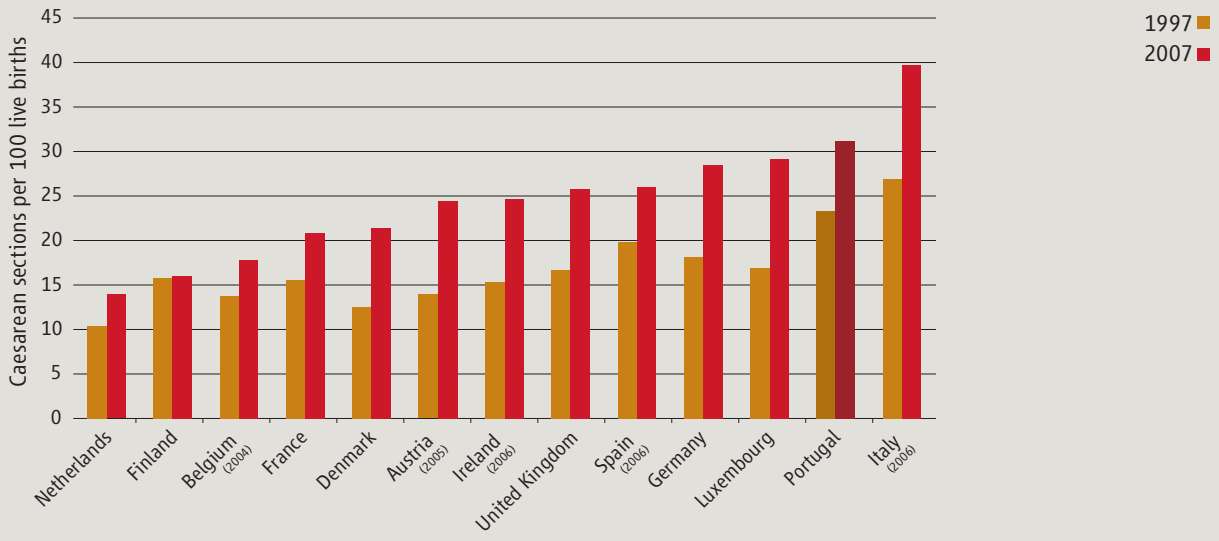
Clinical practice guidelines contribute to the processes of delivering safe, necessary and appropriate care. Intermediate outcomes that show evidence of the quality and safety of services include, for example, rates of adverse events such as medication errors, surgical infections and the development of skin ulcers and falls in health care facilities. Final outcomes that result in large part from the culmination of quality care include measures such as survival rates for cancer, rates of mortality following strokes and acute myocardial infarctions (AMI), and hospital admission rates for chronic conditions that could be managed

Policy Questions	Key findings
Are best practice guidelines developed and implemented to promote appropriate care?	The **rate of caesarean section deliveries** in Portugal increased from 30% in 2000 to 35% in 2007 (5). Private hospitals[13] have a rate of caesarean section deliveries twice that of National Health Service (NHS) hospitals. Portugal's 2007 rate was the second highest of the EU 15 countries in that year, and is over twice the WHO suggested upper limit of 15% (Fig. 11) (12).
	No information is available with which to assess the development and implementation of clinical practice guidelines.
Are health care services delivered safely to patients?	In 2008, 22% of **long-term care patients developed a skin ulcer**. Rates ranged from lows of 11–13% in Algarve and Norte to highs of 34% in both Lisboa e Vale do Tejo and Alentejo (40).
	The rate of **falls in long-term care facilities** in 2008 was 16%. Results for regions varied from a low of 11% in Lisboa e Vale do Tejo to a high of 22% in Alentejo (40).
Are health care services delivering clinical outcomes?	The **5-year relative survival rates following diagnosis of cancer** (for cancers amenable to health care interventions) improved for cases diagnosed in 2000–2001 compared to those diagnosed in 1991–1993.[14] The survival rate for breast cancer increased from 72% to 83%, that for cervical cancer increased from 57% to 60% and that for colon and rectum cancers increased from 47% to 54%. Survival rates for breast cancer for seven of the EU 15 countries ranged from 76% to 86%, while those for colorectal cancer ranged from 52% to 62% (41).
	The **30-day in-hospital fatality rates following AMI** improved from 14% in 2000 to 10% in 2008, while that following **ischaemic stroke** improved from 14% to 11% (5). Based on data from 2005, Portugal's in-hospital fatality rates for AMI and ischaemic stroke were among the highest for the EU 15 countries (13) (Fig. 12).
	The overall **hospital admission rates for ambulatory care sensitive conditions** (chronic conditions that can often be effectively managed in the community) increased from 466 per 100 000 population in 2000 to 498 in 2008 (42). Decreases in the rates for some conditions – angina, asthma and hypertension – were offset by increases in the rates for others – chronic obstructive pulmonary disease (COPD) and diabetes. There was also variability in rates across regions, from a low of 415 in Norte to a high of 692 in Centro. International comparisons to EU 15 countries are available for selected conditions for 2007 and show Portugal to have among the lowest rates for COPD, congestive heart failure and hypertension but the second highest rate for lower extremity amputations due to diabetes (2).
	The **number of reported cases of congenital syphilis**, a severe, disabling and life-threatening but also preventable infection, dropped from 47 in 2000 to 14 in 2008 (43).

[13] Private hospitals accounted for approximately 20% of all deliveries in Portugal in 2007.

[14] The results referred to are only for the population covered by the cancer registry (ROR) in the SUL region and do not apply to the country as a whole.

Fig. 11 Number of caesarean section deliveries per 100 live births,1997 and 2007, EU 15 countries



Source: OECD (2).

through primary care or in the community. In the same way that rates of obesity reflect the success or failure of efforts to change behaviour, outcomes of health care reflect the end-points of quality and safety processes of care.

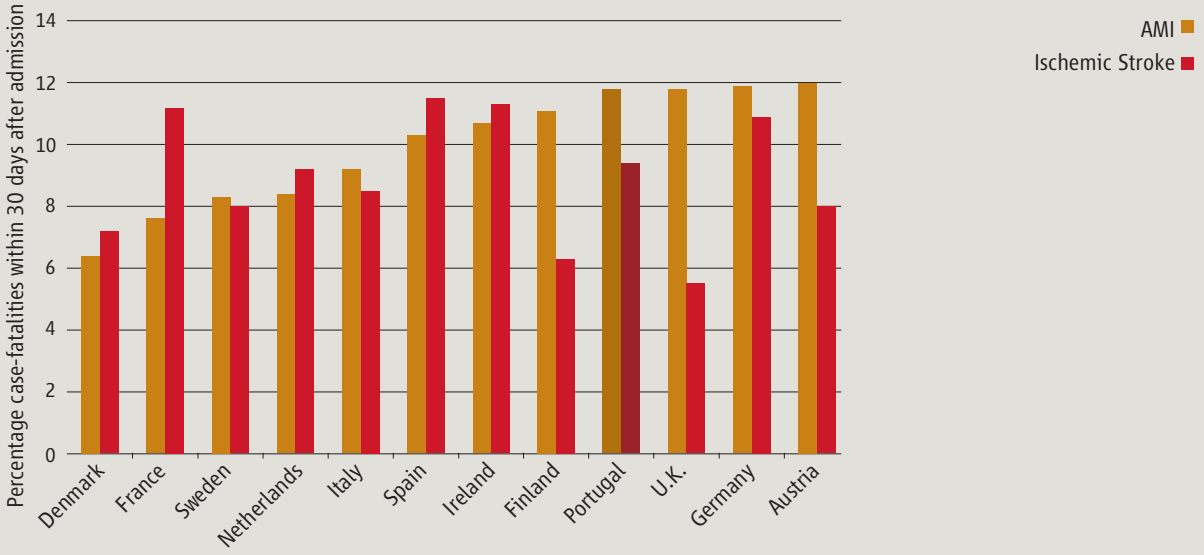
There is at present little information collected and reported about clinical practice guidelines that provide information to those delivering care on the appropriateness of health care interventions (diagnostic and treatment services). Well-developed and implemented guidelines can potentially avoid overtreating individuals who do not stand to benefit and, at the same time, ensure that those who could benefit are identified and receive treatment. One example is the rate of caesarean sections as a percentage of all live births. While there are clear medical grounds for delivery by caesarean section in many pregnancies, unneeded caesarean sections can compromise the quality of care and can be riskier, with more complications and possibly increased mortality than normal deliveries (12). The rate of caesarean section deliveries reported for Portugal has been increasing since 2000 and is over twice the WHO suggested upper limit of 15% (12). Portugal's rate was the second highest among the EU 15 countries in 2007.

Data on adverse events such as hospital-acquired infections, medication errors and drug-resistant infections would permit a critical analysis of trends in safety over time and a comparison with results from other health systems. Unfortunately, information about these measures is presently very limited and difficult to access. Although health care institutions and providers may be monitoring these rates and using them for performance improvement, the data are not systematically collected and used to track overall system performance.

