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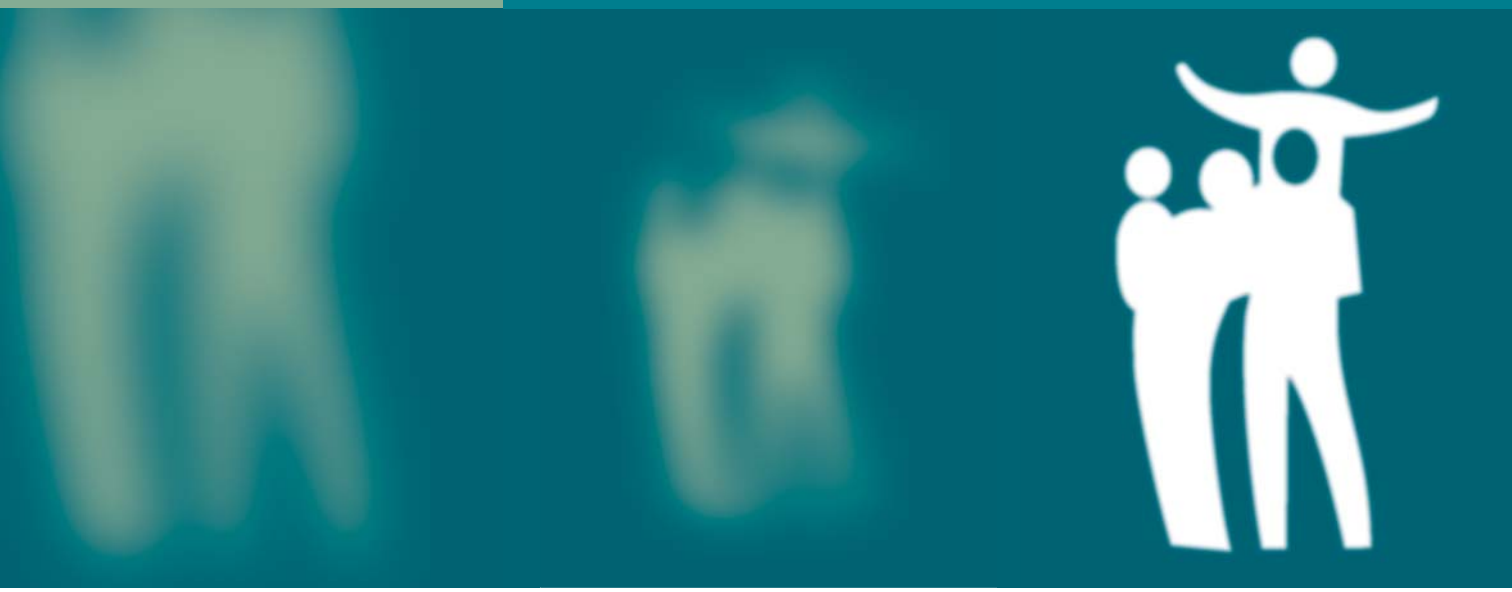
WHO Evaluation of the **National Health Plan of Portugal (2004–2010)**



Ministério da Saúde

Alto Comissariado da Saúde

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Abstract

This report presents the main findings of an evaluation of the National Health Plan of Portugal (2004–2010) 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. It contributes to the efforts of the Government of Portugal to strengthen the capacities of the Ministry of Health for effective stewardship of the Portuguese health system.

The objectives of this evaluation were to assess the relevance, implementation and effects of the National Health Plan and to provide policy recommendations to improve future national health plans. The findings of the evaluation are based on: a statistical analysis of monitoring indicators and related targets attached to the Plan; a review of national studies undertaken in relation to the Plan; a functional review of the Portuguese health system; interviews with health system policy-makers and stakeholders at national, regional and local levels; two round table discussions with policy-makers and health system experts; and a selective review of the literature.

This report includes an executive summary and a presentation of key messages. Annexes present a full report of the statistical forecast carried out on the performance indicators and targets related to the Plan

Keywords

NATIONAL HEALTH PROGRAMS
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Foreword

Portugal has a National Health Plan (NHP) since 2004, which concludes in December 2010. This NHP 2004–2010 is monitored and followed by the Office of the High Commissioner for Health (Portuguese Ministry of Health), which is also responsible for the development of the next NHP 2011–2016. In this context, an international external evaluation was considered relevant. By proposal of the High Commissioner for Health, the Minister of Health invited the World Health Organization's Regional Office for Europe, within the Biennial Collaborative Agreement between WHO and Portugal, to perform such an evaluation.

Developing an effective, evidence-based national health policy and strategy depends on sound knowledge of what is and is not working and what could potentially work better. The WHO evaluation was an important opportunity to generate this type of knowledge including what could be improved and or strengthened. This is critical for a better practice and policy, enabling more effective investment in population health and informing the development of the future NHP. The evaluation focused on assessing the relevance, implementation and effects of the national plan.

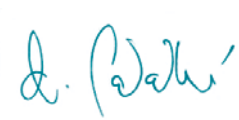
In terms of relevance the current NHP has provided a relatively comprehensive organizational framework for health system activities in Portugal. It is well-known that health is the result of complex individual, ecological and social phenomena. As options for intervention further increase, largely because of scientific and technological developments, it is increasingly important to align, integrate and create partnerships between stakeholders, as a means towards greater effectiveness and sustainability.

The establishment of a structure, like the Office of the High Commissioner, to coordinate the development, implementation, monitoring and evaluation of the NHP has been a critical milestone. Adopting the plan as an organizing framework, Regional Health Authorities have used the NHP priorities to specify the types and volume of services required for the purchase of services from health care providers. Local health strategies have also been developed to support the achievement of goals within the plan.

The WHO evaluation of the Portuguese NHP highlights the role of national health plans in strengthening health system performance. This is particularly important following endorsement of the Tallinn Charter by 53 Member States as it is relevant not only to Portugal, but also to other countries that are in the process of developing and improving their health planning instruments. As countries look forward to learning with each other and to improving their ability to bring more health to all, a common and clear framework for evaluating health plans will be of value for sharing lessons and experiences.

While national health plans in and of themselves are not the solution, strong plans do help to drive improvements in health systems performance and population health. The current National Health Plan for Portugal is an important example of this and is a strong asset for the development of the next NHP.

This report represents one of the commitments expressed in the Biennial Collaborative Agreement 2010–2011, which can be considered as an important milestone in the collaboration between WHO Regional Office for Europe and Portugal.



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Key messages

The World Health Organization (WHO) Regional Office for Europe carried out an evaluation of the National Health Plan of Portugal (2004–2010) in the framework of its Biennial Collaborative Agreement (2008–2009) with the Ministry of Health of Portugal. The objectives of the evaluation were to assess the design, implementation and achievements of the National Health Plan and to provide policy recommendations to support the efforts of the Portuguese Government in strengthening the country's health system.

The findings of this evaluation are based on: a statistical analysis of monitoring indicators and related targets attached to the Plan; a review of national studies undertaken in relation to the Plan; a functional review of the Portuguese health system; interviews with over 100 health system policy-makers and stakeholders at national, regional and local levels; two round table discussions with policy-makers and health system experts; and a selective review of the scientific literature.

The most significant achievements include: the creation of a function and structure responsible for coordinating the development, implementation, monitoring and evaluation of the Plan; strong support of the Plan by health system stakeholders and a sustained commitment to the achievement of health gains; a focus on accountability and on the achievement of measurable health system improvements through the monitoring of key performance indicators and targets; and an emphasis on the role of Regional Health Authorities and of interministerial action to implement the Plan.

The most important challenges related to the design and implementation of the National Health Plan include: numerous policy gaps, notably how to address health inequalities, health system sustainability and human resources for health, and health care quality and safety; fragmentation of the health system stewardship function of the Ministry of Health and a lack of alignment at central level between strategy, decision-making and implementation; an insufficient culture of performance management and accountability, despite recent efforts; limits and variations in interministerial collaboration; challenges and inconsistencies in the way Regional Health Authorities carry out their planning and implementation role; selective and insufficient stakeholder engagement; and a limited use of information to monitor and drive performance improvement.

Of the 64 performance indicators that could be analysed statistically, 28 had either already achieved their targets or were likely to achieve them by the end of 2010. Another 34 performance indicators were unlikely to meet their targets, while for the remaining 2 the trend was unclear. Most performance indicators for which international comparisons are available are improving and converging towards the average of the EU15 group (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the

Netherlands, Portugal, Spain, Sweden and the United Kingdom). Nevertheless, the methods used to select the targets for the performance indicators attached to the Plan were not documented and it was therefore difficult to assess the adequacy of the targets set, even if they met with a rather broad agreement among health system stakeholders.

The main policy recommendations are:

- to build on the broad consensus created by the current National Health Plan on achieving health gains and use it as an asset for the next Plan;
- to refocus the role of the Ministry of Health on health system stewardship, which should concentrate on defining health system goals, the roles of actors and boundaries for action
- to report regularly to the Parliament on the implementation of the National Health Plan and improvements on key targets related to public health and health system strengthening in Portugal;
- to address the fragmentation of the health system stewardship function of the Ministry of Health and related lack of coordination, so that health system performance can be managed appropriately and public health goals can be achieved;
- to strengthen interministerial involvement and collaboration (starting with the Ministry of Finance and the Ministry of Foreign Affairs) and develop capacities for health impact assessment across government;
- to empower the Regional Health Authorities to lead stakeholders and community engagement and planning at local level
- for the next Plan, to propose a good balance between broad public health goals providing directions for action and a limited number of priority objectives for strengthening the health system, to be achieved within the timeframe of the Plan; and
- for the next Plan, to build on a strong evidence base addressing important policy gaps in the current Plan, specifically health inequalities, health system sustainability, human resources for health, health care quality and safety, and equity in financing.

Executive summary

Portugal has enjoyed substantial improvements in the health status of its population over the last 25 years. Life expectancy has converged with the European Union (EU) average: in 2006, the average life expectancy at birth was 79.0 years while the average for the EU15 group (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) was 80.31 years. Despite remarkable improvements, however, there are still important health inequalities between genders, regions and socioeconomic groups, and most health system performance indicators have not yet reached the level of the EU or OECD averages. Achieving health gains is precisely the objective of the National Health Plan of Portugal spanning the period 2004–2010.

The National Health Plan spells out the guiding principles and strategies for individuals and institutions to contribute to improvements in health outcomes in Portugal from 2004 to 2010. The Plan's core strategic goal is based on the concept of health gain, with an emphasis on health promotion and disease prevention and the integrated management of diseases. Accordingly, the Plan gives priority to four national health programmes (cardiovascular diseases, cancer, HIV/AIDS and mental health) and focuses on integrating the other 18 national health programmes by better managing chronic diseases and by promoting health in schools, at the workplace and in prisons.

The Ministry of Health of Portugal requested the WHO Regional Office for Europe to carry out an external evaluation of its 2004–2010 National Health Plan. This evaluation is part of the 2008/2009 Biennial Collaborative Agreement between the Ministry of Health and the Regional Office, and builds on prior collaboration on the development and implementation of the National Health Plan. This evaluation is complemented by a WHO assessment of the performance of the Portuguese health system. These two reports aim at building the necessary evidence base for strengthening the Portuguese health system and enhancing the capacities of the Ministry of Health for better health system stewardship.

The objectives of this evaluation are to assess the design, implementation and impact of the National Health Plan in order to gain a better understanding of opportunities to improve health system performance through future Plans and to generate policy options supporting the development of the next Plan, expected to come into effect in 2011.

