

The Future for Health

everyone
has a role
to play

SUMMARY

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The Future for Health – everyone
has a role to play

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A new compact for health

This report calls for a new compact for health where everyone has a role to play – citizens as well as clinicians, teachers and business people as well as municipalities and national government.

Health is influenced by many different factors – from education, the environment and the economy to the quality of health services and the skills of health professionals. Looking forward 25 years, we can expect enormous change as these factors interact in multiple ways to shape the future.

This change and complexity means there is a need to learn constantly and adapt as the future unfolds in order to take advantage of new opportunities and avoid new threats and risks. It also means that everyone must contribute to improving health and that every sector of society needs policies which help maintain and improve health. Health cannot be left purely to health professionals or politicians nor can it be treated simply as a business or a government service. Everyone has a role to play. This report offers a new approach to improving health.

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It places the focus firmly on action by citizens and wider society alongside the expertise of clinicians. It aims to reduce the incidence of chronic diseases such as diabetes and the length of time that people suffer from them – both of which are higher in Portugal than in most Western European countries and cost the country more – and it shows how quality improvement methodologies and better access to evidence improve health services and reduce expenditure.

The report envisages a transition from today's hospital-centred and illness based system where things are done to or for a patient to a person-centred and health based one where citizens are partners in health promotion and health care. It will use the latest knowledge and technology and offer access to advice and high quality services in homes and communities as well as in clinics and specialist centres. This vision maintains the founding values of the SNS and builds on the strengths of the current system, the skills of health professionals and the achievements of the past – but it demands new approaches, different infrastructure and a lower and more sustainable cost base.

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CHAPTER 1

Vision for the Future – a major programme of change

The Commission was asked to look forward 25 years to “create a new vision for health and health care in Portugal, describe what this would mean in practice and set out how it might be achieved and sustained.”

Portugal is very fortunate in having a great deal to build on. It has a good SNS with high standards, a tradition of public service and highly skilled health workers. There is widespread support for the continuation of an equitable national health system, accessible by all citizens. The Commission fully supports this position and has embraced the values of the SNS within its thinking – with their emphasis on universality, equity and social solidarity.

Whilst Portugal has a good foundation to build on, the Commission has undertaken its task at a difficult time. Most of the population have experienced a reduction in their standard of living and public sector workers, including health workers in the SNS, have had their pay reduced and seen their future pensions fall in value. Looking forward over 25 years is very difficult but it is possible to see, as in Figure 1, that some negative trends will continue which will lead to increased pressures and costs. There are, however, also positive trends.

Figure 1 • **Positive and negative trends for the future**

POSITIVE TRENDS	NEGATIVE TRENDS
<ul style="list-style-type: none">• Biomedical science and technology• Information and computer technologies• Better evidence for disease prevention• Improved education• Greater awareness of health risks• Government action on health	<ul style="list-style-type: none">• Ageing population with low birth rate• Widening inequalities in society• Growth in long-term conditions• Outdated models of care• Increasing health care costs• Marketing of unhealthy products

The Commission has attempted in this report to set out recommendations which will help to gain the benefit from these positive trends whilst minimising the impact of the negative ones. It believes that radical change is needed to improve health and create a sustainable health system for the future. A frame-

work for the future can be established now which will set the country's health system on a positive path for the future.

Change at this scale requires farsighted and bold leadership able to bring people together into a new Compact for Health, set out the direction of travel and build public and political support. It will also require a major programme of change – championed and led by an alliance drawn from the whole of society – with new systems for continually learning, assessing the evidence and implementing improvement. This needs to be supported by a temporary transition fund to cover the “double running” of facilities as the new system is introduced.

RECOMMENDATIONS

- 1. A NEW COMPACT FOR HEALTH.** A new compact for health should be established which describes the new relationships and roles needed in the transition from today's hospital-centred and illness based system, where things are done to or for a patient, to a person-centred and health-based one where citizens are partners in health promotion and health care.
- 2. NATIONAL HEALTH COUNCIL.** The National Health Council should be established as a whole of society alliance which should own and develop the Compact for Health and refine the vision for the future, take an overview of the system and advise on policy in line with this vision. It should be representative of citizens and all sectors of society and independent of politics and report to Parliament, the Minister of Health and the public.
- 3. SNS EVIDENCE.** SNS Evidence should be created as a new agency, which brings together the existing programme of clinical guidelines with a new process for assessing new technologies and therapies, and ensures that evidence is available everywhere within the system at all times. The agency should make its deliberations and findings open to the public so that they as well as clinicians are able to see the evidence.
- 4. TRANSITION FUND.** A transition fund should be created that can help support the costs of “double running” and the other interim costs of developing a health system with better chronic disease management, more services in the home and local community and specialist networks reaching all parts of the country.