Skin ulcers and falls among patients in long-term care can have serious implications for morbidity and mortality among patients in these facilities. Good risk assessment practices and attention to care for these patients may help to avoid some of these events (44,45). There is no historical information available to assess trends in performance, and comparisons with results for other health systems using consistent definitions are not available. However, there is significant variability in these rates among regions, suggesting that improvement in some regions and individual institutions may be possible.

With respect to outcomes of care, it is also important to consider that for services such as long-term

Fig. 12 Thirty-day fatality rate following hospital admission for AMI and ischaemic stroke, EU 15 countries, 2005 or most recent year



Source: OECD (13).

care, improved clinical outcomes can be associated with improved autonomy for patients. The National Network of Integrated Long-Term Care includes the development of autonomy and associated clinical outcomes as one of its primary goals (46).

There has been a general improvement in selected measurable outcomes of health care. Owing to the effectiveness of screening in detecting cancers at an early stage, and of treatment when cancers are detected early, relative survival rates for cancers of the breast, cervix, and colon and rectum are considered to be markers of overall quality of health care. Five-year survival rates for these cancers have improved since 1993 and are consistent across the three geographical areas where results are available – Lisboa, Algarve and Alentejo.

Processes of care for AMI and ischaemic stroke, such as prompt administration of thrombolytics, use of evidence-based clinical treatment pathways and dedicated stroke units, can improve survival rates (47). The 30-day in-hospital fatality rates following AMI and ischaemic stroke have improved consistently since 2000 (42). However, comparison to EU 15 countries suggests that further improvement in the fatality rate following AMI can be achieved (13).

Prenatal care and screening services, along with appropriate treatment, appear to have been successful in reducing the number of cases of congenital syphilis. Although international comparisons are not available, the reduction over time in the number of cases of this disabling and life-threatening infection illustrates how health services can deliver improved outcomes.

Although there has been improvement in the outcomes mentioned earlier, hospital admission rates for a basket of chronic conditions[15] that can be effectively managed in the community (through effective screening, monitoring, follow-up, patient education and support services) have not improved since 2000. While not all admissions for these conditions are avoidable, appropriate ambulatory care may remove or reduce the need for hospital admission.

Public perceptions of the quality and safety of services have important implications for overall feelings of

[15] These include asthma, diabetes, high blood pressure, COPD, heart failure and epileptic seizure *(45)*.

confidence in the responsiveness of the health system. However, with respect to the quality and safety of health care services, there are currently limited data and information on adverse events and the implementation of clinical practice guidelines. Five-year relative survival rates for selected cancers have improved, as have 30-day mortality rates following AMI and ischaemic stroke, but there has been no improvement in the rate of hospital admissions for chronic conditions that can be managed in the community.

Interviews with health system stakeholders and policy analysis showed that the current approach to the quality and safety of the health care services is fragmented and selective, even if current initiatives in certain areas can model the case for a more comprehensive strategy. For example, the Ministry of Health performs random clinical audits for hospital-acquired infections, hospital-associated falls and skin ulcers, but the strategy or policies to tackle these issues seem unclear. Reporting of hospital-acquired infections is compulsory for NHS hospitals but it is left to the initiative of private providers to enrol in the monitoring system. National standards for processes and desirable outcomes of services should be defined and applied to public and private hospitals alike. To push forward the implementation of guidelines and clinical pathways, there is also a need for incentive schemes favouring a culture of continuous quality improvement. This should fully involve health professional councils, with a renewed focus on inter-professional collaboration.

Policy recommendations

1 Ensure a broad engagement of patients and the general public in health system decision-making and pave the way for broader public engagement across government activities.

2 Improve the responsiveness of the health system by regular reporting to the public results on broad responsiveness measures related to dignity, autonomy, confidentiality, satisfaction with health care services, and confidence in the health system.

3 Further define and promote the role of professional councils and education institutions in improving health system responsiveness.

4 Enforce the compliance of public and private providers with minimum standards and ensure reporting on a core set of performance indicators, and establish a platform for health professionals to share best practices and develop mechanisms to promote continuous quality improvement of health services.

5 Continue the development and implementation of policies for purchasing quality and effective health care for public and private providers, in order to stimulate improvements in the processes of care.

6 Further coordinate and integrate the health services in order to improve their effectiveness, e.g. by expanding the long-term care sector and by clarifying the policy framework for hospital reform.

SECTION 3:
Ensuring Social Solidarity

The Portuguese health care system is funded through a mix of public and private sources. The NHS, which provides universal coverage to the Portuguese population, is predominantly funded through general taxation. Further, health subsystems provide either comprehensive or partial health care coverage to between a fifth and a quarter of the population and are funded mainly through employee and employer contributions. A portion of health system funding is private, mainly in the form of co-payments and direct payments by the patient and, to a lesser extent, in the form of premiums to private insurance schemes and private not-for-profit insurance. Public expenditure on health includes funding of direct care provision within the NHS and subsidies to the health subsystems for public sector employees. While significant differences in health status (and health behaviour) are related to social conditions (for example, low educational level, poverty and unemployment), health policies and financing mechanisms (such as those that provide universal coverage for and promote accessibility to services, in particular without financial barriers to their use, and ensure a fair distribution of the burden of financing of the health system) can mitigate the impact of these factors on health status and help provide and maintain the resources for health that individuals need for themselves and their families. The indicators used to assess this performance dimension examine the impact of these policies, such as coverage for services, the extent of out-of-pocket payments for services, and public (state) support for health care expenditure.

Social and financial risk protection

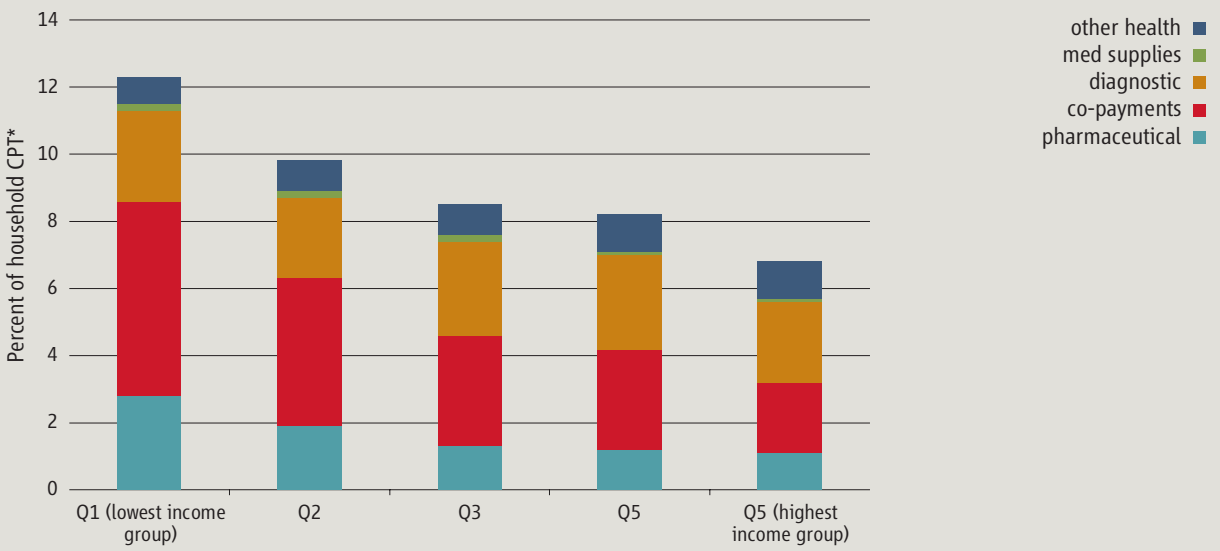
Policy Questions	Key findings
Does the health system protect households against the financial risk of ill health?	In 2005/2006, **out-of-pocket payments for health care services and medicines** comprised 8% of total non-food household expenditure (or capacity to pay). However, for the lowest income quintile, this amounted to over 12% (Fig. 13). In the lowest income quintile, over 23% of households reported spending more than 20% of their capacity to pay on out-of-pocket payments for health care services and 8% reported spending more than 40%, considered to be catastrophic level of private spending on health care. The percentage of households in the highest income quintile spending more than 20% was less than 8% (48).

Social solidarity is one of the values highlighted in the Basic Law on Health (1990). The importance of this value has increased over time and the percentage of people who believe that health services should be free for the poor increased from 55% to 69.3% between 2001 and 2008 (34). The percentage of people agreeing with exemptions from payment for elderly people (70%) and disabled people (50%) has also increased in the last seven years.

In the mid-2000s, Portugal had the third highest rate of income inequality of the 30 OECD countries (29), lower only than Mexico and Turkey. Public investment in health and improved coordination between the Ministries of Health and of Social Affairs could mitigate the impact of these income inequalities. However, as mentioned earlier in the section on equity in health, the data and information available with which to analyse and monitor the extent of inequality with respect to financing of health care are limited, in spite of a concerted international focus and calls for greater attention to equity.