Overall, the findings of this evaluation are based on: a statistical analysis of monitoring indicators and related targets attached to the National Health Plan; a review of national studies undertaken in relation to the Plan (such as the results of a survey commissioned by the Office of the High Commissioner for Health aimed at assessing awareness of the Plan among health professionals); a review for Portugal of the four health sys-

tem functions defined by WHO in its health system framework (health system stewardship, delivery of personal and non-personal health services, health financing and resource generation); interviews with health system policy-makers and stakeholders at national, regional and local levels; two round table discussions with policy-makers and health system experts, in Lisbon in November 2008 and September 2009; and a selective review of the scientific literature on the Portuguese health system and, more broadly, on health system strengthening and strategic management. Several methodological limitations of this evaluation should be pointed out: the statistical forecast of the performance indicators attached to the Plan could not model the impact of the current economic crisis on the achievement of the Plan's targets; data available for international comparisons are limited; and the absence of documentation of the target-setting process did not allow the adequacy of the Plan's targets to be assessed.

The National Health Plan has many features showing its relevance for strengthening the health system in Portugal.

The Plan was developed through a broad involvement of health system stakeholders, which resulted in strong support for the Plan.

Furthermore, health system stakeholders have shown a sustained commitment to the implementation of the Plan, despite several contextual changes.

Most importantly, most health care providers are supportive of the Plan and are committed to a future Plan.

Most health system stakeholders see the Plan as a framework for setting priorities, organizing activities and introducing change.

The Plan prioritizes health gains and important performance drivers to reach these goals, such as prevention, health promotion and an emphasis on primary health care, which is consistent with the WHO Tallinn Charter (2008).

Despite the scope and detail of the Plan, however, there are important policy gaps.

The Plan mainly focuses on population health gains in terms of level of health but does not draw in-depth attention to the distribution of health across the Portuguese population.

The Plan could have been an opportunity to address the financial sustainability of the Portuguese health system.

The Plan fails to address elements of inequality in health financing, a shortcoming challenging the main values underpinning the Portuguese health system.

The Plan has a limited strategic focus on sustainable human resources for health.

The Plan does not focus sufficiently on the quality and safety of health care services.

The number of targets attached to the Plan is too large to allow for a true prioritization and the process of setting targets was not documented, resulting in inconsistencies in the levels set for the targets.

One of the challenges in evaluating the Plan is that a framework for its evaluation was not preestablished.

There have been a number of important achievements in the implementation of the current Plan.

The creation of the function of High Commissioner for Health, with a dedicated structure supporting its role and an interministerial committee (the "survey committee") following up its implementation, has enhanced health system accountability and transparency and provided an opportunity for those responsible for implementing the Plan to review progress and take relevant action to stimulate improvements in performance.

Local health strategies have been developed by Regional Health Authorities to support the achievement of the goals set out in the National Health Plan, even if this effort has not been systematic or consistent across the regions.

There have also been consistent efforts to engage health system stakeholders in the development and implementation of the Plan, often through innovative approaches.

The Plan has introduced systematic health monitoring. It includes a commitment to systematically monitor the health status of the Portuguese population and has set the basis for regular reporting at national and regional levels on key targets related to the Plan.

The implementation of the National Health Plan has also suffered from a number of challenges.

Implementation suffered from a lack of alignment between strategy, decision-making and implementation at central level, and from the fragmentation of the health system stewardship function of the Ministry of Health.

The leverage and the tools available to the High Commissioner for Health to ensure the implementation of the Plan have, until recently, been limited to moral suasion and programme responsibilities.

The Plan has also suffered from a lack of a culture of performance management, incentives and performance improvement.

The Plan has also not resolved the difficulty of coordinating and implementing numerous health programmes at local level.

There have been limits and variations in interministerial involvement and collaboration, even where a number of successes should be built upon.

Finally, more could have been done in the active use of information to monitor and drive improvements in performance.

The National Health Plan includes a rather large number of performance indicators and targets to monitor progress in implementation. These targets are used for public accountability and are released regularly on the web site of the Ministry of Health. To assess the effects of the Plan, a statistical forecast was carried out on all performance indicators for which at least three data points were available between 2004 and 2008. The results of the forecast indicate whether the indicators are statistically on track to meet their related targets. Of the 64 performance indicators that could be analysed statistically, 28 had either already achieved their targets or were likely to achieve them by the end of 2010. Another 34 performance indicators were unlikely to meet their targets, while for the remaining 2 the trend was unclear. Available international comparisons show that, for a number of the performance indicators, the gap with the EU15 average is narrowing. However, since causal models explaining the expected impact of policy interventions on performance were not developed, it is not possible to attribute directly the achievement of targets (or their lack of achievement) to the Plan. It should be noted, however, that the methods used to select the targets for the performance indicators attached to the Plan were not documented, and it was therefore difficult to assess the adequacy of the targets set, even if they met with a rather broad agreement among health system stakeholders.

The main policy recommendations related to the relevance and implementation of the National Health Plan are the following.

The broad consensus created by the current Plan on achieving health gains should be built on and used as an asset for the next Plan.

The Ministry of Health should focus on its health system stewardship role, which should concentrate on defining health system goals, the roles

of actors and boundaries for action, and should empower Regional Health Authorities with the responsibility for implementing the Plan.

The fragmentation of the health system stewardship function of the Ministry of Health should be addressed, and policy instruments should be used to their full potential to steer health system performance.

In this context, Regional Health Authorities should take the lead in planning and in engaging stakeholders and the community at local level.

Health system stakeholders should be engaged early, broadly and consistently in the development of the next Plan, and communication should be fostered.

The survey committee should lead and be accountable for regularly reviewing performance indicators related to the Plan and taking action in a coordinated manner to improve performance.

Interministerial involvement and collaboration (starting with the Ministry of Finance and the Ministry of Foreign Affairs) should be strengthened and capacities for health impact assessment developed across government.

The next Plan should reach a balance between broad public health goals providing direction for action and a limited number of priority objectives for strengthening the health system.

The next Plan should also build on a strong evidence base addressing important policy gaps in the current Plan, chiefly health system sustainability and health inequalities.

A monitoring and evaluation framework and a transparent process for target setting should accompany the next Plan.

Introduction

Portugal has enjoyed substantial improvements in the health status of its population over the last 25 years. Life expectancy has converged with the European Union (EU) average: in 2006, the average life expectancy at birth was 79.0 years while that for the EU15 group (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) was 80.31 years (1,2). Child health indicators, such as rates of neonatal or perinatal mortality, have also improved dramatically over the last 30 years, reaching or surpassing the EU15 average (3). These improvements seem associated with increases in human, material and financial resources devoted to health care, as well as to a general improvement in the country's socioeconomic conditions. Despite these remarkable improvements, however, there are important health inequalities between genders, regions and socioeconomic groups (4). For example, the life expectancy of males in Portugal in 2006 was only 75.0 years, while it reached 82.0 years for females in the same year (1,2). This gap in life expectancy can be explained by the burden of avoidable causes of death, such as motor accidents (5). Furthermore, the average number of years without disability that Portuguese citizens can expect to live is still three years below the EU15 average. Overall, improvements in the health status of the Portuguese population should not hide serious inequalities and the fact that there is still room for attaining better health outcomes. Achieving health gains is precisely the objective of the National Health Plan of Portugal spanning the period 2004–2010.

The National Health Plan spells out the guiding principles and strategies for individuals and institutions to contribute to improvements in health outcomes in Portugal from 2004 to 2010. The Plan's core strategic goal is based on the concept of health gain, with an emphasis on health promotion and disease prevention and the integrated management of diseases. Accordingly, the Plan gives priority to four national health programmes (cardiovascular diseases, cancer, HIV/AIDS and mental health) and focuses on integrating the other 18 national health programmes by better managing chronic diseases and by promoting health in schools, at the workplace and in prisons. The Plan also addresses governance issues and specifically the issue of change management, with a main focus on the role of Portuguese citizens in

The National Health Plan spells out the guiding principles and strategies for individuals and institutions to contribute to improvements in health outcomes in Portugal from 2004 to 2010.

promoting healthier lifestyles across society. The Plan proposes capacity building through a revised policy on human resources for health, innovation through strengthened information and knowledge management, and the promotion of research and development. It is further anticipated that the health system will be reorganized, including plans for improved management capacity in health care institutions; public–private partnerships and partnerships with the social sector; better coordination between different levels of care; and a revision of incentive structures for health professionals and managers within health care institutions. Some of the measures build on global strategies, such as that giving priority to the poor, which is based on the global poverty reduction strategy. As mentioned above, another strategy is based on health settings and includes better health in schools, prisons and at the workplace. A third strategy aims at promoting healthy types of behaviour and an environment conducive to health.

The Values underlined in the National Health Plan are those of social justice, universality, equity and respect for the human person, solicitude and solidarity.

The Plan comprises two volumes: the first establishes the main strategic directions and principles for implementation, while the second contains a more detailed and comprehensive set of strategic directions and commitments for implementation. The Plan is presented as a living document requiring continuous updating. Monitoring of progress in the implementation of the Plan is allowed for through a total of 122 performance indicators, 115 of which are associated with related targets (6).

The National Health Plan 2004–2010 was developed and implemented in three different phases (7). The first phase, from 2002 to 2004, included a situation analysis, the setting of national objectives, the definition of targets and the issuing of strategic guidelines. This phase comprised public and expert consultations in order to gather feedback and opinions; international consultations with the World Health Organization (WHO) Regional Office for Europe, the Organisation for Economic Co-operation and Development (OECD) and the Council of Europe; three regional consultations (in Faro, Lisbon and Oporto) and a national health forum; and a survey of civil society organizations, academic institutions, health institutions and policy authorities (8). However, the results of the survey showed a relatively low response rate of only 17.6% (9). The second phase of the Plan, from 2004 to 2006, included launching the Plan, making structures, indicators and resources operational and introducing adjustments in implementation. Notably, the Office of the High Commissioner for Health of Portugal was created in 2005 through a regulatory decree with the aim, among others, of ensuring the development of, support for and evaluation of the National Health Plan. This phase also included an international expert round table on progress in implementation, which was supported by the Regional Office (10). Since 2006, the focus has been on implementing and monitoring the Plan.

The values underlined in the National Health Plan are those of social justice, universality, equity and respect for the human person, solicitude and solidarity. These are all consistent with the international commitments of Portugal, which endorsed the Tallinn Charter in 2008 (11). Sustainability,

continuity, citizen engagement and the humanization of health care are put forward as further guiding principles. Although these values are not explicitly set out in the Plan, they are nonetheless put into practice through numerous strategic directions proposed by the Plan.

The Ministry of Health requested the Regional Office to carry out an external evaluation of its 2004–2010 National Health Plan. The evaluation is part of the 2008/2009 Biennial Collaborative Agreement between the Ministry of Health and the Regional Office, and builds on prior collaboration on the development and implementation of the National Health Plan. The Ministry of Health expected that the evaluation would support the implementation of necessary changes to the Plan before it came to an end, and that it would support the Office of the High Commissioner for Health in the development of the next Plan. The High Commissioner for Health commissioned and provided financial support to the Regional Office to undertake the work. This evaluation is complemented by a WHO assessment of the performance of the Portuguese health system. The assessment aims – together with the evaluation of the National Health Plan – at building the necessary evidence base for strengthening the health system and enhancing the capacities of the Ministry of Health for better health system stewardship.

