OECD Reviews of Health Care Quality

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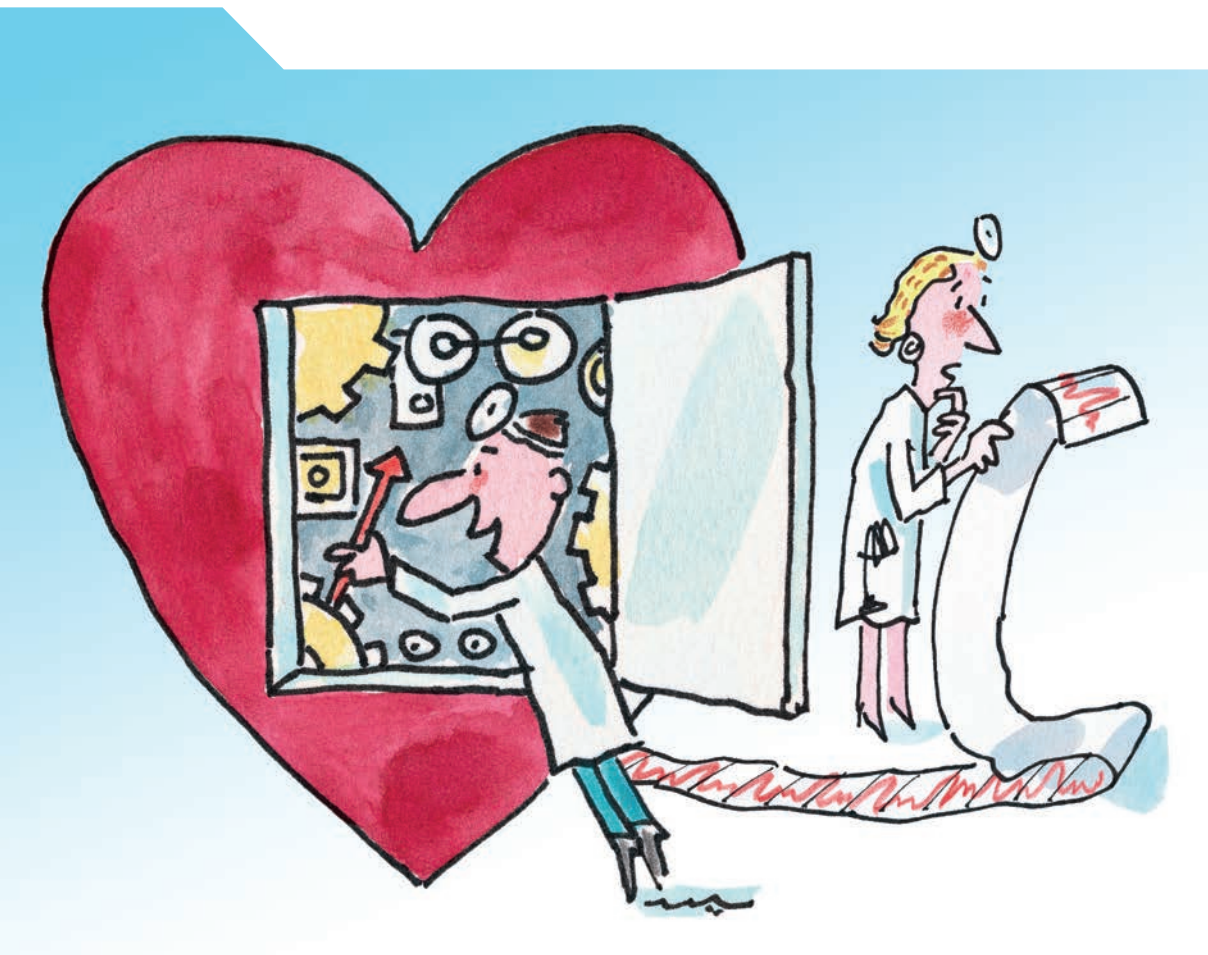
RAISING STANDARDS



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OECD Reviews of Health Care Quality: Portugal 2015

RAISING STANDARDS

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Foreword

This report is part of a series of publications reviewing the quality of health care across selected OECD countries. As health costs continue to climb, policy makers increasingly face the challenge of ensuring that spending on health delivers value for money. At the same time, concerns about poor quality health care have led to demands for greater transparency and accountability. Despite this, there is still considerable uncertainty over which policies work best in delivering health care that is safe, effective and provides a positive patient experience, as well as which quality-improvement strategies can help deliver the best care at the least cost. *OECD Reviews of Health Care Quality* seek to highlight and support the development of better policies to improve quality in health care, to help ensure that the substantial resources devoted to health are being used effectively in supporting people to live healthier lives.