The capacity of the health system to protect households against the financial risks of ill health results in the main from the way the revenue collection function operates: how the various sources of funding ensure the financial protection of the population (e.g. prevent high and potentially catastrophic levels of payment) and the link between contributions and benefit entitlement, with resulting consequences on universality of coverage. In principle, the impact can and should be limited by the design (or even elimination) of co-payments. For example, cost-sharing in the provision of care provided by the NHS represents a relatively small proportion of total health expenditure (approximately 1% of the NHS budget, i.e. 0.7% for hospital care and 0.3% for primary care); for pharmaceuticals, the level of co-insurance depends on the effectiveness of drugs, with exemptions for low-income pensioners, chronically ill patients and other categories of people (such as blood donors). Given these protection mechanisms for vulnerable groups and the large exemptions from co-payments, the level of catastrophic expenditures is limited. nevertheless, Fig. 13 shows that in 2005/2006, for the lowest income quintile, over 23% of households reported spending more than 20% of their capacity to pay on out-of-pocket payments for health care services and 8% reported spending more than 40%, considered to be a catastrophic level of private spending on health care. The percent of households in the highest income quintile spending more than 20% was less than 8% (48). Finally, evidence shows that the inequality of out-of-pocket payments is the highest for pharmaceutical expenditures and has increased over time, notably for medical services (50).

Fig. 13 Out-of-pocket payments as a percentage of capacity to pay (non-food expenditures), by income quintile, 2005/2006



Source: National Statistics Institute (48).

Equity in finance

Policy Questions	Key findings
Is the health system funded in a way that is fair and equitable?	**Private out-of-pocket payments as a percentage of total health care spending** has ranged from 20% to 23% since the late 1990s (48). By comparison, most of the EU 15 countries have rates below 17% and WHO has proposed that a rate of 15% or lower is most effective in protecting against catastrophic health care expenditure (15).
	Similarly, **total private expenditure on health as a percentage of total health care spending** has been among the top third of the EU 15, ranging between 27% and 29% compared to the EU 15 average of 23% in 2005 (Fig. 14) (6,48).
What is the extent of coverage under private insurance plans?	Approximately 18% of the population has **duplication of health insurance coverage**, primarily provided through health subsystems defined through occupation or employment. This coverage creates inequalities in access to health care services: those who have duplicate coverage have faster and easier access to health care services (18).

With regard to the distribution of the burden of funding, the health system can be considered equitable if the poor do not pay more than the rich relative to their capacity to pay (including all sources of funding such as taxes, premiums for coverage and out-of-pocket expenditure). This means that funding should be proportional or progressive, with the degree of progressivity being a matter of national choice.

Over the long run, the share of private funding (mostly out-of-pocket payments) in Portugal has decreased and the share of public funding has increased, leading in general to more equitable health

Fig. 14 Total private and out-of-pocket expenditure as a percentage of total health care expenditures, Portugal and EU 15 average, 1998–2005

Source: WHO Regional Office for Europe (6).

system financing. However, this trend has reversed since 2003, and private expenditure as a percentage of total health expenditure has increased. Total private expenditure on health as a percentage of total health care spending has been among the top third of the EU 15, ranging between 27% and 29% compared to the EU 15 average of 23% in 2008 (6).

A full assessment of the goal of equity in finance is difficult in Portugal since the data are lacking to identify the various sources of health system funds and analyse their distributional impact. Nevertheless, some features can be underlined.

- The two main sources of funding (general taxation, 60% of which are indirect taxes, and out-of-pocket payments) contribute to making the system more regressive than those of other EU countries (out-of-pocket payments being, as in other countries, the most inequitable source of funding (15)). The inequality is reinforced by tax exemptions on out-of-pocket payments. In 2000, the richest 10% of the population were refunded 27% of their out-of-pocket payments, while the poorest 10% were refunded only 6%.
- Elements of regressiveness of the financing system have been reinforced by the reform of tax exemptions for out-of-pocket-payments, which cost the government 500 million Euros a year and aggravate the inequality of out-of-pocket payments. The impact of private supplementary insurance, although accounting for a small proportion of total health expenditure (2.5%), is more ambiguous. Financing through private insurance premiums is more regressive than financing through taxation but less so than through out-of-pocket payments.
- The public subsystem, ADSE, which covers all public employees and affiliates, may also be a source of inequality in financing, although the extent is difficult to assess precisely. ADSE is financed by a budget transfer and a contribution of beneficiaries (1.5% of gross salary and 1.1% for pensioners) and pays for all the care of the population covered, provided by either the NHS or the private sector (with co-payments for services purchased in the private sector). The budget transfer to ADSE accounts for 8% of total public health expenditure. The number of beneficiaries (1.3 million) also accounts for 8% of the population. However, the distribution of the risk profile of ADSE appears different from the general population, with better self-reported health (42). In other words, more health care funds are directed to ADSE beneficiaries than to other NHS patients with the same risk profile. The population covered by public and private subsystems uses more health care than the rest of the population (pharmaceuticals and physician visits), although they are in better health.

One of the challenges for the Portuguese health system will be the design cost containment policies that avoid a potential negative impact on equity in health system financing. Efficiency gains that allow the system to continue to meet the needs of the population within a framework of controlled expenditures can help to support this objective.

Inequalities in access to health care services

Do the methods of health system financing influence the utilization of health care services?

In an OECD study using survey data from 2002, van Doorslaer (16) found that Portugal had the second highest **level of inequity in the number of physician visits** among 13 of the EU 15 countries; however, if only visits to specialists are considered, the level of inequity was the highest (0.208 compared to 0.136 for Finland, the next highest). Also, it was found that level of income was the main factor contributing to inequity for Portugal, to a much greater extent than any other country.

The impact of out-of-pocket payments on access to services may be expressed in different rates of utilization based on income. The OECD study on income-related inequality in the use of medical care in 21 OECD countries (16) shows a relatively high level of inequality in the use of physician services in Portugal compared to other countries. As in all countries, this inequality is concentrated in specialist care, i.e.

controlling for need differences, the rich are significantly more likely to see a specialist than the poor, and in most countries also more frequently. The differences seem to be especially large in Finland, Ireland and Portugal. On the other hand, visits to general practitioners appear to be more equitably distributed (in some countries they appear to have a "pro-poor" distribution). Also, as noted above, there is evidence that the population covered by public and private subsystems uses more health care resources (pharmaceuticals and physician visits), although they are in better health than the rest of the population (17).

Policy recommendations

1 Develop mechanisms to better allocate resources to improve the distribution of funds among regions, as well as proper incentives to reduce geographical imbalances and inequalities in geographical access to care.

2 Develop survey information sources and systems and address corresponding privacy issues so as to generate the necessary evidence for planning and monitoring for equitable financing of the health system and social solidarity, including information on the impact of out-of-pocket payments and the burden of funding on different population groups.

3 Review the most regressive elements of the financing system in order to improve equity in health financing.

4 Progressively shift the role of subsystems to a role of complementary coverage, starting with ensuring that the budget transfers are equivalent to the health care needs of the populations covered.

SECTION 4:
Health System Sustainability and Efficiency

Increasing value for money in health systems is a common theme among countries of the EU. It implies improving outcomes, quality of care and responsiveness while containing costs. Choices and explicit trade-offs between health and other public services competing for public funds are not easy to make. In practice, in all countries, this results in short-term budget constraints for the health system. In this context, a key challenge is to make efficiency gains, i.e. be able to improve the cost–effectiveness of health care production as a whole. This is an issue of both accountability in the use of public resources and a condition to ensure sustainable development of health systems. The concept of sustainability is built on the premise that a sustainable health system is one that balances the achievement of good health outcomes with the management of costs. Policies related to ensuring health system sustainability include not only considerations of financial sustainability, but also planning and managing the resources needed to deliver care, such as human resources for health, clinical and technological innovation (diagnostic and treatment technology) and infrastructure, and health information systems. For the purposes of this report, health system sustainability is defined as the ability of the health system to: (a) meet current and future obligations and expectations; (b) adjust to new or changing demands and unexpected pressures; (c) improve and sustain improvement; and (d) provide increasing value in terms of both economics and health outcomes. Furthermore, in a context of increasing fiscal pressure on the health system and raising public expectations, it is also critical to understand the opportunities that exist for delivering health services more efficiently.

Patterns in health system spending and financial sustainability

Policy Questions	Key findings
How is the pattern of health care spending changing?	**Total current health care expenditures as a percentage of GDP** grew from roughly 8.5% in 2000 to 9.5% in 2007. Going back further in time, total health care expenditure has increased steadily from 5.3% of GDP in 1980. The rate for Portugal in 2007 was fifth highest among the EU 15 countries (2).
	Total health care expenditure per capita has grown from €1012 in 2000 to €1440 in 2007, an increase of 42% (Fig. 15). This increase is close to the median for the EU 15 countries over the same period (2).
	Public spending on health care as a percentage of total current health expenditure decreased over the period 2000–2007 from 73% to just below 70%. Of the EU 15 countries, only Greece had a lower level at 62%. And, with the exception of Germany and Sweden, which started at a level of 80%, all other EU 15 countries increased the portion of public spending on health (2).