CHAPTER 2

Action by citizens

Citizens and wider society are at the centre of this report. Health starts at home – people need to be much more involved in managing their own health and helping shape the whole system. Citizens need to own their health records, have information about the quality and costs of services and participate in decision making.

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Families and communities play an enormous role in developing a robust and resilient population that is better able to withstand disease and trauma. They also provide care which, if converted into financial terms, would match or exceed the amount spent each year on the SNS. This informal caring complements the formal health system and needs support. It can take pressure off the SNS or, if these informal systems fail, the burden will fall on the formal health and care system.

Citizens as patients can themselves make a major contribution. International evidence shows that greater patient engagement in their own care can both improve quality and reduce costs. They need to be seen as *the management centre of their own lives* and to share in decision making with their clinicians as well as have the necessary information to understand their own health better and participate in planning services. Informed and engaged citizens will help tackle the health problems the country faces and are needed to support a sustainable health system.

Portugal has had major improvements in health in recent years, with life expectancy approaching the European average and greatly reduced child mortality. There are, however, challenges particularly in the growth in long term chronic diseases which mean that Portuguese people have longer periods of ill health in later life. Portuguese men and women only have on average 6 and 6.6 years of healthy life respectively after 65 whilst Norwegians have 15.9 and 15.4 years. This high level of morbidity in an aging population is the greatest health and financial

Portuguese men and women only have on average 6 and 6.6 years of healthy life respectively after 65 whilst Norwegians have 15.9 and 15.4 years. This high level of morbidity in an aging population is the greatest health and financial challenge facing the country. The future sustainability of the health system will depend on reducing it.

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Diabetes has a particular impact in Portugal which has both the highest prevalence in Europe at around 14% and is estimated to cost the country around 0.8% of GDP, with some estimates suggesting it is as much as 1%. There are also regional differences with rural areas, which are less affluent and less well served by health services, having poorer health outcomes.

These challenges can only be addressed by action from all parts of society, including citizens themselves who need the support and the authority to do so. Public policy is starting to make this happen but needs to be given greater emphasis to accelerate progress.

RECOMMENDATIONS

- 5. HEALTH LITERACY.** There needs to be a new cross-government national programme for health education and health literacy which will equip citizens in practical terms to stay healthy and, when ill, share in decision-making. This should be very high profile and led by an independent group of Ambassadors, including people from the media and communications, who would report to the Ministers of Health and Education.
- 6. OWNERSHIP OF PERSONAL HEALTH INFORMATION.** High priority needs to be given to implementing fully the Electronic Health Record as the essential underpinning of an integrated and high quality service and giving citizens ownership of all the health information held about themselves whether in an electronic form or otherwise.
- 7. ACCESS TO INFORMATION.** There needs to be a single authoritative source of information available to citizens, perhaps built on the *Portal da Saúde*, which would cover information about health, disease prevention, and services and their quality. Health organisations should be placed under an obligation to provide an agreed range of data for this purpose and regulators should ensure that citizens have this access.
- 8. REPRESENTATION.** The Ministry of Health should appoint lay people, able to represent the perspective of citizens and patients, to the boards of all health bodies where it has the right to make appointments.

CHAPTER 3

Action across society

Modern societies actively market unhealthy lifestyles – and modern environments make it difficult to make healthy choices. Action is needed from all sectors of society to improve health and well-being.

A healthy society of the future would be one where towns, cities and the physical environment are designed to promote healthy living; where healthy food is available everywhere; where citizens exercise their rights and responsibilities; and where municipalities and government departments, private entities and voluntary organisations work with citizens towards shared goals.