This report reviews the quality of health care in Portugal. It highlights good practices, and provides targeted assessments and recommendations for further quality gains in primary and secondary care. The Portuguese approach to quality monitoring and improvement is particularly sophisticated. Over recent years, Portugal has introduced a wide set of structural reforms and quality initiatives aiming to improve efficiency and achieve better quality of care. Avoidable hospital admissions for asthma, COPD and diabetes are amongst the lowest in the OECD. The country has also demonstrated one of the steepest reductions in ischemic heart disease (IHD) mortality rates in the OECD since 1990. Despite these advances, several challenges lie ahead. The next stages of reform should in large part be about broadening, deepening and standardising the quality initiatives already in place. In primary care, strategic reflection around the direction of the primary care system, and the balance between Primary Health Care Units (PHCU) and Family Health Units (FHU) is needed, to ensure that high quality care can be accessed by the whole Portuguese population. In the hospital sector, ensuring adherence to agreed standards of care and clinical guidelines, shifting more care away from hospitals and into the community, as well as further quality improvement tools such as accreditation, are priorities.

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We are also thankful to the following provider organisations and consumer group, who provided valuable contributions through their various comments and viewpoints: The Portuguese Medical Association, the Portuguese Nurses Association, the Portuguese Association of Hospital Managers and the Portuguese Association for Consumer Protection, as well as to other institutions and experts such as the National School of Public Health at the University of Lisbon.

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Acronyms and abbreviations

ACES	Groups of primary health centres
ACSA	*Agencia de Calidad Sanitaria de Andalucia* (Andaluzia Accreditation Model)
ACSQHC	Australian Commission on Safety and Quality in Health Care
ACSS	*Administraçao Central de Sistema de Saùde* (Central Administration of the Health System)
AHRQ	Agency for Healthcare Research and Quality
ALOS	Average length of stay
AMI	Acute myocardial infarction
CABG	Coronary artery bypass graft
CCU	Community Care Unit
CME	Continuing medical education
CNS	National Health Council
COPD	Chronic obstructive pulmonary disease
CPD	Continuous professional development
CQC	Care Quality Commission
CS	Primary care referral teams
DAMD	Danish General Practice Database
DGS	*Direcção-Geral da Saúde* (Directorate General of Health)
DQS	*Departamento da Qualidade na Saude*
DRG	Diagnosis related group
ECCI	Integrated home care teams
ED	Emergency department

EGA	Hospital discharge teams
EPE	Public Enterprises Hospital
ERS	*Entidade Reguladora da Saúde* (Health Regulation Authority)
FHU	Family Health Unit
GDP	Gross domestic product
GMC	General Medical Council
GP	General practitionner
HC	Hospital centres and groups
HCAI	Health care associated infection
IGAS	General Inspectorate of Health-related Activities
IHD	Ischemic heart disease
INFARMED	National Authority of Medicines and Health Products
MDC	Major Diagnostic Category
MHAC	Maryland Hospital Acquired Conditions Programme
MRI	Magnetic resonance imaging
NHS	National Health System
NOTIFIC	National System of Notification of Incidents
P4P	Pay-for-Performance
PDS	Portuguese Health Data Platform
PEM	*Prescrição Electrónica Médica*
PHCC	Primary Health Care Centre
PHCU	Primary Health Care Unit
PHU	Public Health Unit
PPCIRA	Portuguese Programme on Prevention and Control of Infection and Antimicrobial Resistance
PPP	Public-private partnerships
PPP	Purchasing power parity
QOF	UK Quality and Outcomes Framework

RHA	*Administração Regional de Saúde* (Regional Health Authorities)
RNCCI	*Rede Nacional de Cuidados Continuados Integrados* (National Network of Integrated Continuous Care)
SA	Incorporated Public Hospitals
SIARS	Regional Health Administrations
SINAS	*Sistema Nacional de Avaliação em Saúde* (National System of Health Quality Assessment)
SOE	State-owned enterprise
SPA	Public hospital (under the direct administration of the government)
ULS	*Unidade Local de Saúde* (Local Health Units)
VHI	Voluntary Health Insurance

Executive summary

This report reviews the quality of health care in Portugal. It begins by providing an overview of policies and practices aimed at supporting quality of care in Portugal (Chapter 1). The report then focuses on three areas that are of particular importance for Portugal's health system at present: the organisation of primary care (Chapter 2), hospital care (Chapter 3), and optimising quality and efficiency across the system as a whole (Chapter 4). In examining these areas, this report assesses the quality of care currently provided, seeks to highlight good practice, and provides a series of targeted assessments and recommendations for further improvements to quality of care.