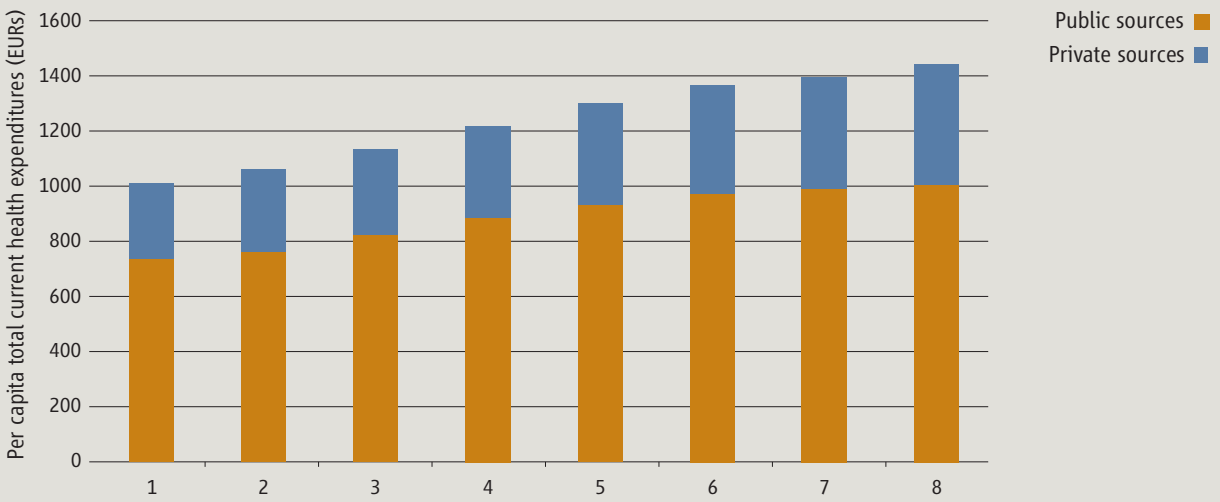
Are health system resources invested or allocated to the sectors in the most cost-effective way?	The **percentage of health care spending devoted to primary care** has not increased since 2001; in fact, public spending on primary care has decreased, while the overall level has been maintained by an increase in private spending (Fig. 16) (2).
How effective overall is health care spending in achieving improved health?	Over the period 2000–2007, per capita spending on health care increased by roughly 42%. Over the same period, the **rate of mortality amenable to health care or health promotion interventions** decreased by over 25% (2).

Although health care expenditure as a percentage of GDP has increased relative to other OECD countries, this is partly a result of a lower level of GDP growth in Portugal. Total growth in health expenditure per capita during 1997–2006 was below the OECD average but within the middle of the range of the EU 15 countries (2). Also, the more recent increase in total health expenditure per capita appears to have been driven more by increasing private rather than public spending on health. Public spending as a share of total health expenditure fell to below 70% in 2007.

The Stability and Growth Programmes, which began in 2003 and are continuing, have had as their key objectives controlling the government budget deficit and fostering economic growth. In these objectives, the Programmes have targeted (among many areas) growth of public spending on health care and have instituted a number of measures to ensure that health care spending remains on a sustainable track (51). The Programmes will have a significant impact on health system financing, focused largely on human resources for health and medicines.

The sustainability threats to the health system could be addressed by taking an investment in health approach, supported by evidence that well-functioning health systems contribute not only to health but also to wealth and economic development through, for example, workforce development, increased efficiency, alleviating the costs of illness and lowering the number of those seeking early retirement due to

Fig. 15 Per capita total health care expenditure, 2000–2007, by source



Source: National Statistics Institute (48).

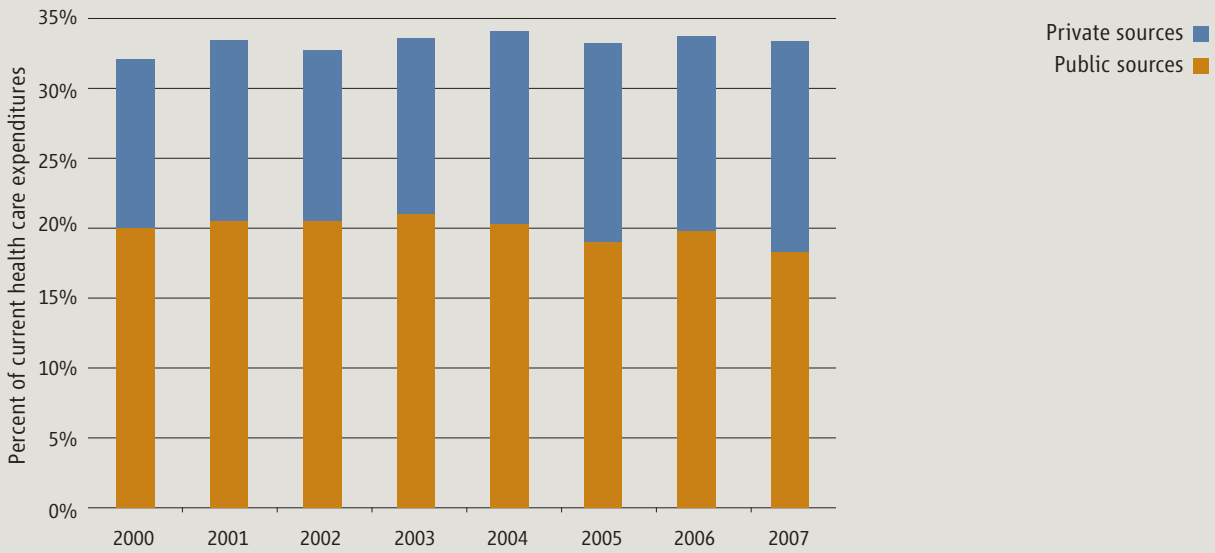
ill health (3). This approach would address not only the goals and outcomes of the health system but also the costs associated with the generation of these outcomes and the relative value of different types of investment in health.

Although evidence suggests that orientation of the health system to primary care is more cost-effective and delivers better health outcomes, with higher equity and patient satisfaction (52), the percentage of health care spending devoted to primary care has not increased since 2001; in fact, public spending on primary care has decreased, while the difference has been made up by private expenditure. On the other hand, Portugal had the highest proportion of ambulatory care expenditure (33.3% of health care expenditure) among the EU 15 countries whose results were reported in 2007 (2).

Compared to other EU 15 Member States, the pattern of pharmaceuticals consumption in Portugal presents: (a) relatively higher levels of prescription; (b) a high ratio of pharmaceutical expenditure related to the average income level; and (c) relatively high levels of co-payments. In 2006, the level of pharmaceutical expenditure relative to GDP was approximately 2.1%, which is very high compared to other OECD countries (even if the ranking is lower in terms of per capita expenditure on pharmaceuticals) (2,50). Furthermore, over the last ten years, average spending per capita on pharmaceuticals has risen by almost 50% in real terms. This is particularly true for the consumption of antidiabetics, anticholesterols and antidepressants. However, per capita spending on antibiotics has fallen, which could be explained by recently launched information campaigns targeting physicians and patients. In general, measures to control costs are directed towards more effective use of pharmaceuticals by increasing the share of generics in the market and enhancing the quality of medical prescription by ensuring consistency with clinical guidelines. The growth in pharmaceutical expenditure since 2006 has been relatively limited owing to a number of effectively implemented related policies: global agreements with companies to limit the growth of the market; administrative price reductions; extension of economic evaluation to the hospital sector as a basis for reimbursement; promotion of price competition on over-the-counter products; and the promotion of generics (49).

One of the critical challenges to the sustainability of the Portuguese health system relates to human

Fig. 16 Primary health care (ambulatory care) expenditure as a percentage of current health care expenditure, by source, 2000–2007



Source: National Statistics Institute (48).

Non-financial sustainability

Is the mix of human resources for health in the system appropriate for delivering high-quality health services and covering the health care needs of the population?	The **overall density of physicians** (numbers per 1000 population) increased from 2.8 in 1990 to 3.6 in 2007 (5); however, the ratio of general practitioners is low compared to that of specialists and the density of general practitioners is a serious concern from a demographic standpoint.
	The **overall density of nurses** increased by 40% from 3.6 in 2000 to 5.3 in 2008 (5). The rate of 5.1 in 2007 remained well below the rates for the other EU 15 countries (with the exception of Greece); however, Portugal had the highest annual rate of growth during 2000–2007.
	The **ratio of nurses to physicians** working in hospitals was roughly 1.5 in 2007, unchanged since 2000. However, there is significant variability in the ratio among the geographical regions, from a high of over 2.6 in Alentejo to a low of 1.2 in Norte in 2007. Of the EU 15 countries, only Greece has a lower ratio of nurses to physicians (18).
Are innovation and health technologies being used in an effective way?	The number of **magnetic resonance imaging (MRI) units per million population** in Portugal more than doubled between 2003 and 2007 from nearly 4 to 9. This was close to the median of the ten EU 15 countries for which 2007 results were reported.
	The **number of computed tomography (CT) units per million population** also doubled over the same time period, from 13 to 26. This result again placed Portugal at the median of the ten EU 15 countries for which 2007 results were reported (Fig. 17) (2).
Are pharmaceuticals being used in an effective way?	**Per capita expenditure on medications** has increased consistently since 2004, from €300 to €330 per person in 2008, a 10% increase (9,50). In terms of percentage increase in expenditure on medications between 2000 and 2007, Portugal was near the median of the results from a selected number of EU 15 countries (2).
	From 2002 to 2007, **the percentage of generics in the medicines market** increased from 1.8% to 18.6%. Furthermore, from 2002 to 2008, the consumption of cephalosporins compared to the total consumption of antibiotics in outpatient services decreased from 12.6% to 9.4%. Finally, the consumption of anxiolytic, soporific, sedative and antidepressant drugs per inhabitant per day on the NHS market increased by 31.6% between 2002 and 2008 (50).
Are health information resources sufficient to enable evidence-based policy-making and health system planning?	Even if no quantitative indicator were available to assess this performance dimension, policy analysis and interviews with policy-makers and health system stakeholders showed that health information management systems in Portugal were fragmented, resulting in difficulties for policy-makers, planners and providers to get timely access to valid and reliable information.