“Modern societies actively market unhealthy lifestyles”

WHO Europe: Health Literacy: The Solid Facts; 2013

By contrast everything about modern society – from fast food, the availability of motorised transport, home based entertainment and building design – combines to encourage a sedentary lifestyle. On the one hand, easy access to alcohol, sugary foods and, until recently, cigarettes, means that it is all too easy to make unhealthy choices. On the other hand, low health literacy and confusing and contradictory information makes it difficult to make wise decisions regarding what to eat, drink, how much to exercise and what medicines to take. Moreover, the economic crisis has brought high rates of unemployment, cuts in public services and growing inequality – all of which impact on the determinants of health.

These are European and global trends that will be difficult to counter and will require concerted and united action across society with strengthened public health expertise and better links between health and other public services. Portugal has much to build on – it has for the most part an enviable life style and climate and a strong cultural heritage. Moreover, it has previous experience of tackling social issues in a way that brings the resources of many different parts of society and the population together to achieve common goals. Portugal, for example, achieved an extraordinary decrease in the infant mortality rate of 94% between 1970 and 2008, better than any other European country and is now amongst Europe's best performers. This required leadership and planning as well as clinical knowledge, but it also depended on behaviour change and civic engagement.

RECOMMENDATIONS

9. **MUNICIPALITIES.** Municipalities, which already play leading roles in the well-being of their populations, should include health and health organisations in their local social welfare partnerships to support cross sectoral planning and working.
10. **CIVIL SOCIETY.** Municipalities, health and commercial organisations and the appropriate ministries should work together to find better ways to promote, support and engage voluntary organisation and informal networks of care at all levels of the health and care system.
11. **PUBLIC HEALTH.** The Government, relevant Ministries, the SNS and public health institutions and associations should work together to strengthen public health functions across the whole health system at all levels, with knowledge of and expertise in public health becoming a larger part of every health worker's education and training. Consideration should be given as to whether new legislation on Public Health is needed to support these recommendations.

CHAPTER 4

The continuous pursuit of improved quality

Early treatment, high quality and evidence-based services are good for patients – and also reduce waste and save expenditure. There needs to be a focus on continuous quality improvement and to systematically applying the evidence of what works, everywhere and at all times. Portugal must position itself to take full advantage of future advances in knowledge and technology and develop its own bio-medical research base still further. Figure 2 proposes 4 strategic actions to do so:

Figure 2 • **Actions to take full advantage of advances in science and technology**

- Adopt continuous quality improvement as a means to promote quality and ensure advances can be integrated and implemented systematically
- Use SNS Evidence to ensure that therapies are evaluated and evidence is available everywhere
- Implement the Electronic Health Record
- Develop effective partnerships between the SNS, researchers and industry

Poor quality health care is not only bad for patients, it is also very expensive. For example, tests or treatments not done well the first time need to be repeated. Keeping people waiting for attention is costly and may lead to increased suffering and avoidable downstream care with acute problems turning into chronic ones. Poor coordination between health workers is wasteful. Patients who get bed sores or infections from a stay in hospital suffer from poor quality care and use more SNS resources than those who are looked after well. Cheaper but less effective treatments are often more expensive in the long run. As these examples demonstrate, improving quality and reducing waste saves costs and contributes to achieving a sustainable health system.

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Portugal has good professional education and practices. Whilst much has been done to measure and improve quality and develop guidelines, there is a need to improve data consistency and transparency and to reduce unwarranted

variations in practice. Portugal is also fortunate in having started to develop an Electronic Health Record and having more than 120 partners in Health Cluster Portugal which aims to *“turn Portugal into a competitive player in the research, design, manufacturing and commercialisation of health-related products and services ... based on the recognition of its excellence, technological level and competence in the field of innovation”*.

RECOMMENDATIONS

12. **CONTINUOUS QUALITY IMPROVEMENT.** All partners in the health system from the Ministry and citizens to SNS bodies, municipalities, universities and industry need to ensure that the approach of continuous quality improvement is adopted throughout the system as a means both of promoting quality and of ensuring that new scientific and technological advances can be systematically integrated and implemented everywhere. Expertise in quality improvement needs to become part of every health worker’s education and training. This should be supported by a new expert agency able to promote quality improvement, identify and spread good practice and support implementation. It should work with health and other bodies to create and confirm shared methodologies for quality improvement and implementation, facilitate training and be able to offer advice and support as necessary. This needs to be accompanied by standardisation of accreditation processes and of data collection and reporting.
13. **SNS COLLABORATIONS WITH RESEARCH AND INDUSTRY.** SNS, research and industry leaders should set up collaborations in a small number of locations around the country to work together and with citizens on developing new practices, technologies and services.