The Portuguese National Health System (NHS) is organised nationally, with the Ministry of Health responsible for planning and regulation of the health system, providing overall leadership for the NHS and issuing the National Health Plan and the National Strategy for Quality in Health. The five Regional Health Authorities are responsible for the implementation of national health objectives and have financial responsibility for primary and hospital care. Although quality monitoring and improvement work is very much led by national authorities in Portugal, models of care on the ground are diverse and innovative, suggesting that a good balance has been achieved between the central and regional responsibilities. In response to recent fiscal pressure, Portugal has implemented a comprehensive set of structural reforms and introduced an extensive range of quality initiatives aimed at providing fiscal sustainability, improving efficiency and achieving better quality across the health care system. There are nevertheless further opportunities to secure continuously improving care. The next steps for Portugal will in large part be about broadening, deepening and standardising reform efforts already started.

Portugal possesses an impressive array of ***quality monitoring and improvement initiatives***. It has a robust quality architecture which, unlike in many OECD countries, covers almost the whole health care system. Data systems range from setting-specific information structures, disease-specific registers and electronic patient records, which are actively used together to drive quality improvements in the Portuguese health system. The Integrated

Care Pathways, which have been developed in the context of population ageing and in response to the increasing prevalence of chronic illnesses, are another impressive part of Portugal's quality governance architecture. These Pathways require effective coordination across medical and nursing directorates of hospital services, as well as primary health care and long term care. Opportunities for further quality gains exist. More could be done to strengthen the role of the patient in assuring and improving the quality of care, and to collect and publically report patient feedback. Other areas, including continuing medical education and development, as well as supporting adherence in the accreditation process will also need to be scaled up to secure high performance of health providers in the years to come.

The ***primary care system*** in Portugal performs well, with rates of avoidable hospitalisation amongst the best in the OECD for asthma and COPD. Recent primary care reforms have been successful in improving accessibility, efficiency, quality and continuity of care, as well as increasing the satisfaction of both professionals and citizens. The 2007 Primary Health Care Reform led to the establishment of the innovative Family Health Unit, aimed at encouraging more multidisciplinary team working and at achieving greater co-ordination between providers. Portugal has also an impressive depth of available primary care information, with systematised collection of a large number of indicators linked to the payment system. Together, these sophisticated approaches to delivery, organisation and payment suggest that Portuguese primary care is well advanced in measuring, assuring and improving quality. Strategic reflection around the balance between traditional Primary Health Care Units and the innovative Family Health Units is now needed to ensure that high quality care can be accessed by the whole Portuguese population. Efforts are also needed to ensure optimal use of the primary care workforce, to fully exploit available data in quality monitoring and improvement, and to ensure that primary care takes the lead in preventing and managing chronic diseases.

Portugal has committed significant efforts to reorganising its ***hospital sector*** and improving the quality of hospital care in recent years. Rationalisation of the hospital sector started in the early 1990s and is an ongoing process characterised by the concentration of services into fewer, larger hospital centers and hospitals groups. Quality governance also has been strengthened by the introduction of new models of management and payment systems, the development of quality and safety standards, and extension of hospitals' information infrastructure. Overall these efforts have been successful at both improving quality and increasing efficiency. Some challenges do remain, however, particularly around standardizing clinical processes. Ensuring adherence to agreed standards of care and clinical guidelines as well as further deepening quality improvement tools such as

accreditation are priorities. There are also opportunities to shift more care away from hospitals into the community and to maximise the contribution of the hospital information infrastructure by strengthening the link between quality and hospital revenue, and by monitoring the impact of the hospital reform.