resources for health. The overall density of physicians (numbers per 1000 population) increased from 2.8 in 1990 to 3.5 in 2007 (2) and is above the EU 15 average. The increase in the overall density of physicians hides imbalances in the distribution of physicians. For example, although the number of specialists has been higher than the EU average since 1995, there has been paradoxically a sustained decrease in the percentage of general practitioners compared to the overall number of physicians since 1985. This will be exacerbated by the eventual retirement of about 20% of medical doctors within the next five years. While steps have been taken to reverse this trend by increasing the number of vacancies in general and family medicine and pro-

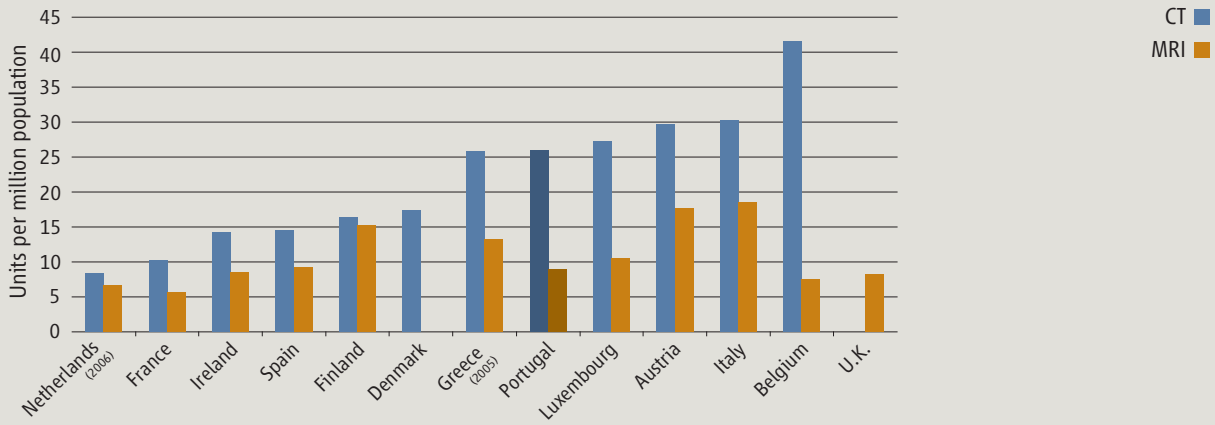
viding incentives to general practitioners, the situation calls for additional measures. And although other short-term measures, such as the recruitment of professionals from other countries, have been taken, a sustained approach based on inter-professional work towards a more efficient skills mix should be put forward.

The overall density of nurses has increased by 40% since 2000, from 3.6 to 5.3 in 2008 (18) but, with the exception of Greece, still remained well below other EU 15 countries in 2007. However, Portugal had the highest annual rate of growth during 2000–2007. The ratio of nurses to physicians working in hospitals was roughly 1.5 in 2007, unchanged since 2000. However, there is significant variability in the ratio among geographical regions, from a high of over 2.5 in Alentejo to a low of 1.2 in Norte in 2007. Of the EU 15 countries, only Greece has a lower ratio of nurses to physicians (6). Evidence shows that broadening the scope of professional practice for nurses, if carefully implemented, can be an efficient and cost-effective way to deal with demographic challenges related to the medical profession and can improve access and satisfaction of both patients and professionals (53). In terms of total health expenditure, the proportion of spending on human resources for health has historically been relatively high in Portugal, owing to a significant proportion of extra-hours payments. This has led to cost-containment measures, which among other factors pushed health professionals to move from public to private sector work, either full or part time. In 2006 and 2007, it is estimated that about 600 physicians left the public sector for the private sector. More importantly, the extent of dual employment and its policy implications are unclear, but create perverse incentives in the absence of clear rules. The lack of data about human resources for health in the private sector in general and dual employment in particular is a major policy issue that should be resolved. Overall, current concerns related to human resources for health show the need to develop long-term policies and enhance capacities for planning in this area. These efforts should involve at a minimum professional councils, the Ministry of Science, Technology and Higher Education and the Ministry of Finance.

Information about the density of selected health technologies can be used to assess the overall extent of their distribution. However, these numbers do not show the extent to which the technology is actually used and to which it is needed. On a per population basis, the numbers of MRI units and CT scanners in Portugal is similar to the EU 15 medians for these. Utilization of these technologies also needs to be considered when assessing the appropriateness of capacity (e.g. scans per 100 000 population); however, utilization results for Portugal were not available for this report.

A number of information gaps and needs have been identified in other sections of this report. These

Fig. 17 MRI and CT scan units per million population, 2007 or latest available year, EU 15 countries



Source: OECD (2).

gaps have implications for the use of evidence in developing health and related policies and choosing among options, in monitoring the effectiveness of strategies and policies, and in supporting accountability and transparency through reporting of health system performance. Many of the policy questions that have been posed in this report require better health information capacity to support the answers. Areas identified for strengthening health information systems include: the capacity to analyse population results by socioeconomic status in order to plan for and advance equity in health; system-wide monitoring and reporting of safety indicators related to adverse events; waiting times for outpatient visits and specialist consultations as well as key diagnostic services; and surveys to capture perceptions of responsiveness and confidence in the health system. Overall, policy analysis and interviews with policy-makers and health system stakeholders showed that health information management systems in Portugal were fragmented, resulting in difficulties for policy-makers, planners and providers in obtaining timely access to valid and reliable information for decision-making. For example, since 70% of pharmaceutical prescriptions are now processed electronically, more could be done in analysing the data and making use of them by professionals and policy-makers. Furthermore, there are difficulties in stratifying available data by income level, level of education or other key socioeconomic factors. It is also important to identify how evidence-based policy approaches are promoted within all policy-making structures and organizations, including not only government ministries but also professional councils and regional authorities. Finally, there is no health system and health services research strategy at national level, which hinders research efforts to support health system strengthening efforts undertaken by the Ministry of Health and the Government as a whole.

Health system efficiency

Are health care services being delivered more efficiently?

The **average length of hospital stay** fell sharply between 2000 and 2003, but rose again between 2003 and 2008. Length of stay in 2003 was 7 days, while in 2008 it was 7.3 days (42). The reduction in length of stay for Portugal has been less than for most other EU 15 countries. Length of stay in 1995 was just under the median for the 15 countries, while in 2007 it was fifth highest (2).

The **percentage of selected procedures performed on a day surgery basis** has increased from near zero in 2000 to over 80% for cataract surgeries and over 20% for angioplasties and tonsillectomies (5).

There is some evidence of improvement in the efficiency of service delivery. This includes an increasing shift to day surgery for some common procedures (cataract surgery, tonsillectomy, angioplasty) during the last decade. Variation in day surgery rates among regions suggests that there may be opportunities for further increasing these rates. Hospital length of stay decreased in the last half of the 1990s, but this decrease was less than that which occurred in most other OECD countries (2). Also, length of stay has not decreased further since 2003. A separate study (54) has also noted a reduction in the rate of inappropriate hospital admissions (by 24.6%) and days of stay (by 37.4%) since the mid-1990s. Further improvements in the efficiency of health care services would help to mitigate the potential impact of constraints on the growth of health care expenditure, particularly if there continues to be low growth or even contraction in GDP. It will be important to balance the need for public support for the health system with an adequate distribution of public spending across government. The existence of a large private sector might create an impetus for efficiency in the public sector. At present, however, the entanglement between the two sectors and the relative opacity of their articulation leads to perverse incentives, potentially aggravates inequalities and pleads for a clarification of the rules.

Policy recommendations

1 Pursue and align policies related to cost containment, purchasing of health care services and pharmaceuticals. Further develop support policies to ensure the sustainability of the health system, such as human resources for health, innovation and research and development, and information management policies.

2 Clarify the role of the private sector through appropriate regulation: develop and ensure compliance with requirements for public reporting, standards of quality and safety, rules for the dual employment of health professionals, and payment mechanisms rewarding performance for both the public and private sectors.