CHAPTER 5

A person-centred and team-based health system

New service models are needed which provide integrated care for all individuals with particular emphasis on: chronic disease management; the development of more services in the home and local community; and the creation of specialist networks – based in reference centres but reaching all parts of the country through technology and shared protocols.

There has been a great deal of reform and change in the SNS in recent years with the strengthening of primary care; the development of a network for long term care; the creation of *Via Verde* protocols to ensure integration of care for some conditions; and the introduction of private sector providers to promote competition and efficiency. However, Portugal still has relatively underdeveloped primary care, much higher use of hospital Accident and Emergency services and lower levels of provision for long term care than most other European countries. With its aging population and high levels of long term chronic conditions it needs to develop new services as set out in Figure 3.

Figure 3 • **New service models to provide integrated person-centred care**

- Enhanced services In the home and local community: integrating activity across voluntary and statutory organisations; improving long term, mental health and palliative care; and making use of developments in medicine and technology to develop new monitoring, diagnostics and treatment services
- Better chronic disease management to cater for the 5.4 million people with one or more chronic diseases. This should target the 4% of the population with 5 or more such diseases; recognising that an estimated 5% of the longest stayers in Portuguese hospitals use 31% of bed days
- The creation of specialist acute networks, for example for cancer or stroke, that link facilities across cities or large parts of the country in order to improve standards and release funds for investment in other services.

Many recent reforms have not been evaluated or, as in the case of primary care, fully followed through. This has led to some confusion in roles, relatively high overheads and a lack of accountability – all of which need to be addressed. There is as yet little evidence about the impact of the introduction of new private sector providers. Evidence from elsewhere suggests this can have beneficial results where there is a clear framework setting out the need for shared values, operational requirements and expectations.

RECOMMENDATIONS

14. **NEW MODELS OF CARE.** Policy makers, planners and providers need to work together to create services which provide integrated care for all individuals with particular emphasis on: chronic disease management; the development of more services in the home and local community; and the creation of specialist networks – based in reference centres but reaching all parts of the country through technology and shared protocols.
15. **ACCOUNTABILITY AND OVERHEADS.** Accountabilities need to be clarified across the whole system and there needs to be a review of the number and roles of the many national bodies associated with health and care, reducing their numbers and costs by at least 25% and releasing funds for investment elsewhere.
16. **PUBLIC PRIVATE CONCORDAT.** A public/private concordat needs to be developed as a framework for the engagement of private providers in the SNS which safeguards the public interest whilst bringing potential new resource and innovation to the health system.

CHAPTER 6

New roles and strengthened leadership at all levels

Health professionals are well suited to be agents of change and improvement, but leadership is needed in communities as well as in health services and leaders need to work together. All health professionals need to take on new roles and work more closely together – with their education adapted accordingly – whilst patients and community organisations need support to take on greater leadership roles.

The SNS depends on the health professionals and other health workers who deliver care and treatment, undertake teaching and research and support citizens and patients with their needs. The greatest benefit in health care and the largest costs come from staffing which in Portugal, as elsewhere, amounts to more than 60% of SNS expenditure. The vision for the future presented here, with the new emphasis on action by citizens and society, brings both unsettling change and exciting opportunity. On the one hand, some long established practices will have to change. On the other, partnerships with patients and new technologies create new possibilities. Despite the impact and stress of the economic situation, the Commission found real enthusiasm to make improvements in services.

Health professionals in the future require leadership attributes as well as clinical knowledge and skills and they need to have the ability to be transformational leaders or “agents of change” able to improve health through understanding how the health system works and leading teams to deliver improvement. In doing so, they need to work with leaders from other sectors in the community and in government.

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These changes require changes in professional education to prepare professionals for the future. They also require some re-definition and greater flexibility in roles with more emphasis on sharing information and working together in teams. Nursing is relatively under-developed in Portugal compared to other European countries and nurses can play a bigger and more prominent role in the future.

RECOMMENDATIONS

17. **PROFESSIONAL EDUCATION.** The Ministries of Health and Education should set up an inclusive process to review professional education in the light of current and future developments in health and ensure that it embraces the new needs for partnership with patients, quality improvement and public health.
18. **NURSING.** The status of nurses within Portugal should continue to be raised by appointing a Chief Nursing Officer, extending their roles and, as funding allows, increasing their numbers. Following the introduction of the new family nurse role, consideration should be given to extending the role of nurses and other professionals in other areas.