The objectives of this evaluation were to assess the design, implementation and impact of the National Health Plan and to generate policy options supporting the development of the next Plan, expected to come into effect in 2011. This report includes: a presentation of the quantitative and qualitative methods used to carry out the evaluation; the main findings, including an analysis and a forecast of the current status of achievement of the targets related to the Plan; and targeted policy recommendations to support the development of the next Plan.

The objectives of this evaluation were to assess the design, implementation and impact of the National Health Plan and to generate policy options supporting the development of the next Plan, expected to come into effect in 2011.

Section 1. Methods

This evaluation took place between July 2008 and September 2009 through five technical missions undertaken by WHO experts, who were given the task of assessing quantitatively and qualitatively the relevance, implementation and impact of the National Health Plan of Portugal.

Overall, the findings of this evaluation are based on: a statistical analysis of monitoring indicators and related targets attached to the National Health Plan; a review of national studies undertaken in relation to the Plan (such as the results of a survey commissioned by the Office of the High Commissioner for Health aimed at assessing awareness of the Plan among health professionals); a review for Portugal of the four health system functions defined by WHO in its health system framework (12) (health system stewardship, delivery of personal and non-personal health services, health financing and resource generation); interviews with health system policy-makers and stakeholders at national, regional and local levels; two round table discussions with policy-makers and health system experts, held in November 2008 and September 2009 in Lisbon; and a selective review of the scientific literature on the Portuguese health system and, more broadly, on health system strengthening and strategic management.

This evaluation can be characterized as both a normative evaluation (through which an assessment of the trends of monitoring indicators related to the Plan and their statistical likelihood of reaching targets was carried out) and an evaluative research (through which the relevance of the Plan to stated objectives and its implementation were assessed) (13). This evaluation makes a number of policy recommendations intended to support the national health authorities in developing the next National Health Plan.

The following main research questions were used as a guide for this evaluation.

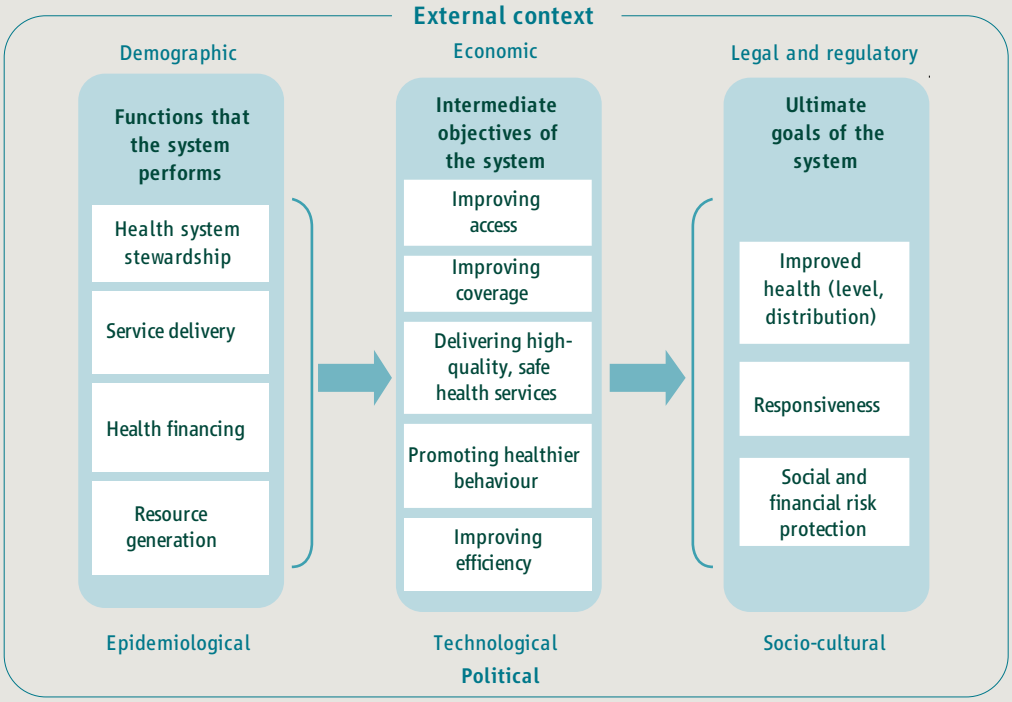
- Does the National Health Plan present a relevant approach to achieving health gains in Portugal, and is this approach consistent with the values, principles and commitments of the Member States of the WHO European Region?
- Was the Plan implemented in a way conducive to the attainment of health gains, and are there appropriate governance mechanisms in place to ensure that health system stakeholders, including other ministries, focus on achieving the targets of the Plan?
- Are the targets set for the National Health Plan on track to be reached by the end of 2010?

The relevance of the Plan was evaluated against the values, principles and commitments endorsed by the Member States of the WHO European Region at the time the Plan was developed, including the WHO Health for All Policy Framework (14) and the WHO Health System Framework, which defines ultimate health system goals and health system func-

tions supporting the achievement of these goals (12). A health system strengthening framework adapted to national strategies (see **Fig. 1**) was developed and discussed at an experts' meeting held in February 2008. This framework was used to assess the relevance of efforts to strengthen health system functions and achieve intermediate objectives in order to achieve the health gains pursued by the Plan.

the Plan when data were available at three points in time between 2004 and 2008. All performance indicators and targets values are for mainland Portugal. Of the 122 performance indicators attached to the Plan, 84 of which were monitored regularly and had targets attached to them, only 64 met the criteria of having both (a) a time series of at least three years between 2004 and 2008 and (b) related targets. It should be noted that several perform-

Fig. 1 Health system strengthening framework used to assess the relevance of the National Health Plan



The evaluation of the implementation of the Plan was carried out through interviews and documentation analysis.

The evaluation of the impact of the National Health Plan was carried out through a statistical analysis of the performance indicators related to

ance indicators (especially those on risk factors) are calculated as the result of a national health survey carried out every 4–5 years only. This is consistent with international recommendations, and it was therefore not expected that the statistical forecast could be carried out on all performance indicators.

A statistical analysis was carried out to forecast the likelihood that the indicators would achieve the target set for 2010, on the assumption that the performance pattern observed in the past would continue for the remaining years of the Plan. Data were collected, beginning in 2000 or 2001, for all indicators analysed in order to have a longer time series for the statistical forecasting. The latest data available were for 2008 or 2007, depending on the performance indicator. Through this statistical analysis, data for future years were forecast using generalized weighted least squares (sample weighted using denominators or numerators of the indicator). The model selected was a generalized linear model. The predictive ability of comparative models (such as the auto-regressive model) was verified by examining the effects of the most recent available time points and by verifying the prediction of the model with respect to the true value. The generalized linear model was selected because of its better predictive ability and because it is more parsimonious. Furthermore, a linear model seemed reasonable for predicting values over the relatively short term of 3–5 years. Targets were assessed based on coverage of the 95% confidence intervals around the predicted time points. The standard errors accounted for the error in model prediction. The confidence interval that completely fell below or above the horizontal target line allowed one to predict whether targets were likely to be met. Confidence intervals spanning or covering the target line are inconclusive; this was the case for only 2 performance indicators out of 64. Therefore, it was possible to statistically predict the likelihood of achieving the target for 62 of the 64 indicators.

Several limitations to this evaluation should be pointed out. The most important is that the National Health Plan spans the period 2004–2010. This evaluation took place primarily in 2009, about 18 months before the completion of the Plan. By analysing the indicators and targets, we could only assess statistically whether the targets were likely to be reached by assuming that the patterns observed in the past were maintained until the end of 2010. However, the impact of external factors such as the current economic crisis on the health status of the population, health inequalities, access to health care services and health system sustainability could not be taken into consideration in the statistical model. Thus the forecast of the performance indicators attached to the National Health Plan should be interpreted with caution. Furthermore, the absence of documentation on the methods used to set targets did not allow us to assess the adequacy of the targets set for the National Health Plan.

The evaluation of the impact of the National Health Plan was carried out through a statistical analysis of the performance indicators related to the Plan when data were available at three points in time between 2004 and 2008.

Section 2. Summary Findings

Overall the National Health Plan 2004–2010 has been well received by health professionals and has achieved broad consensus among health system stakeholders concerning health priorities and the need to pursue health gains and to monitor health system improvements. The data gathered for the years 2004–2008 (when available) and the qualitative analysis carried out through interviews and other qualitative methods show that, four years into the implementation of its Plan, Portugal had already achieved a number of challenging goals. The Plan furthermore provides a relatively comprehensive organizational framework for health system activities, which has proven useful to many health system stakeholders in strategically aligning their activities. At the same time, the Plan is not firmly linked with change mechanisms such as financial incentives or contracts with health care providers, giving it limited ability to implement system-wide change. In addition, the Plan contains several gaps, which must be addressed in order to achieve health gains and health system improvements in Portugal. If not addressed, these gaps could challenge the sustainability of the National Health Service (NHS) and of the Portuguese health system as a whole. This section presents succinctly the achievements and challenges of the National Health Plan in terms of its relevance, implementation and impact over the period 2004–2009.

2.1 Findings related to the relevance of the National Health Plan

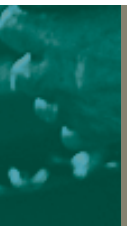
The Plan has many features showing its relevance for strengthening of the health system in Portugal

The National Health Plan was developed through broad involvement of health system stakeholders, which resulted in strong support for the Plan. Over 600 health system stakeholders and health institutions were consulted on an early draft of the Plan. The further involvement of selected stakeholders was obtained at the implementation stage, when the regions had come to play an important role in its implementation.

A recent survey revealed that 86% of medical doctors and an even higher percentage of nurses know of the Plan, although only one third of doctors had read it.

The Plan is acknowledged to be a comprehensive public health document that has succeeded in obtaining agreement on health priorities and the support of a broad range of policy- and decision-makers and health professionals in Portugal. A re-

cent survey commissioned by the High Commissioner for Health showed a relatively high level of awareness of the Plan among health professionals: it revealed, for example, that 86% of medical doctors and an even higher percentage of nurses know of the Plan, although only one third of doctors had read it (15). The Plan has also been useful in orienting public health training and research agendas, for instance by serving as a discussion document in academic settings and guiding research proposals and funding.



Most health care providers support the Plan and are committed to a future Plan.

Furthermore, health system stakeholders have shown a sustained commitment to the implementation of the Plan, despite several contextual changes. The Plan has enabled a stable policy commitment to implementation in spite of substantial changes in the organization of the Portuguese health system. For instance, the role of the private health care sector continues to grow substantially, but this has not affected the commitment to the Plan of the main health system stakeholders. Political commitment to implementation has also been sustained in spite of governmental changes.

Most importantly, most health care providers support the Plan and are committed to a future Plan. During meetings with various health care providers, the Plan was often referred to as a comprehensive population health needs assessment and a common guide, and many health care providers indicated that they supported its implementation by engaging in initiatives in line with its broader strategic directions. Although it has been said that the Plan overreaches some operational levels, health care providers overall – irrespective of the level of care at which they work and whether in the NHS or the private sector – have subscribed to the existence of a National Health Plan and have voiced their hopes and expectations for continued health planning in Portugal.