3 Translate the commitments to primary health care and public health into an increasing share of total health expenditure spent on the sector, including further investments in health promotion and disease prevention activities.

4 Enhance the role of the Regional Health Authorities in pursuing efficiency and productivity gains at the local level through better planning according to the needs of the populations served. Balance efficiency gains with quality and safety improvements through optimal planning.

5 Develop an integrated strategy for reviewing imbalances in the mix and scope of human resources for health, including changes in the scope of practice of professionals and incentives to correct current imbalances. Promote multi-stakeholder collaboration in the development of human resources for health and clarify the role of professional organizations.

6 Develop a systematic approach to cost–effectiveness assessment for technologies, policies and management practices to ensure that they are used in appropriate ways and provide the most benefit to the population (55).

7 Promote the systematic use of health services, health system research and evaluation findings to support decision-making. Support and promote a health services research agenda with a focus on value for money and health system sustainability (joint effort of the Ministries of Health and of Science, Technology and Higher Education).

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ANNEX 1:
List of Indicator Sources

National Statistical Institute (**INE**)
Central Administration Services of the Ministry of Health (**ACSS**)
Directorate-General for Health of the Ministry of Health (**DGS**)
National Institute for Pharmaceuticals (**INFARMED**)
National Legal Medicine Institute (**INML**)
National Health Institute Doctor Ricardo Jorge (**INSA**)
Office of the High Commissioner for Health (**ACS**)
Institute on Drugs and Drug Addiction (**IDT**)
Ministry for Environment and Spatial Planning/Portuguese Environment Agency (**MAOT/APA**)
Unit Mission for Integrated Continuous Care (**UMCCI**)
Unit Mission for the Reform of Primary Health Care (**UMCSP**)
Regulatory Entity of Health (**ERS**)
South Regional Oncological Registry (**ROR-Sul**)
Ministry of Labour and Social Solidarity (**MTSS**)

ANNEX 2:
Summary of Performance Dimensions, Policy Questions and Performance Indicators

SECTION 1: ACHIEVING BETTER HEALTH FOR THE PORTUGUESE POPULATION

Performance Dimension	Policy Questions	Performance Indicators
Improving the health status of the Portuguese population	Do individuals live longer?	• Life expectancy at birth • Potential years of life lost
	What are the trends in mortality?	• Perinatal mortality • Infant mortality • Standardized mortality rates for key causes of death under age 65
	Do individuals live their lives in a better state of health?	• Self-assessed health status • Disability-free life expectancy • Low-birth-weight infants
Improving equity in health	What is the extent of differences in health status related to sex?	• Differences between men and women in: – life expectancy at birth – potential years of life lost – key causes of death under age 65 – self-assessed health status – disability-free life expectancy
	What is the extent of geographical variations in health status?	• Differences among regions in: – potential years of life lost – mortality rates for key causes of death under age 65
	What is the extent of variation in health status related to age?	• Differences among age groups in self-assessed health status
	What is the extent of variation in health status related to education and other socioeconomic factors?	• Study on socioeconomic inequality in self-assessed health status by level of education

Performance Dimension	Policy Questions	Performance Indicators
Addressing the main risk factors and promoting healthier lifestyles	How has the prevalence of smoking changed over time and how does it vary across population sub-groups?	• Prevalence of smoking: – by sex – by level of education
	What does the prevalence of obesity tell us about healthy nutrition and physical activity habits?	• Prevalence of obesity : – by geographical region – by sex – by level of education
	What are the patterns of responsible consumption of alcohol, particularly as related to driving?	• Number of deaths due to alcohol-related motor vehicle accidents • Alcohol consumption habits among adolescents

SECTION 2: ENSURING CONFIDENCE AND SATISFACTION IN HIGH-QUALITY, ACCESSIBLE HEALTH SERVICES

Performance Dimension	Policy Questions	Performance Indicators
Health system responsiveness	How do individuals perceive the health system in general?	• Overall satisfaction with the health care system
	How do individuals assess the availability and/or quality of health care services?	• Satisfaction with the availability of quality health care • Perceptions of availability, affordability and quality of dental care, medical and surgical specialists, and family doctors • Satisfaction of long-term care and primary health care users
Access to health services	Are there problems with planning services to respond to health care needs that result in unreasonable waiting times?	• Percentage of surgical interventions completed within established target waiting times • Number of cases waiting for more than 120 days
	Do individuals access services at the appropriate level?	• Ratio of emergency department visits to outpatient appointments • Rate of influenza vaccination among the elderly
Quality, safety and outcomes of health care services	Are best practice guidelines developed and implemented to promote appropriate care?	• Rate of caesarean section deliveries
	Are health care services delivered safely to patients?	• Percentage of long-term care patients developing skin ulcers • Rate of falls in long-term care facilities
	Are health care services delivering clinical outcomes?	• Five-year relative survival rate following diagnosis of cancer • Thirty-day in-hospital fatality rates following AMI and ischaemic stroke • Hospital admission rates for ambulatory care sensitive conditions • Number of cases of congenital syphilis

SECTION 3: ENSURING SOCIAL SOLIDARITY

Performance Dimension	Policy Questions	Performance Indicators
Social and financial risk protection	Does the health system protect households against the financial risk of ill health?	• Out-of-pocket payments for health care services and medicines as a percentage of household capacity to pay by income quintile
Equity in finance	Is the health system funded in a way that is fair and equitable?	• Out-of-pocket payments as a percentage of total health care spending • Total private expenditure as a percentage of total health care spending
	What is the extent of coverage under private insurance plans?	• Level of duplication of health insurance coverage
Inequalities in access to health care services	Do the methods of health system financing influence the utilization of health care services?	• Study on level of income-related inequity in physician visits

SECTION 4: HEALTH SYSTEM SUSTAINABILITY AND EFFICIENCY

Performance Dimension	Policy Questions	Performance Indicators
Patterns in health system spending and financial sustainability	How is the pattern of health care spending changing?	• Total current health care expenditure as a percentage of GDP • Total current health care expenditure per capita • Public spending on health care as a percentage of total current health expenditure
	Are health system resources invested or allocated to the sectors in the most cost-effective way?	• Percentage of health care spending devoted to primary care
	How effective overall is health care spending in achieving improved health?	• Rate of mortality amenable to health care or health promotion interventions
Non-financial sustainability	Is the mix of human resources for health in the system appropriate for delivering high-quality health services and covering population health care needs?	• Physicians per 1000 population • Nurses per 1000 population • Ratio of nurses to physicians working in hospitals
	Are innovation and health technologies being used in an effective way?	• MRI units per million population • CT units per million population
	Are pharmaceuticals being used in an effective way?	• Per capita expenditure on medications • Percentage of generics in the medicines market
	Are health information resources sufficient to enable evidence-based policy-making and health system planning?	• Policy analysis and interviews with policy-makers and health system stakeholders
Health system efficiency	Are health care services being delivered more efficiently?	• Average length of hospital stay • Percentage of selected procedures performed on a day surgery basis

ANNEX 3:
Summary of Policy Questions, Findings and Policy Recommendations

SECTION 1: ACHIEVING BETTER HEALTH FOR THE PORTUGUESE POPULATION

Policy Questions	Situation	Policy Recommendations
Do individuals live longer?	• There have been significant gains in life expectancy over the long term and continuing through the early 2000s. Results for life expectancy and PYLL are now approaching those of other EU 15 countries. • Life expectancy at birth increased by over 25% from 1960 to 2006 but the most recent result (78.9 years) is still over one year less than the EU 15 average. • PYLL decreased from 5600 per 100 000 population in 2000 to 4125 in 2008. In 2006, Portugal's rate was still the highest of the EU 15 countries, but the improvement in the rate from 1970 to 2004 was by far the largest among these countries.	• Develop leadership and invest in capacity building for incorporating health in all policies and strengthen mechanisms for interministerial coordination and intersectoral action focused on health gains.
What are the trends in mortality?	• Improvements in life expectancy and in PYLL have been driven by significant reductions in perinatal and infant mortality, with rates for Portugal now among the lowest of the EU 15. • The rates of key causes of death for individuals under 65 years of age fell between 2000 and 2008, further improving life expectancy. These include rates of death due to ischaemic heart disease, cerebrovascular accidents, breast cancer and motor vehicle accidents. • However, rates for other causes of death, including cervical and colon/rectum cancers, along with suicide and alcohol-related deaths have not improved or have increased. These rates also vary significantly among regions.	• Build on lessons learnt from the implementation of successful health policies (such as maternal and child health policies) in addressing the most significant causes of mortality and morbidity. • Develop and implement a concerted and coordinated mental health strategy based on community-based services and focusing, inter alia, on reducing rates of suicide and alcohol-related deaths.