CHAPTER 7

Financial sustainability

The majority of costs in the Portuguese health system come from caring for people with long term chronic conditions. Financial sustainability will only be achieved through reducing the incidence of these diseases and the associated morbidity, developing new models of care for them and making sure evidence is applied systematically everywhere and waste reduced to a minimum. New financial mechanisms and outcome-based incentives can help if managed well; but the financial salvation of the system will depend on political willingness to introduce health into all policies, effective health promotion and concerted action by citizens, wider society and health professionals.

Portugal spends very much the same on health services as other countries in Western Europe both as a percentage of GDP (10.2% in 2011) and in per capita terms (at purchasing power parity). However, Portugal has a lower level of state expenditure and a correspondingly higher level of private and out of pocket expenditure than most other countries. In 2013, out of pocket expenditure – for items or services not covered by either the SNS or insurance schemes – amounted to about 27% of total costs whilst the equivalent in France was 7%, the US 12% and Spain 20%. Portugal also spends far less on long term care at about 0.1% of GDP with other OECD countries spending 5, 10 and 20 times as much.

Expenditure in the last three years has fallen slightly (from 10.8% of GDP in 2010); however, long term trends are upwards and it is not yet clear whether these recent falls are due to short term measures which will not have longer term effects. Whatever happens, there will be continuing pressures to increase spending due to the aging of the population, higher expectations and technological advances.

Portugal has little scope to raise more funding from increasing co-payments further because of the current high levels of out of pocket expenditure. Moreover, international evidence shows that such increases reduce both appropriate and inappropriate use of health services – thereby having a negative effect on the health of the poorest in society – and raise relatively small amounts of revenue due to the high levels of exemptions given. There is little scope to raise taxes other than by imposing taxes on unhealthy products or services. The Commission notes, however, that the country ultimately has the choice about how much it chooses to spend on health.

Increased co-payments reduce both appropriate and inappropriate use of health services ... affect the health of poorer people ... and raise relatively small amounts of extra revenue.

The alternatives to increasing expenditure are improved efficiency or cuts in services. Portugal, like other western countries, has been experimenting with different financial and contracting mechanisms – such as competition and value-based contracting – in order to improve the efficiency and effectiveness of its health system. There is some international evidence that, managed well, some of these mechanisms can reduce costs and should be pursued; however, there are as yet no examples of major impact on costs and sustainability. Moreover, there is clear evidence of what to avoid such as “pay for service” schemes and specific entitlements and of the risks of supplier-induced demand and over optimistic assessments of the benefits of technology.

Sustainability will come from reducing morbidity, applying evidence effectively and changing the infrastructure of the system from a hospital based system to a community and technology based one.

Whilst these mechanisms may help, reductions in costs – and longer term sustainability – can come from other sources. Reductions in morbidity – the length of time that people are ill or the prevention of diabetes and heart disease, for example – will have major impact. So will applying evidence effectively, cutting waste and changing the infrastructure of the system from a hospital based system to community and technology based one. There is also scope for better financial management through value for money scrutiny and the establishment of an SNS Stabilisation Fund.

RECOMMENDATIONS

19. **SUSTAINABILITY STRATEGY.** Adopt a sustainability strategy to improve quality and reduce costs based on:
 - a. Targeting three main areas for change:
 - Reducing morbidity, preventing disease and reducing the length of time people are ill
 - Applying evidence effectively and using continuous quality improvement to help cut waste
 - Changing the infrastructure of the health system
 - b. Continuing to develop the commissioning and contracting process: focusing on outcome measures; keeping international experience of competition and market based methodologies under review; and ensuring it is flexible enough to meet the demands of constantly developing services with new methods and channels of delivery.
20. **FINANCIAL MANAGEMENT.** Improve financial management alongside the introduction of improved governance and data availability and the strengthening of accountability. This should include the creation of a rolling 5 year SNS Stabilisation Fund, which will aid planning, and the introduction of independent value for money audits which will report to Parliament and to the proposed National Health Council.

The Gulbenkian Challenges

The Calouste Gulbenkian Foundation which set up this review has committed itself to playing its part.