The Plan is also seen by many health system stakeholders as a framework for setting priorities, organizing activities and introducing change. Representatives of the Ministry of Health and of Regional Health Authorities have indicated that they find the Plan helpful in setting priorities according to a common framework and in organizing their programmatic activities. In particular, all Regional Health Authorities have expressed their appreciation of a degree of central guidance in the main areas of their work, especially with respect to the priority areas of the Plan, and have found it useful in justifying additional investments within their regional health communities. For instance, an increase in mortality from stroke in hospitals in several regions has led to the introduction of an emergency transfer system based on triage, stroke management units in hospitals, and personal patient cards allowing continuous self-monitoring of risk factors for cardiovascular and cerebrovascular incidents (the Via Verde system).

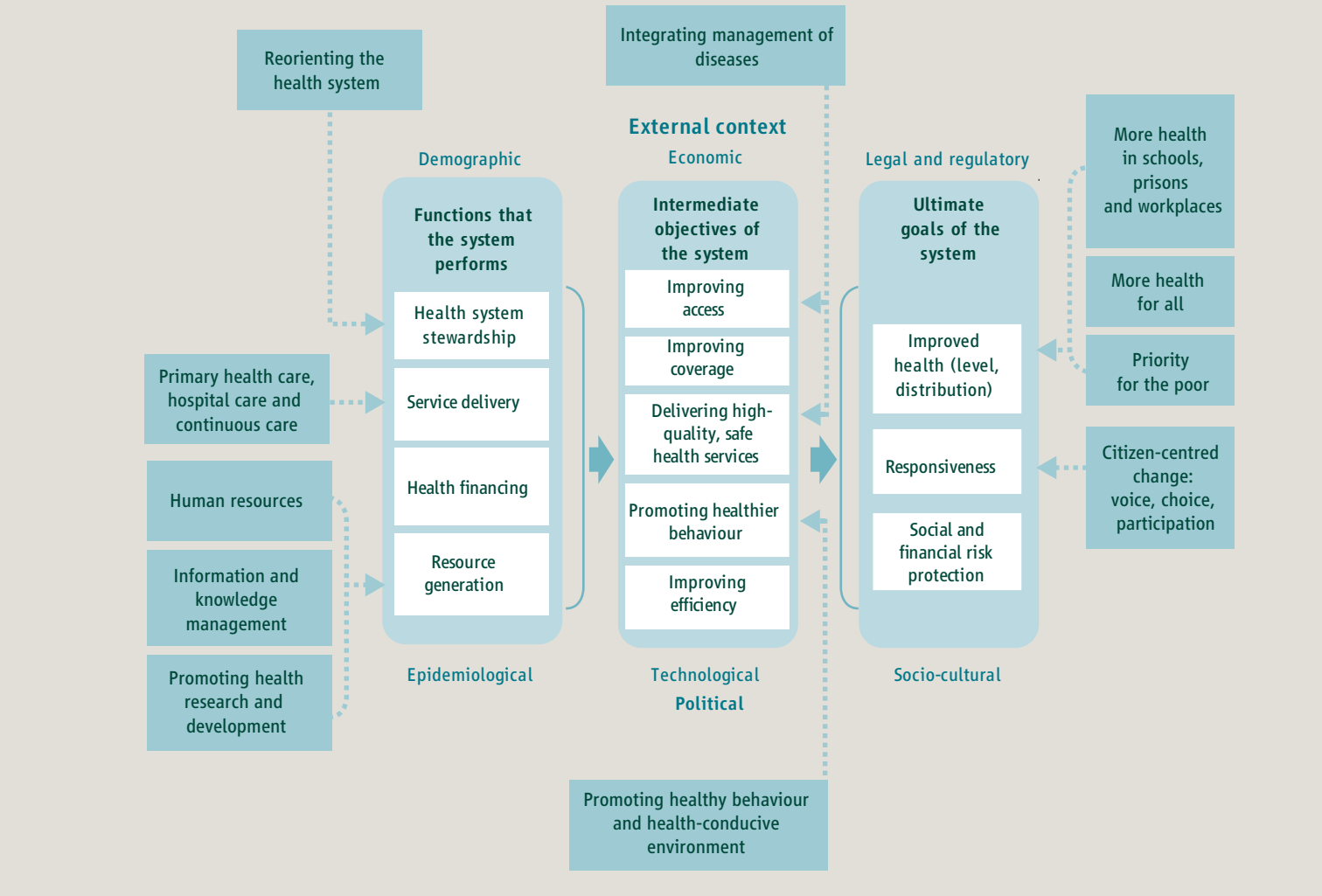
The Plan prioritizes health gains and important performance drivers to reach these goals, such as prevention, health promotion and an emphasis on primary health care. The Plan and its inspirational goals have succeeded in attracting the support of decision-makers and in setting the scene for a more strategic orientation of the Portuguese health system. In particular, the Plan sets out an explicit direction towards more disease prevention and pri-

mary health care. Fig. 2 shows a mapping of the strategic objectives of the Plan with the framework developed for this assessment. This reveals a clear focus on the achievement of health gains through a number of interventions covering most health system goals and functions. Health system financing, efficiency and sustainability are not specifically covered by the Plan, however. Finally, it is important to notice that the political priorities set by successive governments between 2004 and 2009 have been consistent with the orientations of the Plan.

There are, however, important policy gaps in the Plan

Despite the breadth of scope and detail in the Plan, there are significant gaps in the range of policy options considered. If not addressed, gaps in policy options could threaten the sustainability of the NHS and of the health system as a whole. Furthermore, although selecting performance indicators and setting up targets to assess the achievements of the Plan can be seen as a positive devel-

Fig. 2 Mapping of the strategic objectives of the National Health Plan with its evaluation framework



opment, the large number of targets selected for the Plan and the lack of hierarchy in the targets seems to be a barrier for health system stakeholders in setting clear priorities for action. Finally, the Plan suffers from the lack of a consistent evaluation framework.

The Plan focuses on population health gains in terms of level of health but does not draw in-depth attention to the distribution of health across the Portuguese population, such as by socioeconomic or educational status, age group, sex or geography. The Plan makes repeated mention of health inequalities and focuses on the poor in general, without specifying a clear strategy about how to reduce such inequalities. The Plan has, nevertheless, to some extent stimulated research efforts to gather evidence about health inequalities (16,17). Although healthy life expectancy, premature mortality and morbidity have improved substantially over the last two decades in Portugal, health inequalities in terms of gender, ethnicity, educational and employment status and income have become more visible on a national scale and between regions over the last few years (16,17). Furthermore, indicators and targets to monitor inequalities have not been implemented, even if stratification of performance indicators by sex and region is a positive step towards monitoring health inequalities. Other important indicators of inequality relate to barriers to access to care. Equitable access to care requires monitoring geographical or physical access to care and financial determinants of service utilization, including out-of-pocket payments – none of which are included in the National Health Plan (18,19).

The Plan focuses on population health gains in terms of level of health but the Plan fails to address elements of inequality in health financing, a shortcoming challenging the main values underpinning the Portuguese health system.

Furthermore, the Plan fails to address elements of inequality in health financing, a shortcoming challenging the main values underpinning the Portuguese health system. The combination of a heavy reliance on out-of-pocket payments, indirect taxes and fiscal deductions on out-of-pocket payments – from which the wealthy benefit more than the poor – introduce elements of regressivity in the financing system. The growing role of private supplementary health insurance introduces a funding source that is, on the one hand, more regressive than taxation sources but, on the other hand, less regressive than out-of-pocket payments. Overall, there is a considerable lack of monitoring of the impact of current financial arrangements and recent financial reforms on equity in health financing, and even more so as to the effect this may have on financial barriers to service utilization.

The Plan could also have been an opportunity to address the financial sustainability of the Portuguese health system, or at least could have introduced perspectives on sustainability during implementation, when fiscal pressure increased substantially. During the first years of the implementation of the Plan (2004–2006), health expenditure increased rapidly, reaching approximately 10% of GDP and placing Portugal on a par with the EU and OECD countries with the highest level of health spending relative to GDP. This may be related to a traditionally low concern for cost contain-

ment, a culture of "soft" budgeting practice within the NHS, and consequently a common practice of overspending. This overspending cycle has undermined the credibility of budgets as a management tool and provided room for uncontrolled growth of spending, with retrospective budget adjustments (20). However, there has been a major change in this respect since 2006, with more realistic targets set by the Ministry of Finance and a respect for financial objectives in 2006 and 2007. These strategies and the issue of health system sustainability have not been an integral part of the Plan, even though they are central to strengthening the health system in Portugal. In a context of high fiscal pressure, the issue of sustainability should be central to the strategies of the next Plan, aiming at improved efficiency and value (health gains) for additional investments in health and in the health system.

The Plan has a limited strategic focus on sustainable human resources for health. It could have called attention to the growing shortage of and imbalance in human resources. The progressive general shortage applies in particular to family health care professionals and will become exacerbated with the retirement of about 20% of medical doctors within the next five years (21,22). This imbalance (caused, for instance, through a concentration in the largest cities and substantial shortages in rural areas) may worsen with the practice of dual employment of health professionals in the public and the private sector. No precise picture of the mix of activities of health professionals seems to be available at national level, nor does information on dual employment. This lack of monitoring capacity is an important shortcoming of the Plan, particularly since the pressure on human resources may result in growing migration of physicians to the private sector and may compromise access to care for patients within the NHS (23,24). The problems pertaining to human resources for health reflect a relative lack of long-term policy and planning in the past. This is certainly one of the biggest challenges that the Portuguese health system will have to face in the years ahead (25,26).

The Plan does not focus sufficiently on the quality and safety of health care services. The monitoring of health care outcomes, medical processes, medical errors and safety in health care services, as well as safety at the workplace, has not been a particular focus of the Plan. This gap coincides with a fragmented and very selective approach to quality and safety in health care and at the workplace in the Portuguese health system, although initiatives in selected areas can model the case for a more comprehensive strategy (27,28). For instance, the nationwide monitoring of patients with wound infections following surgery has enabled the identification of systematic problems in post-surgical care in specific hospitals and has enabled targeted action such as the training of surgical staff. The Ministry of Health performs only 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 initia-

The monitoring of health care outcomes, medical processes, medical errors and safety in health care services, as well as safety at the workplace, has not been a particular focus of the Plan.

tive of private providers to enrol in the monitoring system. Although some areas of safety in health care services and the workplace are monitored, numerous dimensions of patient safety are still not covered (29).

The number of targets attached to the Plan is too large to allow for a true prioritization and the process of setting targets was not documented, resulting in inconsistencies in the levels set for targets. The methods used for target setting were not documented appropriately during the development of the National Health Plan, and it is therefore not possible to draw firm conclusions about the target-setting process. However, our interviews showed that many of those affected by the Plan consider the goals, performance indicators and targets selected to be reasonable. The consensus built around the measures of success of the Plan and the targets set for improvement are an important factor for improving performance (30). It should be noted, however, that several targets were achieved relatively early in the implementation of the Plan (14 of the targets had already been achieved by 2004) despite the Plan having had very little or no impact on them. In general, there are currently no valid methods for distinguishing between performance improvements attributable to actions taken by the Ministry of Health and other ministries on the one hand and those due to general improvements in the socioeconomic status of the population on the other. Developing transparent and appropriate methods for target setting should be an objective for the next National Health Plan.

Finally, evaluation approaches have been weak. One of the key challenges in evaluating the Plan was that a framework for its evaluation had not been pre-established. It was thus not possible to attribute improvements on targets to concrete policy measures. In addition, the approach to evaluation varies across programmes and appears to be focused on individual programmes, with few links to the overall goals and objectives of the Plan.