Policy Questions	Situation	Policy Recommendations
Do individuals live their lives in a better state of health?	• Despite the improvement in life expectancy and reductions in mortality in those under 65, people's self-assessments of their own health are low compared to other countries. Close to 15% of Portuguese assessed their own health as "bad" or "very bad" in 2005/2006 and the percentage assessing their health as "good" (or better) was only 40%. In only one other EU 15 country was the rate lower than 60%. • DFLE did not improve in Portugal over the period 1996–2003 in either males or females. In 2003, DFLE for males was three years less than the EU average, while for females the gap was five years. • The rate of low-birth-weight infants has not improved over the past 8 years and remains at close to 8% of all births. Low birth weight can result from poor general maternal health, including smoking and poor nutrition, but factors such as maternal age and multiple births also contribute. Portugal's rate is among the highest of the EU 15 countries, despite being one of the lowest rates in the 1980s.	• Further invest in primary health care reforms and public health as a foundation for attaining health gains and better management of chronic diseases.
What is the extent of differences in health status related to sex?	• Women live longer than men, but in poorer health. Although the gap in life expectancy between men and women has decreased since the 1990s, it was still 6.3 years in 2007. And the rate of PYLL for men was over twice that for women in 2008. These differences are higher than those in most other EU 15 countries. • Men also have much higher rates of death from key causes of mortality under age 65, particularly for alcohol-related deaths, ischaemic heart disease, HIV/AIDS, suicide and motor vehicle accidents. • However, self-assessed health status for women is lower than that for men, with larger differences between men and women among older age groups. DFLE is shorter for women than men in Portugal, in contrast to the EU average where the DFLE for women is longer than that for men.	• Invest in upstream and gender-responsive health promotion activities in order to tackle risk factors and integrate determinants of health into public health, health promotion and disease prevention programmes. • Develop an integrated strategy to address the male–female gap in health status by enhancing the regulatory and organizational environment, and promote the exchange of information about gender inequalities.
What is the extent of geographical variations in health status?	• The rates of key causes of death under age 65 vary considerably by region. Death rates from suicide and motor vehicle accidents are much higher in the less populated regions of Alentejo and Algarve; the rates of death due to ischaemic heart disease are also very high in these regions, as well as in Lisbon. • This variation in rates of death due to key causes leads to significant variation in PYLL among the regions. There has been a consistent decrease in PYLL among the three larger regions – Norte, Centro and Lisboa e Vale do Tejo. However, in 2008, the rate in Algarve was 31% greater than the national average and in Alentejo 19% greater. These differences have also increased since 2000.	

Policy Questions	Situation	Policy Recommendations
What is the extent of variation in health status related to age?	• Although self-assessed health status improved across all age groups between 1998/1999 and 2005/2006, the gap between NHP targets and results for the older age groups (55 years and over) was larger than that for younger ages.	
What is the extent of variation in health status related to education and other socioeconomic factors?	• As identified in a study on socioeconomic inequalities in health status, Portugal had the highest (of 19 European countries) level of inequality in self-assessed health status by level of education, for both men and women. • However, although the results of this study identify a need to develop a better understanding of socioeconomic health inequality, there are few data with which to report and monitor differences in health status by education, income, employment status or other socioeconomic variables.	• Commission a review of social determinants of health and of health inequalities in order to develop a detailed profile of health inequalities and identify priorities to further reduce these inequalities. • Develop health information systems allowing regular reporting and monitoring of population health needs, with a focus on health equity with respect to socioeconomic factors, in particular education level, income and employment status, while respecting the privacy of individuals.
How has the prevalence of smoking changed over time and how does it vary across population subgroups?	• In contrast to most other EU 15 countries, the rate of smoking among adults in Portugal has not improved over the past 10 years. A decrease in the rate among men over this period was offset by an increase in the rate among women, although the rate for women is still roughly a third of the rate for men. • Also, for women, rates of smoking are much higher among those who have completed a secondary or post-secondary education than among those who did not complete secondary education. Portugal was one of 5 of 19 European countries where the relative index of inequality of smoking with respect to education was negative – the higher the level of education, the higher the rate of smoking.	
What does the prevalence of obesity tell us about health nutrition and physical activity habits?	• The prevalence of obesity has increased over the past 10 years from 12% to 15% and was the third highest among EU 15 countries in 2005/2006. • Rates of obesity vary significantly with respect to education. For both men and women, the rate is higher among those with less education. The relationship between obesity and education for women was the highest among 19 European countries in a study released in 2008.	• Promote health literacy, shared decision-making for self-care and self-management of chronic conditions through a renewed policy on the engagement of citizens and patients in health decision-making. • Develop health and social strategies focused on the young, e.g. by re-energizing the school health programmes and by promoting positive choices in nutrition, physical activity, smoking and alcohol consumption.
What are the patterns of responsible consumption of alcohol, particularly as related to driving?	• Although the total number of deaths resulting from alcohol-related motor vehicle accidents decreased by 20% between 2004 and 2008, alcohol-related deaths as a percentage of all motor vehicle accident deaths remained constant at roughly 30% during this period. It is not possible to attribute the reduction in alcohol-related deaths to factors other than general improvements in road and car safety and in emergency medical treatment. • Patterns of abuse of alcohol among adolescents do not appear to have changed substantially between surveys conducted in 2001 and 2006. However, there was substantial variation in the percentage of adolescents reporting intoxication episodes across regions, ranging from 13.8% in Norte to 30.2% in Alentejo in 2006.	

SECTION 2: ENSURING CONFIDENCE AND SATISFACTION IN HIGH-QUALITY, ACCESSIBLE HEALTH SERVICES

Policy Questions	Situation	Policy Recommendations
How do individuals perceive the health system in general?	• Overall satisfaction with the health care system is low in Portugal relative to other EU 15 countries. In a 2002 survey, 80% of those surveyed said they felt the system should either be fundamental changed or completely rebuilt. This was the highest level of expression of need for change among the EU 15 countries. By comparison, the EU 15 average was 51%.	• Ensure a broader engagement of patients and citizens in health system decision-making and take the leader in citizen engagement activities across government. • Improve the responsiveness of the health system by regular reporting to the public of results on broad responsiveness measures related to dignity, autonomy, confidentiality, satisfaction with health care services, and confidence in the health system.
How do individuals assess the availability and/or quality of health care services?	• Although recent surveys of users of long-term care and primary care services have found that over 80% in most regions were "satisfied" or "very satisfied", there are significant gaps in assessments of the quality and availability of health care services compared to other countries. • In 2008, only 64% of Portuguese indicated that they were satisfied with the availability of quality health care in the city or area where they lived. Of results reported for 14 of the EU 15 countries, Portugal was tied for third last on this measure with Ireland. • Portugal scored second lowest or lowest of the 27 EU Member States in a 2007 survey on the aspects of health system responsiveness dealing with the affordability of dental care and medical and surgical specialists; the quality and availability of or access to family doctors; and the quality of dental care.	• Further define and promote the role of professional councils and educational institutions in improving health system responsiveness.
Are there problems with planning services to respond to health care needs that result in unreasonable waiting times?	• Planning for and matching surgical capacity to needs appears to have improved over the past 3–5 years, with the percentage of surgical interventions completed within established target waiting times increasing from 75% in 2005 to over 80% in 2008. Improvement has occurred in all regions and there was less variability in results among regions in 2008. • Over the same period, there has been a decrease in the number of individuals waiting more than 120 days for surgery.	

Policy Questions	Situation	Policy Recommendations
Do people access services at the appropriate level?	• Access to basic primary care services appears to have improved, but further improvement is probably possible. • People seem to be choosing outpatient and primary care facilities with increasing frequency rather than hospital emergency departments. The ratio of emergency department visits to outpatient appointments fell from 0.75 to 0.63 between 2004 and 2008. However, at the same time, the number of emergency department visits did not decline. Results were also more variable across regions: there was significant improvement in Norte and Centro but no improvement in the other three regions. • The rate of influenza vaccination for people over 65 has increased steadily, from 40% in 2004 to over 50% in 2008. However, in 2007, the rate still remained the third lowest among 14 of the EU 15 countries.	• Further coordinate and integrate health services in order to improve their effectiveness, e.g. by expanding the long-term care sector and by clarifying the policy framework for hospital reform.
Are best practice guidelines developed and implemented to promote appropriate care?	• There is no systematic programme to report on the development and implementation of clinical practice guidelines to promote appropriate care practices. Although quality improvement and guideline practices may be promoted in various settings, it is not possible to assess overall system performance. • The rate of caesarean section deliveries in Portugal provides some indication that this area requires further attention. The rate increased from 30% in 2000 to 35% in 2007. This rate was the second highest of the EU 15 countries in that year, and is over twice WHO's suggested upper limit of 15%.	• Enforce compliance of public and private providers with minimum standards and ensure reporting on a core set of performance indicators. Establish a platform for health professionals to share best practices and develop mechanisms to promote continuous quality improvement of health services.
Are health care services delivered safely to patients?	• As with development and implementation of practice guidelines, there is little reportable information available regarding safety of health care services. For example, rates of infection, medication errors and other adverse events that may occur in hospitals or other institutions are not systematically collected. • Information about long-term care patients who develop skin ulcers or suffer falls is available, but only for 2008 and presents a baseline for monitoring change. However, significant regional variation in the results for these measures suggests that improvement is possible.	
Are health care services delivering clinical outcomes?	• There has been improvement in important clinical outcomes of health care services, including 5-year survival rates for selected cancers and 30-day in-hospital fatality rates following AMI and ischaemic stroke. These areas have been included in the focus of the 2004–2010 NHP. • The number of cases of congenital syphilis, a preventable (with good screening and appropriate treatment) but severe, disabling and life-threatening infection that is passed to unborn infants through infected mothers, has decreased significantly from 47 in 2000 to 14 in 2008.	• Continue the development and implementation of policies for purchasing quality and effective health care for public and private providers, in order to stimulate improvements in the processes of care.