It will initiate three ambitious *Gulbenkian Challenges* which each exemplify the approach described in the report– showing what can be achieved – whilst tackling some of the most important challenges in Portugal. The Foundation will work with SNS organisations, municipalities, government, universities, charities and citizens to deliver improvements in all these areas.

The *Challenges* are shown in Figure 4 below.

Figure 4 • **The Gulbenkian Challenges**

THE GULBENKIAN CHALLENGES

- Reducing hospital acquired infections – halving rates in 10 hospitals in 3 years
- Slowing growth in diabetes – preventing 50,000 people getting the disease in 5 years
- Helping the country become a leader in early childhood health and development – with measurable improvements in the health and well-being of children in the longer term

These *Challenges* could make a good start on reducing costs by potentially saving:

- On infections: Euro 140 million being half the estimated Euro 280 million spent each year
- On diabetes: Euro 45 million after 5 years with an estimated Euro 18 million additionally each year thereafter
- On healthy childhood: an estimated Euro 80 million a year over the life of the current cohort to 5 year olds

Taken together these *Challenges* alone could reasonably be saving between 1 and 3% of SNS annual spend within 5 years.

The Gulbenkian Commission on the Future of Health in Portugal

The Commission has worked in as inclusive a way as possible: meeting with stakeholders, establishing Working Groups and Advisory bodies, holding conferences and meetings and drawing on expertise and evidence from within Portugal and abroad as shown in Figure 5. This ensured that the Commission's work was well grounded in Portuguese experience and culture; generated cross-cutting ideas for integrated approaches to improvement; and helped build ownership for the process and create the necessary momentum for change.

Figure 5 • **Process**

THE COMMISSION ADOPTED AN INCLUSIVE PROCESS

- Creating four Working Groups which covered the following areas;
 - Working Group 1 – Health services and Public Health
 - Working Group 2 – Citizens, Patients and the SNS
 - Working Group 3 – Staffing the service
 - Working Group 4 – Harnessing knowledge, technology and innovation
- Setting up an Advisory Board made up of senior representatives of stakeholders in the health sector and a Young Professionals Advisory Group.
- Meeting with stakeholders
- Holding conferences to discuss the Working Group reports and best practices
- Collecting evidence on policy and best practice from Portugal and elsewhere

Membership

The Commission consisted of Lord Nigel Crisp (chairman), João Lobo Antunes, Pedro Pita Barros, Donald Berwick, Wouter Bos, Ilona Kickbusch and Jorge Soares.

Working Group 1 on *Health Services and Public Health* consisted of José Pereira Miguel (chair), Adalberto Campos Fernandes, Manuel Caldas de Almeida, Maria da Conceição Bento, M. Isabel Loureiro, Miguel Gouveia, Paulo Boto, Raul Mascarenhas, Rui Portugal and Vitor Ramos.

Working Group 2 on *Citizens, Patients and the SNS* consisted of José Carlos Lopes Martins (chair), Isa Alves, José Manuel Boavida, Lynne Archibald, Luís Campos, Paula Martinho da Silva and Vitor Neves.

Working Group 3 on *Staffing the Service* consisted of Maria do Céu Machado (chair), Carlota Vieira, Casimiro Dias, Ema Paulino, Manuel Areias Sobrinho-Simões, Maria Augusta Sousa, Marta Temido and Ponciano Oliveira.

Working Group 4 on *Harnessing knowledge, technology and innovation* consisted of Peter Villax (chair), António Portela, Carlos Faro, Daniel Bessa, Joaquim Cunha, Manuel Heitor, Maria João Queiroz, Nuno Sousa and Pedro Noronha Pissarra.

The Advisory Board consisted of Luís Portela (chair), António Coutinho, Isabel Vaz, Jorge Simões, Manuel Rodrigues Gomes and Manuel Sobrinho-Simões.

The Young Professionals' Group consisted of Ana Carlota Dias, Ana Costa, Cláudia Reis, Daniel Simões, Diogo Medina, Gonçalo Martins, João de Almeida Pedro, Liliana Laranjo, Mara de Sousa Freitas, Ricardo Fernandes, Ricardo Mexia, Rute Borrego and Sandra Duque Maurício.

The support team was led by Sérgio Gulbenkian and consisted of Lucy Irvine, Francisco Cluny Rodrigues, Francisco Wemans and Inês Pinto Mascarenhas.