2.2 Findings related to the implementation of the National Health Plan

There have been a number of important achievements in the implementation of the current Plan

The creation in 2005 of a function (High Commissioner for Health) and a structure (Office of the High Commissioner for Health) responsible for coordinating the development, implementation, monitoring and evaluation of the Plan has been an important step in enhancing health system accountability and transparency for measurable health system improvements. The creation of an interministerial committee (the "survey committee" led by the High Commissioner for Health), gathering together representatives from the Ministry of Health, various government ministries involved in the implementation of the Plan, Regional Health Authorities and different health system stakeholders, has provided an opportunity for those responsible to review progress and take relevant action to stimulate performance. Furthermore, the Plan has strengthened lines of accountability between the Government and the Regional Health Authorities, and between the Regional Health Authorities and their providers. For instance, the Office of the High Commissioner for Health has initiated regular meetings with regional counterparts to discuss the achievement of regional targets and variations in progress among regions. It should be noted, how-

ever, that there are currently no formal accountability agreements in place between the Ministry of Health and the Regional Health Authorities (31–33). Regional Health Authorities are now also purchasing services from health care providers through contracts specifying the types and volume of services required, in line with the priorities of the Plan. For instance, contracts are negotiated between Regional Health Authorities and providers for the provision and reimbursement of surgical services, subject to the national waiting times monitoring scheme, which has been established

The Plan has strengthened lines of accountability between the Government and the Regional Health Authorities, and between the Regional Health Authorities and their providers.

in line with the National Health Plan objective of improved provider efficiency (34–36). Another powerful mechanism for ensuring accountability and strategic alignment is a new government-wide performance evaluation system for the public administration, which allows the Office of the High Commissioner for Health to set objectives for the different services of the Ministry of Health and evaluate their achievements annually. This mechanism can be used as a tool to ensure strategic alignment between the activities of the Ministry of Health and accountability in achieving the targets set by the Plan.

Furthermore, local health strategies have been developed by Regional Health Authorities to support the achievement of the goals set out in the National Health Plan, even if this effort has not been systematic or consistent across the regions. These local health strategies should support the integration of strategies included in the Plan and of the national health programmes at provider level. They should also allow the empowerment of the local level in planning, foster the integration of programmes and strategies at local level, and enable the development of performance improvement processes adapted to local circumstances. There are, however, challenges and inconsistencies in how Regional Health Authorities implement the Plan. Only one region (North) has developed and is implementing a regional health plan. One region (Centre) has developed a preliminary draft of a plan, while another (Lisbon) has faced major changes in executive staff and argued that the development of a regional plan does not match the current electoral cycle in terms of timing. The others (Alentejo and Algarve) have simply not had the capacity to develop full regional health plans. The support provided to the Regional Health Authorities by the Office of the High Commissioner for Health, coupled with knowledge transfer mechanisms, is a useful approach to building the necessary capacity for local planning and should be strengthened. It should also be noted that there have been positive examples of intersectoral action for health at community level (37). The dissemination of local health strategies, linked with the Community Health Councils in the new organizational arrangements of the primary health care networks, is crucial to ensuring a successful implementation of the Plan in the future.

There have also been consistent efforts to engage health system stakeholders in the development and implementation of the Plan, often through innovative approaches. From this perspective, the success of the 2009 National Health Forum (which gathered together 600 participants) organized by the Office of the High Commissioner for

Health should be built upon when preparing the next Plan. Nevertheless, more could be done to engage health system stakeholders more broadly, especially the general public and the private and social sectors. The results of engagement in the development of the current Plan showed that 108 responses were received to the 614 requests sent out soliciting views and opinions. Most contributions were received from civil society (42), academic institutions (32) and staff of the Ministry of Health and the NHS. These results call for a more effective public engagement. Further involvement of selected stakeholders was obtained at the implementation stage of the current Plan, when regions came to play an important role. The implementation of local health strategies or the creation of local health committees in the context of primary health care networks are good opportunities to further engage stakeholders at local level in the implementation of the Plan.

The Plan has introduced systematic health monitoring.

More specifically, the roles of patients and the general public in the implementation of the Plan could have been promoted further. The Plan has been acknowledged as one of the first health policy documents in Portugal to place emphasis on patients and citizens, yet it was mainly disseminated to health institutions, policy-makers, managers and health professionals. In general, patients and the public are not seen as key partners in the implementation process, for instance in systematically incorporating the analysis of their experiences in the design of health policy interventions. Although the Plan proposes selective methods for public participation, little attention is paid to incentives for patients and citizens in playing a more proactive role – be it through mechanisms of voice in decision-making or choice in health care services provided (9).

The Plan has introduced systematic health monitoring. It includes a commitment to systematically monitor the health status of the Portuguese population and has set the basis for regular reporting at national and regional levels on key targets related to the Plan. Since 2005, the Office of the High Commissioner for Health has been responsible for monitoring population health gains towards the Plan's targets and for using this information to guide the implementation of the Plan and public health programming. Progress on the implementation of the Plan is released on the web site of the Ministry of Health (http://www.acs.min-saude.pt/pns/pt) and has been showcased in various events such as the recent National Health Forum.

Of the 122 indicators defined in the Plan, only 84 could be regularly monitored and only 64 had statistically significant trends between 2004 and 2009. This is explained either by a lack of data, by difficulty in gathering data, or by the fact that some of the data are provided through national health surveys carried out every 4–5 years. However, the systematic monitoring and reporting of key heath and health system targets is critical for supporting the Ministry of Health in decision-making and provides opportunities to use health information for policy-making at national and regional levels, and to align the strategies of health system stakeholders with the health gains pursued by the Plan.

The implementation of the Plan has also suffered from a number of limitations

The implementation of the Plan suffered from a lack of alignment between strategy, decision-making and implementation. In spite of substantial commitments made in the Plan to strengthen the health system, it has failed to clearly define institutional responsibilities for managing change. As a consequence, a number of commitments have remained vague and there were no or few consequences for the non-achievement of performance objectives. Furthermore, the Plan has put forward a programmatic approach as its main instrument of implementation, but has omitted to define formal mechanisms to link strategy and decision-making in the Ministry of Health, across government and for the Regions (for instance, financial incentives for achieving regional targets, linking targets to resource allocation at the level of the Ministry of Health, or performance-specific service contracts between regions and service providers). There has also been a lack of a clear policy for health system accountability; for example, there was no performance management approach for the non-achievement of targets.

Implementation has also suffered from the fragmentation of the health system stewardship function of the Ministry of Health between different divisions with programmatic responsibilities (Directorate-General for Health), a coordination role related to the National Health Plan as well as a responsibility for managing key programmes (Office of the High Commissioner for Health) and the direct management of strategic responsibilities, such as the management of waiting times and contracts for health care providers or health information systems (the central administration of the health system). Furthermore, secretaries of state are directly responsible for managing key health system reforms such as those of primary health care or long-term care. This fragmentation does not allow strategic alignment and a consistent decision-making process based on system strategies and available information and evidence, and usually leads to underperformance. The leverage and tools available to the High Commissioner for Health to ensure implementation of the Plan have, until recently, been limited to moral suasion and programme responsibilities for four priority programmes. More promising is the recent emergence of responsibilities such as that for evaluating and monitoring implementation of the reform of public administration within all departments and subordinate institutions of the Ministry of Health.

The implementation of the Plan suffered from a lack of alignment between strategy, decision-making and implementation.

The Plan also suffered from the lack of a culture of performance management, incentives and performance improvement. The Plan itself has lacked a focus on developing provider incentives for performance measurement and management, although some of the regions are moving in this direction. The monitoring of provider performance takes place only on selected aspects of performance, such as efficiency in hospitals (through monitoring of waiting times) and by various institutions (35,38). For example, the proportion of caesarean sections as a percentage of all deliveries is high in all hospitals, particularly in private hospitals and

generally over the 10–15% recommended by WHO (39). There are currently no standards in Portugal for an acceptable rate of caesarean sections in obstetric care. Standards for processes and desirable outcomes of services need to be defined and applied to public and private hospitals alike (40). Overall, the Plan has given little consideration to provider incentive schemes favouring a culture of continuous quality improvement, such as financial and non-financial incentives related to the implementation of guidelines and clinical pathways (41–44).

The Plan has also failed to resolve the difficulty of coordinating and implementing numerous health programmes at local level. One of the most consistently identified areas for improvement was the number of health programmes included in the Plan. Almost every interviewee mentioned the challenges in implementing numerous national programmes, particularly against the backdrop of regional variations in health needs and health care resources. While acknowledging the challenges involved in implementing 18 national programmes, some regions did find the list of programmes helpful in identifying options but still wanted some flexibility in prioritizing implementation and greater flexibility in programme design (45). At the same time, some interviewees pointed to later strategic developments, such as the anti-tobacco law, as major contributors to the goals of the Plan. Although these later developments were not part of the Plan, these interviewees consistently noted that they would not have been as easily attainable without the Plan (46).

The Plan has also failed to resolve the difficulty of coordinating and implementing numerous health programmes at local level.

There have been limits to and variations in interministerial involvement and collaboration, even if a number of successes should be built upon. The High Commissioner for Health has set up an interministerial survey committee, which is in charge of monitoring the implementation of the Plan and the achievement of its targets. The survey committee gathers representatives from the different directorates of the Ministry of Health responsible for the implementation of the Plan, the five Regional Health Authorities, national institutes related to the health sector, and other ministries (the Presidency, Land Use and Regional Development, Labour and Social Security, Youth and Sports, and Education) involved in the implementation of the Plan. The survey committee has met four times a year since 2007 and has discussed specific topics of relevance for the Plan, such as the four national priority programmes. To date, however, it has not taken up the task of systematically monitoring the achievement of the targets and actively managing performance gaps. Furthermore, ministries important for the implementation of the Plan, such as the Ministry of Justice, the Ministry of Finance or the Ministry of Foreign Affairs, are as yet not represented on the committee.

Overall, it seems that coordinated governmental action targeting health gains needs to be strengthened. The National Health Plan deals with intersectoral policies mainly through the health settings approach, which is a promising start. The degree of involvement, however, varies considerably between different sectors. In some cases, there seems to be close interaction and a contribution from other sectors (such as education). Others may be moderately involved in some focus areas (for

instance the Ministry of Labour and Social Solidarity in long-term care and in health and safety at work) (47). In some cases, there is little awareness of or involvement in the Plan (in the Ministry of Justice, for instance). An example of a very fruitful collaboration is that between the Ministry of the Environment and the Ministry of Health (through the Directorate-General for Health), which has produced a National Environment and Health Action Plan (NEHAP) that is monitored and updated regularly and consistently. The interaction between the Ministry of the Environment and the Ministry of Health has been exemplary in many ways. The two ministries jointly elaborated the National Health Plan, partly in response to calls from ministerial conferences of WHO, the EU and the European Environment Agency in this field. The approach has been systematic, with a clear definition of strategic goals, specific priorities and targets, and careful monitoring of progress. The responsibilities of authorities, counterparts and focal points have also been clearly defined. Collaboration with the Ministry of Education on school curricula, health and sex education, the school meals programme and promoting a "healthy schools" approach all over the country also seems to have been close (48). Collaboration with WHO and other international bodies has again been used as a catalyst for active involvement in monitoring health behaviour among young people and focusing programmes accordingly (49,50).