Policy Questions	Situation	Policy Recommendations
	• Although there has been some improvement, results from 2005 still place Portugal's 30-day in-hospital fatality rates for AMI and ischaemic stroke among the highest of the EU 15 countries. • With respect to care for chronic conditions, the hospital admission rates for ambulatory care sensitive conditions (chronic conditions that can often be effectively managed in the community) increased over the period 2000–2008. Decreases in the rates for some conditions – angina and hypertension – were offset by increases in the rates for others – COPD and diabetes. There was also variability in rates across regions. Comparisons with EU 15 countries for selected conditions for 2007 show Portugal to have among the lowest rates for COPD, congestive heart failure and hypertension, but the second highest rate for lower extremity amputations due to diabetes.	

SECTION 3: ENSURING SOCIAL SOLIDARITY

Policy Questions	Situation	Policy Recommendations
Does the health system protect households against the financial risk of ill health?	• Surveys of household expenditure on health care suggest that out-of-pocket and other private payments for health care services may place an undue burden on poorer households as well as increasing the financial risk associated with being ill. • In 2005/2006, 23% of households in the lowest income quintile reported spending more than 20% of their non-food household expenditure (capacity to pay) on out-of-pocket payments for health care services and 8% reported spending more than 40%. On average in the lowest income quintile, out-of-pocket spending on health care services and medicines amounted to 12% of total household expenditure.	• Develop survey information sources and systems and address corresponding privacy issues so as to generate the necessary evidence for planning and monitoring for equitable financing of the health system and social solidarity, including information on the impact of out-of-pocket payments and the burden of funding on different population groups.
Is the health system funded in a way that is fair and equitable?	• In Portugal, a relatively high proportion of the health system is funded through out-of-pocket payments, the most regressive form of health system financing. • Private out-of-pocket payments as a percentage of total health care spending have been in the range of 20–23% since the late 1990s. By comparison, most of the EU 15 countries have rates below 17%, and WHO has proposed that a rate of 15% or lower is most effective in protecting against catastrophic health care expenditures. • Similarly, total private expenditure on health as a percentage of total health care spending has been in top third of the EU 15, ranging between 27% and 29% compared to the EU 15 average in 2005of 23%.	• Review the most regressive elements of the financing system in order to improve equity in health financing.

Policy Questions	Situation	Policy Recommendations
What is the extent of coverage under private insurance plans?	• Duplication of health insurance through subsystems further exacerbates inequalities in access to health care services, where those who have double coverage can get faster and probably easier access to health care services. • Approximately 18% of the population has duplication of health insurance coverage, primarily provided through health subsystems defined through occupation or employment.	• Progressively shift the role of subsystems to one of complementary coverage, starting with ensuring that the budget transfers are equivalent to the health care needs of the populations covered.
Do the methods of health system financing influence the utilization of health care services?	• Although there are no systematic data with which to assess inequalities in utilization of health care services, an OECD study using 2002 survey data suggests that these inequalities are not only present in Portugal but are at a higher level than in other EU 15 countries. • Portugal had the second highest level of inequality in the number of physician visits among 13 of the EU 15 countries; however, if only visits to specialists are considered, the level of inequality was the highest. Also, it was found that level of income was the main factor contributing to inequality in Portugal, to a much greater extent than any other country.	• Develop mechanisms to better allocate resources to improve the distribution of funds among regions, as well as proper incentives to reduce geographical imbalances and inequalities in geographical access to care.

SECTION 4: HEALTH SYSTEM SUSTAINABILITY AND EFFICIENCY

Policy Questions	Findings/Results	Policy Recommendations
How is the pattern of health care spending changing?	• Health care expenditure, measured both as a percentage of GDP and on a per capita basis, has increased significantly since 2000. • Total current health care expenditure as a percentage of GDP has grown from roughly 8.5% in 2000 to 9.5% in 2007. The percentage for Portugal in 2007 was the fifth highest among the EU 15 countries. • Total health care expenditure per capita increased by 48% over the same period. This increase is close to the median for the EU 15 countries. • However, this increase has been financed more from private sources. The proportion of health care spending that is financed from public sources has decreased from 73% to just below 70%. Of the EU 15 countries, only Greece had a lower level at 62%. And, with the exception of Germany and Sweden, which started at a level of 80%, all other EU 15 countries increased their proportion of public spending on health.	• Pursue and align policies related to cost containment, purchasing of health care services and pharmaceuticals. Further develop support policies to ensure the sustainability of the health system, such as human resources for health, innovation and research and development, and information management policies.

Policy Questions	Situation	Policy Recommendations
Are health system resources invested or allocated to the sectors in the most cost-effective way?	• A strategic focus on primary health care has not translated into an increased share of spending in this sector. • Public spending on primary care has decreased, while the overall level has been maintained by an increase in private spending.	• Translate the commitments to primary health care and public health into an increasing share of total health expenditure spent on the sector, including further investments in health promotion and disease prevention activities.
How effective overall is health care spending in achieving improved health?	• The rate of mortality due to causes amenable to health care or health promotion interventions has decreased by 25% since 2000, indicating some substantial improvement in health outcomes generated by the health system. • However, this improvement has been less than that in other EU 15 countries, and Portugal slipped from second last to last place in a 2002/2003 comparison of amenable mortality across European OECD countries.	• Enhance the role of the Regional Health Authorities in pursuing efficiency and productivity gains at the local level through better planning according to the needs of the populations served. Balance efficiency gains with quality and safety improvements through optimal planning.
Is the mix of human resources for health in the system appropriate for delivering high-quality health services and covering population health care needs?	• Although growth in the overall density of nurses per unit population was the highest among the EU 15 countries, nursing density still remains low relative to other countries and in relation to physician density. • Total physician density has also increased; however, the ratio of general practitioners is low compared to that of specialists and is a serious concern from a demographic standpoint. • The ratio of nurses to physicians working in hospitals was roughly 1.5 in 2007, unchanged since 2000. However, there is significant variability in the ratio among the geographical regions. Of the EU 15 countries, only Greece has a lower ratio of nurses to physicians.	• Develop an integrated strategy reviewing imbalances in the mix and scope of human resources for health, including changes in the scope of practice of professionals and incentives to correct current imbalances. Promote multi-stakeholder collaboration in developing human resources for health and clarify the role of professional organizations.
Are innovation and health technologies being used in an effective way?	• Overall density of certain medical technologies – MRI and CT units –doubled between 2003 and 2007 and is close to the median of the EU 15 countries. • However, there is no information with which to compare the utilization of this technology or with which to assess appropriateness of use: do all those who will benefit have access to the technology, and is there inappropriate use?	• Develop a systematic approach to cost–effectiveness assessment for technologies, policies and management practices to ensure that they are used in appropriate ways and provide the most benefit to the population.
Are pharmaceuticals being used in an effective way?	• Per capita expenditure on medications has increased consistently since 2004 by about 10%, an increase near the median of results from a selected number of EU 15 countries. • The percentage of generics in the medicines market increased ten-fold between 2002 and 2007, from 1.8% to 18.6%, possibly indicating capacity to obtain more medicines at lower cost.	

Policy Questions	Situation	Policy Recommendations
Are health information resources sufficient to enable evidence-based policy-making and health system planning?	• Results from policy analysis and interviews with policy-makers and health system stakeholders showed that health information management systems in Portugal were fragmented, resulting in difficulties for policy-makers, planners and providers in getting timely access to valid and reliable information.	• Promote the systematic use of health services, health system research and evaluation findings to support decision-making. Support and promote a health services research agenda with a focus on value for money and health system sustainability (joint effort of the Ministries of Health and of Science, Technology and Higher Education).
Are health care services being delivered more efficiently?	• Efficiency of hospital services appears to have improved overall between 2003 and 2008, based on measures of average length of stay and day surgery cases. However, further improvement in efficiency must be monitored to ensure that it is driven through improved appropriate health care and not through inappropriate decreases in care. For example, hospital readmission rates should be monitored along with length of stay, and it is important to adjust results for changes in case mix that might result in longer average lengths of stay. • Average length of hospital stay decreased sharply between 2000 and 2003 but rose again between 2003 and 2008. The reduction in length of stay for Portugal has been less than for most other EU 15 countries, suggesting that further efficiency gains could be achievable. • The percentage of selected procedures performed on a day surgery basis increased from near zero in 2000 to over 80% for cataract surgeries and to over 20% for angioplasties and tonsillectomies.	• Clarify the role of the private sector through appropriate regulation: develop and ensure compliance with requirements for public reporting, standards of quality and safety, rules for the dual employment of health professionals, and payment mechanisms rewarding performance for both the public and the private sector.

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