Portugal has made sustained progress in ***containing spending whilst maintaining efforts to continuously improve care quality***. Reforms around the purchasing and use of pharmaceuticals and medical devices have been particularly successful. Portugal has also innovated extensively in how it uses public funds to pay providers, increasingly basing payments on the quality and efficiency of the care provided. Implementation of these initiatives across the Portuguese health system has not, however, been uniformly successful. Long average lengths of stay after a heart attack, high volumes of non-generic and inappropriate prescribing, and significant variation in medical practice across regions are specific areas that remain to be addressed in Portugal. To go forward and meet the twin aims of increasing value for money whilst improving quality, it will be important to maintain and go further on the performance regimes in both acute and community care. Further structural reform to where and how care is delivered is also needed, with an emphasis on shifting care out of hospitals into less-expensive community settings. Lastly and perhaps most importantly, Portugal's next priority will be to shift lens and focus on clinical processes and pathways, as well as to use more effectively the Portuguese health care workforce.

Assessment and recommendations

The Portuguese health system has responded well to financial pressures over recent years, successfully balancing the twin priorities of financial consolidation and continuous quality improvement. Even in the post-financial crisis years (during which GDP fell from USD PPP 23 860 in 2008 to USD PPP 20 188 in 2012, with health spending falling by 6.7%), ambitious quality improvement efforts were sustained. Avoidable hospital admissions for asthma, COPD and diabetes are amongst the lowest in the OECD and Portugal experienced one of the steepest reduction of ischemic heart disease (IHD) mortality rates in the OECD, more than halving from 116.1 deaths per 100 000 population in 1990 to 51.7 in 2011.

Portugal has used a diverse set of tools and approaches to realise these gains. In primary care, ambitious reforms to develop internationally innovative new service and payment models began in 2007. Significant efforts have also been committed to rationalising the hospital sector. Nevertheless, urgent priorities for further work remain.

Case fatality after an ischaemic stroke is higher in Portugal than the OECD average, at 10.5 per 100 admissions in Portugal, compared to 8.5 across the OECD (2013 data). Health care associated infections appear more common in Portugal than elsewhere (with a reported prevalence of 10.7% of in-patients in 2011/12, compared to 6.0% EU average), and the caesarean section rate is the fifth highest rates in the OECD. Ensuring adherence to agreed standards of care and clinical guidelines, shifting more care away from hospitals and into the community, as well as further quality improvement tools such as accreditation are priorities for the hospital sector. In the area of primary care, strategic reflection around the direction of the primary care system, and the balance between traditional Primary Health Care Units and Family Health Units is needed, to ensure that high quality care can be accessed by the whole Portuguese population. And to ensure increasing value for money whilst improving quality, Portugal's major challenge will be to shift lens and focus on clinical processes and pathways, whilst keeping structural reforms in play.

Although health spending showed sharp declines following the 2008 global financial crisis, Portugal still spends more on health as a percentage of GDP than most OECD countries, committing 9.5% in 2012. Per capita spending, however, is below the OECD average at USD PPP 2 619, compared to 3 322 OECD average (2013 data). The Portuguese National Health System (NHS) is organised nationally, with the Ministry of Health responsible for planning and regulation of the health system, providing overall leadership for the NHS and issuing the National Health Plan and the National Strategy for Quality in Health. The five Regional Health Authorities (RHAs, called *Administrações Regionais de Saúde*) are responsible for the implementation of national health objectives and have financial responsibility for primary and hospital care. Although quality monitoring and improvement work is very much led by national authorities in Portugal, models of care on the ground are diverse and innovative which suggests that a successful balance has been achieved between the central and regional responsibilities. In acute care for example, each hospital (with the help of RHAs) must establish a three-year action plan to comply with the ministry's plans for hospital reform.

Portugal has implemented a comprehensive set of structural reforms to work towards fiscal sustainability, improved efficiency and better quality in the health care system. The pharmaceutical sector in particular has seen significant changes following shifts towards the generic market and strengthening of procurement processes. As a result, pharmaceutical spending per capita decreased by 5.9% in real terms in both 2010 and 2011. Other major structural reforms have been undertaken in the hospital and primary care settings. In acute care, Portugal has pursued a number of reforms to rationalise its hospital sector through specialisation and concentration of hospitals services. New management models and payment systems have been introduced, with the development of Public and Private Partnerships (PPP) and the transformation of public hospitals (SPA) into public enterprises (EPE). In these, Portugal demonstrates a willingness to use the private sector to leverage efficiency gains and improve responsiveness to patient needs. In primary care, reforms have focused on developing new models of care, primarily the development of Family Health Units (FHU). These give GPs and primary care nurses greater flexibility in managing their practice and promote more integrated working. The FHU model includes a number of financial incentives, some of which are linked to quality indicators. Additionally, Portugal has seen real progress in delivering more co-ordinated care, in contrast to many other OECD countries. The introduction in 2007 of the *Rede Nacional de Cuidados Continuados Integrados* (RNCCI – National Network of Integrated Continuous Care) for example is an innovative approach to better integrate health and social services for the elderly in need of long-term care services.