There was a general impression, expressed by many interviewees from different sectors and levels of administration, that the Portuguese political–administrative culture and traditions are not favourable to fostering intersectoral collaboration. Particularly at the central level, there seems to be a tendency to work in a fragmented way, which in itself is not conducive to intersectoral action in health. If this is the case, there are great challenges ahead in working towards a pan-governmental or collaborative governmental approach (50,51) and further steps will have to be taken to strengthen intersectoral action.

There are great challenges ahead in working towards a pan-governmental or collaborative governmental approach and further steps will have to be taken to strengthen intersectoral action.

Finally, more could have been done in the active use of information to monitor and drive improvements in performance. Although it is well-acknowledged that health information is required to support the decisions of policy-makers, clinicians, managers, patients and consumers, there are certain barriers limiting the use of information for these purposes. A primary concern is the lack of common definitions and reporting on common indicators by all (public and private) health care providers. Another key challenge is related to the absence of a unique information database. Numerous databases are operated by policy-makers, administrators and care providers but are not interoperable. For example, health data pertinent to the monitoring of the National Health Plan are collected by the Office of the High Commissioner for Health, which relies on health data provided by the Portuguese Statistical Institute and other institutions. The Directorate-General for Health also has an information department, with numerous databases and support from health institutions subordinate to the Ministry of Health such as the National Health Institute. Yet incentives for data sharing are limited and reluctance to share data has resulted in the duplication of databases. Furthermore, there

are delays in data provision, causing gaps in reporting time of between one and two years and limitations in the evidence base used for planning at local level. Finally, some data are not collected systematically, such as those on health financing, catastrophic health expenditures and services utilization. The value of these data for policy-making, planning and general decision support is therefore limited. Overall, this situation places serious constraints on the Office of the High Commissioner for Health in effectively carrying out its role of monitoring the Plan and performance management.

2.3 Findings related to the effects of the National Health Plan

The Plan includes a rather large number of performance indicators and targets to monitor progress in implementation. These targets are used for public accountability and are released and updated regularly on the web site of the Office of the High Commissioner for Health (http://www.acs.min-saude.pt/pns/en). To assess the effects of the Plan, a statistical forecast was carried out on all performance indicators for which at least three data points were available between 2004 and 2008. The results of the forecast indicate whether the indicators are statistically on track to meet their related targets. It should be noted that it could be misleading to assess the success of the Plan solely on the basis of the number of performance indicators having reached their targets. For example, the Plan comprises numerous indicators related to life expectancy, standardized mortality at different ages or for school health, which can provide a distorted real picture of progress in achieving health gains. Of the 64 performance indicators that could be analysed statistically, 28 had either already achieved their targets or were likely to achieve them by the end of 2010. Another 34 indicators were unlikely to meet their targets. The trend was unclear for the last 2 performance indicators: infant mortality per 1000 live births and intra-hospital fatality from ischemic heart disease (see Annexes 1–3).

Available international comparisons show that for a number of the performance indicators, the gap with the EU15 average is narrowing.

Available international comparisons show that for a number of the performance indicators, the gap with the EU15 average is narrowing. Since logic models outlining the causal relationships between policy interventions and their expected impact on performance were not developed, this analysis cannot attribute solely the achievement of targets to the Plan. It should be noted that the methods initially used to select the targets for the performance indicators attached to the Plan were not documented, and it was therefore difficult to assess the adequacy of the targets set, even if they met with rather broad agreement among health system stakeholders.

About half of the Plan's targets have either been met or are on track to be met

Four years into the implementation of the National Health Plan, 44% of the targets had either already been achieved or were likely to be achieved: 26 of the 64 performance indicators that could be analysed statistically had already met their targets

in 2008 and 2 others (standardized mortality rate from cervical cancer before 65 years of age per 100 000 women and average number of appointments with a family doctor per inhabitant per year) were likely, based on previous performance, to meet their targets. The positive findings of the statistical analysis carried out on performance indicators and related targets are summarized in Annex 1. It should be noted that the forecast of the performance targets is based on the assumption that external factors (such as the consequences of the current economic crisis) will not have an impact on them. These results should therefore be interpreted with caution.

Between 2004 and 2008, performance related to mortality rates improved and targets were achieved in all age groups from 1 to 65 years of age. Substantial improvements are reported in the younger age groups, particularly in respect of perinatal and neonatal mortality, which have decreased substantially and are now among the lowest in Europe. The risk of dying before the age of five also fell substantially between 2004 and 2008.

Another category of performance indicator that has improved substantially is the standardized mortality rate for different diseases, especially those related to the four priority areas of the Plan (cardiovascular diseases, cancer, HIV/AIDS and mental health): the targets were reached in 2006 for ischemic heart disease and HIV/AIDS and in 2007 for cerebrovascular diseases. However, mortality related to AIDS was largely above the EU15 average, even if the gap is narrowing. The standardized rate of mortality by alcohol-related motor accidents has also seen substantial progress. It is important to note that mortality indicators by age group, disease or cause of death are the result of long-term policies involving different ministries, and of socioeconomic changes. A final indicator related to the socioeconomic environment is the birth rate in women under 20 years of age, which has also decreased significantly since 2004 and is consistent with trends in the EU.

Other indicators having reached their targets or likely to reach them are those related to human resources, access to primary health care, pharmaceutical expenditures, and use of generic medicines. The targeted average density of family physicians, nurses, dentists and pharmacists per 100 000 population has been achieved, with the exception of public health professionals. These are also indicators reflecting priority areas of action for successive governments. Investments in primary health care, human resources for health, and efforts to control pharmaceutical expenditure and increase the use of generic medicines have obviously had an impact at an aggregate level, even if further analysis is necessary to understand the real impact of these reforms on system performance. It should also be noted that an increase in the overall numbers of health professionals does not answer the question of whether human resources for health match the needs of the population at local level or whether such resources are effectively employed in the system.

Investments in primary health care, human resources for health, and efforts to control pharmaceutical expenditure and increase the use of generic medicines have obviously had an impact at an aggregate level.

Targets related to risk factors are not being achieved equally across the population; for instance, the rate of tobacco consumption decreased for men but increased for women between 1998/1999 and 2005/2006.

The other half of the Plan's targets are unlikely to be met

Results show that for 34 out of the 64 performance indicators for which a statistical analysis could be carried out, targets are not likely to be met if the performance pattern observed between 2004 and 2008 continues in 2009 and 2010. However, 10 of these 34 performance indicators are school health indicators, some of which have very ambitious targets that are difficult to achieve (e.g. 100% of health centres with school health teams). The results are presented in Annex 2.

Life expectancy has improved at every stage of life but the target of 81 years of age for 2010 is not on track to be reached and seems overly ambitious, especially considering the gap between male and female life expectancy. Of the different age groups, only the target for the age group 1–4 years seems likely to be reached.

Performance indicators unlikely to meet their targets point to a number of important public health issues, such as alcohol consumption, suicide and consumption of antidepressants. All these indicators will require action from across government and different sectors to get sustained improvements. From this standpoint, the trend in the numbers of public health professionals per 100 000 inhabitants is a cause for concern; it is increasing only slowly, despite the fact that the need for public health professionals is even more important with the increasingly prominent role played by the Regional Health Authorities. Other important phenomena to point out are the slow progress in increasing hospital efficiency and limited progress on standardized mortality rates from cancer, despite the fact that a positive trend has been sustained since the introduction of a national cancer programme.

Of these 34 performance indicators, five performance indicators which saw their performance worsen between 2004 and 2008 are worth highlighting: the number of pre-term births per 100 live births; the rate of caesarean deliveries per 100 deliveries; the consumption of anxiolytic, soporific, sedative and antidepressant medicines in the NHS outpatient service; the percentage of schools assessed for health and safety standards; and the standardized mortality from suicide under 65 years of age.

For all school health indicators, improvement has been more limited than expected. There has been a modest improvement in the percentage of students with an up-to-date vaccination status under the National Vaccination Programme (NVP). The percentage of schools assessed for health and safety decreased from 60% to 56% between 2005 and 2007.

It should also be pointed out that some of the targets were unrealizable, such as that aiming to reduce the incidence of congenital syphilis or the standardized rate of mortality by alcohol-related motor accidents to zero by 2010.

Finally, those performance indicators for which a statistical forecast could not be carried out still require attention, especially when performance is

getting worse. For example, for most of the performance indicators related to risk factors, performance has been far from what was expected. Furthermore, targets related to risk factors are not being achieved equally across the population; for instance, the rate of tobacco consumption decreased for men but increased for women between 1998/1999 and 2005/2006. Over the same period, alcohol consumption decreased compared to the target for men and women aged 25–44 years but not for other age groups, at a time when the rate of obesity increased for most age groups.

For most performance indicators for which international comparisons are available, the gap with the EU15 average is narrowing

Of the 64 indicators for which a statistical forecast was possible, 23 could be compared with the EU15 average over time. The baseline data used are from 2001 and the latest data points are usually from 2007 or 2008. There have been significant performance improvements for child health, especially for indicators related to mortality (infant, fetal, neonatal and perinatal), which are now among the best in Europe. However, there are new challenges emerging. For example, low birth weights are increasing faster than the EU15 average. Life expectancy at birth is converging towards the EU15 average, but is still lagging more than one year behind. Results are similar for life expectancy at different ages.

Furthermore, mortality indicators related to cardiovascular diseases are converging towards the EU15 average or surpassing it: mortality from ischemic heart disease is surpassing the EU15 average, but mortality from stroke is still lagging behind. The rates of standardized mortality from AIDS and motor accidents before 65 years of age per 100 000 inhabitants are also converging towards the EU15 average. While mortality from motor accidents has already reached the EU15 average, mortality from AIDS is significantly worse. Furthermore, mortality from breast cancer is already better than the EU15 average and improving faster than in other countries, but the decrease in mortality from cervical cancer does not follow the same pace and the gap is widening. Mortality from suicide is getting worse and diverging from the EU15 trend, therefore calling for attention, even if rates are among the lowest in Europe.

In the area of the health workforce, results show that the average densities of physicians, dentists and pharmacists are improving towards the EU15 average, while the gap for nurses and general practitioners is widening.

In the area of the health workforce, results show that the average densities of physicians, dentists and pharmacists are improving towards the EU15 average.

Overall, there are significant improvements towards the EU15 average for those indicators for which international comparisons are available, with rare exceptions. Results also show that, in spite of these improvements, new challenges are emerging. Annex 4 presents detailed data for these 23 performance indicators, as well as the EU best value for each performance indicator.

Section 3.
Policy recommendations

Portugal has been highly committed to its National Health Plan. Based on feedback from interviews, health policy-makers, managers and health professionals were calling for a future Plan that would draw lessons from the design, implementation and achievements of the current Plan. Evidence suggests that strong plans help to drive improvements in health system performance (52,53). The chief advantages of a comprehensive health system plan lie in the fact that it:

- sets the agenda for change by laying out goals and providing a platform for communicating goals and organizing them into objectives, indicators, targets and priority programmes;
- provides a focus for health impact assessment and organizing government activities to achieve objectives;
- provides an opportunity to address threats to the sustainability of the NHS and to the health system as a whole; and
- supports the attainment of health gains through the achievement of intermediate objectives such as the reduction of mortality amenable to health care and health promotion, the integration of health care services, or the promotion of healthier behaviour.

The monitoring of the indicators and targets by the Office of the High Commissioner for Health has brought credibility and transparency to the implementation and follow-up of the Plan and should be continued.

The broad consensus on health gains attainment created by the current National Health Plan should be built upon and used as an asset for the next Plan

The current National Health Plan is a strong asset and should be built upon. There is broad consensus that targeting health gains and the general directions and strategies of the current Plan will still be valid beyond 2010, and that a new Plan should build on the current one. The next Plan would be best positioned if it were to reaffirm the broad principles of the current Plan but focus on a narrower set of strategic objectives to be achieved within its timeframe. In addition, many of the indicators might be considered for continued monitoring, although a new Plan should also provide a more specific framework for the purpose of impact evaluation and public accountability. The monitoring of the indicators and targets by the Office of the High Commissioner for Health has brought credibility and transparency to the implementation and follow-up of the Plan and should be continued.

The Ministry of Health should refocus on its stewardship role and give Regional Health Authorities the responsibility for planning the implementation of the Plan

Currently, the Portuguese National Health Plan is a true plan; through a list of programmes, it directs how the Regional Health Authorities and pro-

viders should pursue targets. Interviews, international experiences and a review of the literature on strategic management support the case that the next Plan should be a strategy. In practical terms, this implies: that the list of programmes be shortened substantially or laid out as options for implementation; that the national targets be matched with regional targets that reflect the opportunity for improvement for each region; and that there be a clear statement of values for the NHS and the entire Portuguese health system that would translate into boundary constraints (for instance, every new programme should be accompanied by a health impact assessment at the regional level). In this scenario, the Ministry of Health would move to a true stewardship model, whereby it focuses on the strategic management of the performance of the health system and planning is delegated to the local level. In Finland, for example, the National Health Policy is established at the ministerial level, with an annual plan of activities and financial budget, whereas measures and objectives are implemented at local level (54).

The Ministry of Health should refocus on its stewardship role and give Regional Health Authorities the responsibility for planning the implementation of the Plan.

The fragmentation of the health system stewardship function of the Ministry of Health should be addressed, and policy instruments identified to steer health system performance

The fragmentation of the stewardship function of the Ministry of Health is an impediment to full implementation of the National Health Plan and improving substantially the performance of the health system. Broad consideration should take place of the roles and responsibilities of the different policy-makers at the Ministry of Health, of how decision-making is coordinated to prioritize the implementation of the Plan, and of how to ensure that they have the relevant policy instruments at their disposal to fulfil their responsibilities.

Interministerial involvement and collaboration should be strengthened and capacities for health impact assessment developed across government Government

health-related activities should be aligned to the goals of the Plan. The implementation of the next Plan will require that the Ministry of Health has a greater ability to take intersectoral action to ensure the alignment of government activities to its objectives. High-level goals should be maintained so that the Plan can function as an organizing framework for health-related activities across government. Furthermore, health-relevant sectors should be involved early in the preparation of the next Plan through targeted policy discussions. The introduction of mechanisms for regular public reporting by the Government to Parliament, about developments in health and welfare should also be considered. Finally, selecting a few priority areas of intersectoral action for health in the next Plan, and working through them in a systematic way through joint exercises in consensus building, dialogue, analysis and policy options, would be a good step towards strengthening the development of government ability to take intersectoral action in health. The further use of tools such as health impact assessment should also be considered.

In this context, Regional Health Authorities should take the lead in planning and in engaging stakeholders and the community at local level

Portugal has a tradition of centralized government of public affairs. However, the health sector has paved the way for further decentralization and the creation of Regional Health Authorities has generated more capacity for planning and engagement of patients and citizens at local level. It is recommended to move from a model of centralized planning to a model of strategic management, whereby strategy is defined at central level and planning carried out at regional level within a set of minimal rules and boundaries defined by the Ministry of Health (55–58). The next Plan should therefore balance the strategic management responsibilities of the Ministry of Health with the planning responsibilities of the Regional Health Authorities. This shift would delegate responsibility for the development of plans – the detailed descriptions of changes in the local health care system – to the regional level. These plans should be for a shorter period of time than the Plan itself (for instance three years) but should be reviewed and updated annually.

The next Plan should reach a balance between broad goals providing direction for action and a limited number of quantifiable objectives for health system strengthening

The focus for the next National Health Plan should be on developing a clear, understandable and implementable Plan. It will be very important to propose a good balance between broad goals providing directions for action and a limited number of quantifiable objectives for health system strengthening, to be achieved within the timeframe of the Plan. In other words, the Plan should link a small number of priorities for change within each goal. Similarly, a smaller set of performance indicators and targets, classified logically by level of priority, would be helpful to health system stakeholders in aligning strategically their activities and for stimulating progress in achieving results consistent with the objectives of the Plan.

The next Plan should also build on a strong evidence base that addresses important policy gaps in the current Plan, chiefly health system sustainability and health inequalities

It will be important to ensure a transparent foundation for the next National Health Plan, and specifically that it builds on a strong evidence base. A number of actions could be initiated immediately to ensure a strong foundation. For instance, research papers covering existing gaps in the current Plan should be commissioned. Topics for research papers include integration of care, planning human resources for health, improving equity/reducing health inequalities, strategies for addressing elements of regressivity of the health financing system, quality and safety of health care services, improving the health system stewardship capacity of the Ministry of Health, and strengthening health in all policy approaches and health impact assessment across government.

Furthermore, the next Plan should address the sustainability threats to the Portuguese health system 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 effi-

ciency, alleviating the costs of illness and lowering the number of those seeking early retirement due to ill health (11). The Plan should 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. Frameworks and techniques to prioritize health system investments should be put forward as part of the methodological work required to develop the Plan.

The next Plan should also build on a strong evidence base that addresses important policy gaps in the current Plan, chiefly health system sustainability and health inequalities.

In order to address the issue of health inequalities systematically in the next Plan, it is recommended that the necessary steps be taken to overcome privacy and regulatory constraints. This will allow: the collection 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; the compilation of an inventory of activities and best practices related to the reduction of health inequalities at municipal level; the provision of Regional Health Authorities with the mandate to incorporate the reduction of health inequalities as a specific objective of their local health system strategies; the development of appropriate guidance for tackling health inequalities and social determinants of heath and enhancing capacities at local, regional and national level; and the carrying out of an equity-focused health impact assessment of the next National Health Plan.

Health system stakeholders should be engaged early, broadly and consistently in the development of the next Plan and communication should be fostered

Another important step will be to ensure a strong and early engagement of other ministries and of the Regional Health Authorities in the design of the Plan well before the first draft is drawn up. It will also be important to ensure frequent opportunities for health system stakeholders (physicians, nurses, hospital administrators, allied health workers and patient advocates) to suggest options for improving performance in priority areas and to create platforms for broader community engagement working for different populations (for instance, Internet-based engagement for young people) and at different stages of the development and implementation of the Plan. Regional Health Authorities should play an important role as the drivers of community engagement at local level. Useful examples of countries where innovative approaches to community engagement have been taken include Canada (which is taking a more proactive approach towards public participation, for instance by creating pools of interested citizens to participate in setting priorities for care), Catalonia in Spain (where Health Councils have been created to involve the public and enable greater public participation in target setting), Sweden (where public participation is achieved mainly through information and consultation) and the United Kingdom (through citizens' panels or juries) (9).

It will also be possible to improve the communication of the Plan to the various stakeholders by creating different versions for different audiences,

or by providing media education on the Plan and achievements under the next Plan.

Health system performance should be managed actively and in an integrated manner

A culture of continuous performance improvement should be supported through tools for performance management and behavioural change. Capacities for performance management will have to be enhanced through the use of relevant data and simple accountability schemes. It would be advisable to:

- create a simple high-level set of performance indicators suitable for public reporting at the regional and provider level (including both private and public providers);
- compile a set of more detailed performance indicators organized into logic models for use in accountability agreements and in planning;
- improve access to more detailed data for reporting through a centralized decision support technology; and
- increase performance management capacities and focus on results at all levels of the system (starting with the survey committee of the Office of the High Commissioner for Health) through education and training.

A monitoring and evaluation framework and a transparent process for target setting should accompany the next Plan

A monitoring and evaluation framework should be developed and released with the next Plan in order to show how its theoretical impact on health system performance is conceived and could be evaluated. To be effective, the Plan will have to integrate commitments and processes for change and ensure that an evaluation framework is in place and commensurate with the measures taken for implementing it. It should include an evaluation framework for community engagement from the outset, so that processes mature for future planning exercises. In Sweden, for example, the National Institute of Public Health is responsible for monitoring and evaluating intersectoral efforts in public health, including a comprehensive evaluation of public health objectives and the development of a Public Health Policy Report presented to the Government every four years (50). Furthermore, a transparent process for target setting, including expert panels and consultations with the community, should be developed and implemented consistently for all targets related to core performance indicators driving public accountability. This process could involve consultation with Parliament, with the aim of linking performance expectations and resources allocated to the strengthening of health system activities.

In the area of the health workforce, results show that the average densities of physicians, dentists and pharmacists are improving towards the EU15 average.

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Annex 1.
Summary of performance indicators likely to meet their targets by 2010

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008
Being born healthy								
1. Fetal mortality per 1000 births	5.0	+	5.7	3.7	3.8	3.8	3.6	3.2
2. Perinatal mortality (≥ 28 weeks of gestation) per 1000 births	4.2	+	5.4	4.2	4.3	4.5	4.3	4.0
3. Neonatal mortality per 1000 live births	2.1	+	2.8	2.5	2.2	2.1	2.0	2.1
Growing up safely								
4. Life expectancy at age 1–4 years (years)	78.0	+	76.5 [a]	77.0 [b]	77.2 [b]	77.6 [b]	77.9 [b]	78.2 [b]
5. Mortality at age 1–4 years per 100 000 individuals	34.6	+	37.5	30.2	20,7	24,4	18,1	18,2
6. Mortality at age 5–9 years per 100 000 individuals	19.0	+	20.4	17.5	16.7	14.4	11.6	11.0
7. Risk of dying before age 5 years per 1000 live births	5.0	+	6.2	5.0	4.3	4.3	4.2	4.0
Young people seeking a healthy future								
8. Mortality at age 10–14 years per 100 000 individuals	22.1	+	24.4	17.8	14.8	16.7	16.1	17.6
9. Mortality at age 15–19 years per 100 000 individuals	57.0	+	58.6	44.9	46.4	41.6	36.2	33.2
10. Mortality at age 20–24 years per 100 000 individuals	86.1	+	88.9	64.3	64.2	54.2	56.2	48.8
11. Births to adolescent women (aged < 20 years) per 100 live births	< 5	+	5.9	5.1	4.8	4.5	4.5	4.2
Productive adult life								
12. Mortality at age 25–44 years per 100 000 individuals	154.4	+	169.0	139.0	136.3	126.7	117.9	112.1
13. Mortality at age 45–64 years per 100 000 individuals	550.0	+	579.4	534.0	537.9	519.4	514.0	507.5
Cervical cancer								
14. Standardized mortality at age < 65 years per 100 000 women	2.0	+	3.3	2.2	2.5	2.0	2.5	2.6
Ischaemic heart disease								
15. Standardized mortality at age < 65 years per 100 000 individuals	11.0	+	14.9	15.1	12.1	11.0	10.4	10.1
Stroke								
16. Standardized mortality at age < 65 years per 100 000 individuals	12.0	+	17.2	13.2	11.7	10.5	10.0	9.9

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008
AIDS								
17. Standardized mortality at age < 65 years per 100 000 individuals	7.0	+	10.4	8.8	8.4	7.0	7.3	6.8
Motor accidents								
18. Standardized mortality at age < 65 years per 100 000 individuals	8.0	+	15.1	13.7	11.2	8.3	8.5	7.9
19. Deaths from motor accidents	1100	+	1740	1558	1267	1008	1045	956
Health system								
20. Family doctors per 100 000 population	60	+	54 [d]	64.7	62.4	62.2	62.7	N/A
21. Dentists per 100 000 population	55.1	+	35.9 [e]	52.1	55.2	60.8	60.3	63.9
22. Pharmacists per 100 000 population	83.3	+	73.1 [e]	87.5	91.1	96.4	96.7	102.4
23. Nurses per 100 000 population	517.3	+	359 [e]	427.2	447.9	472.3	500.5	524.5
24. Appointments with family doctors per inhabitant per year	3.1	+	2.8 [d]	2.7	2.7	2.7	2.8	N/A
25. Expenditure on medication in GNP	2.0	+	2.2	2.1	2.1	2.0	2.0	N/A
26. Expenditure on medication as a proportion of overall health expenditure	19	+	23.9	18.4	18.9	18.2	17.9	N/A
27. Consumption of cephalosporins as a percentage of total consumption of antibiotics in outpatient services	10	+	12.6	14.5	14.0	13.3	10.5	9.4
28. Generic products in the total medication market	15–20	+	1.8	7.9	12.7	15.2	17.8	18.6

[a] The 2001 value was calculated using two-year mortality data and refers to the 2000/2001 period.
[b] The Portuguese Statistical Institute has used three-year mortality data since 2004.
[c] N/A = not available at the time of publication of this report.
[d] 2002 values.
[e] 2000 values.