Co-ordination of care has been promoted with the establishment of integrated disease management programmes for major chronic diseases including obesity, chronic renal disease or pulmonary hypertension. Structural reforms such as these have almost always been backed-up with sophisticated monitoring capabilities and a careful balance between incentives and sanctions to improve quality of care.

At service-level, an equally extensive range of quality initiatives have been introduced over recent years, ranging from standardisation of clinical practice, better use of technology such as electronic medical prescription and shared medical information, and the establishment of a national accreditation model. Stronger tools for monitoring the quality and outcomes of care have been developed, including a quality-benchmarking project that publishes facility-level quality and efficiency indicators on a monthly basis.

Despite these advances, a number of challenges remain in order to improve the quality of care in Portugal:

- The Portuguese health care system is still over-reliant on the hospital sector. Although the reorganisation of the hospital system is an on-going process implying specialisation and concentration of hospital service, Portugal may wish to expand capacity at community level to provide rehabilitation, post-acute care and emergency care. This would relieve pressure on hospital sector, with potential to improve quality of care and curb health expenditure.
- Despite strong commitment toward better integrated and co-ordinated care (notably with the establishment of the Portuguese National Network for Integrated Care in 2007), the Portuguese health care system needs to evolve toward a more comprehensive approach of health care delivery involving greater partnership between health and social care providers.
- Even though Portugal has made good progress in developing its primary care sector, some strategic direction around the appropriate balance between traditional Primary Health Care Units and Family Health Units needs to be taken at system-level. Setting a limit by which all Primary Health Care Units must have transformed to Family Health Units is one possible option for consideration, so too would be introducing some of the incentives associated with FHU to other primary health care units.
- While targeted performance related payments have been set-up to seek continuous quality improvement in Family Health Units and the hospital system, the use of quality-based payment could be extended with a view to meeting reforms targets, particularly around care co-ordination and patient safety.

- Having established a comprehensive and standardised information infrastructure at all system-levels, Portugal should now ensure that the ongoing reforms in the acute and primary care settings are monitored and evaluated. It is becoming critical for Portugal to evaluate the impact of the various reforms and quality initiative on quality of care.

The rest of this chapter makes a more detailed assessment of, and set of recommendations for, the Portuguese health care system. The chapter starts with an overview of the strengths and opportunities for improvements in Portugal's health care quality architecture. Three topics are then considered in detail: primary health care provision, quality of hospital care, and optimising quality and efficiency across the system as a whole.

Promoting excellence across Portugal's health care system

Overall, the Portuguese health system appears to be delivering high quality care at a low cost. Outcomes across primary and hospital care are in many cases good, and expenditure on health is below the OECD average for per capita spending. Quality of care is a priority for the Portuguese health system, and this is reflected in core policy addressing quality, as well as a dedicated Department of Quality in Health which sits under the Directorate-General of Health.

Portugal has a well-developed quality infrastructure, with the health data system and use of clinical guidelines standing out as areas of excellence

The Portuguese health system has a particularly rich information infrastructure which, unlike in the significant majority of OECD countries, covers almost the whole system. This data is actively used to drive quality improvements. Data sources include setting-specific information structures, and disease-specific registers and data sources, electronic patient records, and unique patient identifiers. Electronic patient records and unique patient identifiers go towards creating the Portuguese Health Data Platform, which consists of a patient portal, a professional portal, and an institutional portal which is currently being tested. The different portals hold different information, to be used in different ways. For instance, the professional portal provides health professionals with patient clinical data and records stored from different institutions and central repositories (Portugal does not yet, though, have fully portable patient records). The institutional portal, when operational, should provide statistics from anonymised clinical data to central institutions.