Annex 2.
Summary of performance indicators unlikely to meet their targets by 2010

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008
Being born healthy								
29. Life expectancy at birth (years)	81.0	–	77.1 [a]	77.6 [b]	77.9 [b]	78.3 [b]	78.7 [b]	78.9 [b]
30. Pre-term births per 100 live births	4.9	–	5.7	6.8	6.6	7.9	9.1	9.0
31. Underweight infants at birth per 100 live births	5.8	–	7.2	7.6	7.5	7.6	7.9	7.7
32. Caesarean deliveries per 100 deliveries	24.8	–	29.9	32.8	34.3	35.2	35.6	N/A [c]
Young people seeking a healthy future								
33. Life expectancy at age 15–19 years (years)	65.0	–	62.8 [a]	63.2 [b]	63.4 [b]	63.8 [b]	64.1 [b]	64.3 [b]
Productive adult life								
34. Life expectancy at age 45–49 years (years)	37.0	–	34.6 [a]	34.8 [b]	35.0 [b]	35.3 [b]	35.4 [b]	35.6 [b]
35. Births to women aged ≥ 35 years per 100 live births	14.6	–	14.0	15.7	16.4	17.5	18.5	19.3
Female breast cancer								
36. Standardized mortality at age < 65 years per 100 000 women	10.0	–	14.3	12.4	12.4	11.2	12.1	11.8
Active ageing								
37. Life expectancy at age 65–69 years (years)	20.0	–	17.6 [a]	17.6 [b]	17.7 [b]	18.0 [b]	18.1 [b]	18.3 [b]
Colon and rectal cancer								
38. Standardized mortality at age < 65 years per 100 000 population	6.0	–	8.0	7.6	7.4	7.2	7.1	7.7
Stroke								
39. Intra-hospital fatality	13	–	14.5	15.5	15.6	15.2	15.1	N/A
Congenital syphilis								
40. Incidence per 100 000 live births	0	–	21.0	11.6	20.3	13.0	20.6	N/A
Depression								
41. Standardized mortality from suicide at age < 65 years per 100 000 population	2.5	–	4.9	7.1	5.3	4.9	5.5	5.7
Alcohol abuse and dependence								
42. Standardized mortality from alcohol-related diseases at age < 65 years per 100 000 population	11.4	–	12.8	12.7	11.9	11.2	12.4	13.0

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008
43. Deaths from alcohol-related motor accidents per year	0	–	750	358	383	323	305	285
Health system								
44. Medical appointments per person per year (PHC + hospitals)	4.5	–	3.9 [d]	3.9	3.9	4.0	4.1	N/A
45. Ratio between hospital emergencies and outpatient appointments	0.5	–	0.6 [d]	0.6	0.6	0.6	0.6	N/A
46. First-time hospital appointments as a proportion of total appointments	33	–	24.7 [d]	25.2	24.9	25.0	26.0	N/A
47. Number of patients discharged per hospital bed per year	50	–	37.5 [d]	31.8	33.3	33.8	34.9	N/A
48. Average length of stay in hospital (days)	6	–	7.4 [d]	8.4	8.3	8.2	8.1	N/A
49. Public health doctors per 100 000 population	5.5	–	4.3 [d]	4.3	4.4	4.4	4.4	4.5
50. Consumption of chinolones as a percentage of total consumption of antibiotics in outpatient services	10.6	–	14.9	13.6	12.7	14.6	13.5	12.7
51. Consumption of anxyolitics, soporifics, sedatives and antidepressants in the NHS outpatient services per 1000 population per day (DDD) [e]	92.5	–	115.6	129.5	132.6	139.7	147.2	152.1
52. Orphan medication used (%)	100	–	N/A	N/A	44.8	41.4	44.2	57.1
School health								
53. Health centres with school health teams (%)	100	–	96 [f]	96	98	96	97	N/A
54. Coverage for monitoring state of health in 6-year-old students (%)	90	–	71 [f]	73	76	76	74	N/A
55. Coverage for monitoring state of health in 13-year-old students (%)	75	–	31 [f]	34	35	37	38	N/A
56. Students with up-to-date NVP at preschool level (%)	95	–	82 [f]	83	88	83	86	N/A
57. Students with up-to-date NVP at 6 years of age (%)	99	–	90 [f]	90	92	90	91	N/A
58. Students with up-to-date NVP at 13 years of age (%)	95	–	78 [f]	75	82	80	83	N/A
59. Students with solvable special health needs who have their problem solved by the end of the academic year (%)	75	–	53 [f]	56	52	51	58	N/A
60. Schools assessed for health and safety standards (%)	100	–	65 [f]	64	67	63	56	N/A
61. Schools with good overall health and safety standards (%)	90	–	64 [f]	67	70	72	66	N/A
62. Schools with good health and safety standards for buildings and facilities (%)	60	–	18 [f]	19	19	25	25	N/A

[a] The 2001 value was calculated using two-year mortality data and refers to the 2000/2001 period.
[b] The Portuguese Statistical Institute has used three-year mortality data since 2004.
[c] N/A = not available at the time of publication of this report.
[d] 2002 values.
[e] DDD = defined daily dose.
[f] School year 2002/2003.

Annex 3.
Summary of performance indicators for which the likelihood of meeting their targets by 2010 is unclear

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008
Growing up safely								
63. Infant mortality rate (< 1 year of age) per 1000 live births	2.6	Unclear	4.8	3.8	3.4	3.3	3.4	3.3
Ischaemic heart disease								
64. Intra-hospital fatality	< 5	Unclear	6.6	6.7	6.5	6.2	6.2	N/A [a]

[a] N/A = not available at the time of publication of this report.

Annex 4.
Available international comparisons for the National Health Plan performance indicators

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008	EU15	EU15 best	Source
Perinatal mortality (≥ 28 weeks of gestation) per 1000 births	4.2	+	5.4	4.2	4.3	4.5	4.3	4.0	5.94	Luxembourg 3.3	Eurostat 2009
Neonatal mortality per 1000 births	2.1	+	2.8	2.5	2.2	2.1	2	2.1	2.63	Luxembourg 1.5	Eurostat 2009
Fetal mortality per 1000 births	5	+	5.7	3.7	3.8	3.8	3.6	3.2	4.02	Finland 2.4	Eurostat 2009
Risk of dying before age 5 years per 1000 live births	5	+	6.2	5	4.3	4.3	4.2	4	4.63	Sweden 3.17	WHO HFA 2009
Standardized mortality from breast cancer aged < 65 years per 100 000 women	10	+	14.3	12.4	12.4	11.2	12.1	11.8	14.2	Sweden 10.7	Eurostat 2009
Standardized mortality from cervical cancer at age < 65 years per 100 000 women	2	+	3.3	2.2	2.5	2	2.5	2.6	1.5	Finland 0.6	Eurostat 2009
Standardized mortality from ischaemic heart disease at age < 65 years per 100 000 individuals	11	+	14.9	15.1	12.1	11	10.4	10.1	16.68	France 9.4	Eurostat 2009
Standardized mortality from stroke at age < 65 years per 100 000 individuals	12	+	17.2	13.2	11.7	10.5	10	9.9	6.51	Austria 5	Eurostat 2009
Standardized mortality from AIDS at age < 65 years per 100 000 individuals	7	+	10.4	8.8	8.4	7	7.3	6.8	1.14	Finland, Greece 0.2	Eurostat 2009

Indicator	2010 target	Projected result	2001	2004	2005	2006	2007	2008	EU15	EU15 best	Source
Standardized mortality from motor accidents at age < 65 years per 100 000 individuals	8	+	15.1	13.7	11.2	8.3	8.5	7.9	7.29	Netherlands 3.5	WHO HFA 2009
Family doctors per 100 000 population	60	+	54 [a]	64.7	62.4	62.2	62.7	N/A	102.38	France 165.06	WHO HFA 2009
Dentists per 100 000 population	55.1	+	35.9 [b]	52.1	55.2	60.8	60.3	63.9	64.48	Greece 127.19	WHO HFA 2009
Pharmacists per 100 000 population	83.3	+	73.1 [b]	87.5	91.1	96.4	96.7	102.4	80.08	Belgium 114.8	WHO HFA 2009
Nurses per 100 000 population	517.3	+	359 [b]	427.2	447.9	472.3	500.5	524.5	804.79	Ireland 1542.87	WHO HFA 2009
Average length of stay in hospital (days)	6	–	7.4	8.4	8.3	8.2	8.1	N/A	9.06	Ireland 6.5	WHO HFA 2009
Standardized mortality from suicide at age < 65 years per 100 000 population	2.5	–	4.9	7.1	5.3	4.9	5.5	5.7	9.3	Greece 4	Eurostat 2009
Underweight infants at birth per 100 live births	5.8	–	7.2 [c]	7.6	7.5	7.6	7.9	7.7	8.17	Finland, Sweden 4.3	WHO HFA 2009
Life expectancy at birth (years)	81	–	77.1 [c]	77,6	77,9	78.3	78.7	78.9	80.21	France 81.48	WHO HFA 2009
Life expectancy at age 1–4 years (years)	78	–	76.5 [c]	77.0	77.2	77.6	77.9	78.2	79.8	Italy 80.98	WHO HFA 2009
Life expectancy at age 15–19 years (years)	65	–	62.8 [c]	63.2	63.4	63.8	64.1	64.3	65.89	Italy 67.11	WHO HFA 2009
Life expectancy at age 45–49 years (years)	37	–	34.6 [c]	34.8	35.0	35.3	35.4	35.6	36.94	France 38.07	WHO HFA 2009
Life expectancy at age 65–69 years (years)	20	–	17.6 [c]	17.6	17.7	18	18.1	18.3	19.57	IT 20.21	WHO HFA 2009
Infant mortality rate (< 1 year of age) per 1000 live births	2.6	Unclear	4.8	3.8	3.4	3.3	3.4	3.3	3.7	Finland 2.5	Eurostat 2009

[a] 2002 values.
[b] 2000 values.
[c] 2000/2001.
N/A = not available at the time of publication of this report.

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