There are also some mandatory minimal datasets, including for hospital discharge teams and primary care referral teams: medical, nursing and social evaluations; evaluation of physical autonomy; pressure ulcers; pain evaluation; for integrated home care teams; and for inpatient facilities (falls, diabetes, pressure ulcers, etc.). The primary care information architecture, SClinico, covers more than 350 facilities. Information available includes demographic data (name, gender, date of birth etc) and clinical data (health problems, allergies, personal and family history, medical history, medication and prescriptions, appointments, referrals, etc.). In hospitals data is nationally standardised across aspects such as discharge summaries, reports of allergies or the use of surgical checklists, all under national clinical guidelines, facilitating high-level planning and quality monitoring, for all NHS hospitals in Portugal. Performance indicators, which go far beyond the typical process- and activity-based hospital indicators, are collected across four dimensions – access, quality, productivity and financing.

Another impressive part of Portugal's quality governance architecture is the development of clinical guidelines into more complex care pathways, which reflect increasingly complex patient needs, through developing Integrated Care Pathway models. Portugal's disease model was designed to address the development of some chronic diseases, and established in 2008. Developed in compliance with the National Strategy for Quality in Health and the National Health Plan 2012-2016, the publication of Integrated Care Pathways started in 2013.

The Integrated Care Pathways are addressed to the different specific levels of care, and cover both chronic and acute disease phases. The pathways require effective co-ordination of medical and nursing directorates within hospital services, primary health care and long term care units. Pathway development starts with a pilot-team, and is then up-scaled through peer-to-peer training, clinical and organisational briefings, inter-level care meetings, and resource allocation strategies. It is too early to assess the impact of the Integrated Care Pathways, although it is expected that patient-centered care processes will improve, along with co-ordination of care and population risk stratification. There is also an expectation that the pathways will support greater synergy between funding, clinical practices, quality and safety.

Attention to quality at the clinical level is needed

The OECD health care quality indicators nevertheless show a mixed picture of health outcomes and care delivery in Portugal: avoidable admissions and obstetric trauma are low; while mortality following acute myocardial infarction (AMI) and after admission for ischemic stroke are higher and more worrying. For case fatality after admission for AMI,

Portugal has a marginally higher rate than the OECD average, at 8.4 per 100 admissions (over 45) compared to 7.9 for the OECD (2013 data). Case fatality after admission for ischemic stroke is higher in Portugal than is typical across the OECD; in 2011, case fatality per 100 admissions was 10.5 in Portugal, compared to 8.5 across the OECD. Low rates of obstetric trauma reflect positively on care quality in Portugal, but rates of surgical complication show a mixed picture; for two adverse events associated with surgery – post-operative pulmonary embolism or deep vein thrombosis in adults, and post-operative sepsis –Portugal shows good performance on the former, and rather poor performance compared to the OECD average on the latter.

This mixed picture suggests that no one area of the health system is particularly under-performing, but that closer attention to the quality of clinical care in some areas is needed, and additional drivers towards excellence may be called for. Given that there are some signs of variation in performance and clinical process, both between care domains and also between some regions for hospital-based care, efforts ought to be made to drive excellence system-wide. Two models for consideration are the development of sufficiently ambitious standards for all care providers, with support for weaker performers, or encouragement and support for those regions where outcomes are weaker to engage more fully in the accreditation process.

Promoting patient involvement and learning from patient feedback need to be a priority

Portugal has had a Patient's Charter (*Carta dos Direitos e Deveres dos Doentes*) since 1997, which provides official protection of patients in the NHS, and covers the main legal provisions around patient rights and obligations. The charter also sets the patient's responsibility to look after their own health, to comply with health system norms and requirements and avoid unnecessary expense for the NHS. In practice, though, patient involvement in health system decision making appears relatively weak. Strengthening the role of the patient in assuring and improving the quality of care should be a priority. This is in part because patients need to be better engaged with their health status, but also because satisfaction with the Portuguese health system has historically been low. In 2002 around 80% of the Portuguese population indicated they felt the system required either fundamental change or should be completely rebuilt, compared to an average 51% EU-wide. In 2015 however, the proportion of people reporting this sentiment was much lower, at around 54%.

The main way that patient feedback is facilitated in Portugal is through the SIM-Cidadão system, which collects complaints, suggestions and comments on the NHS. Patient associations also participate in working meetings with technical bodies of the Ministry of Health and political groups of the Parliament, to identify needs and strategies to improve access and quality in health care. Current mechanisms, though, appear weak. Collecting patient feedback is important, but such feedback is less effective if not regularly and publically reported. There is scope to move to provider- and doctor-level feedback. Reporting at this much more localised level can push providers and physicians to become more accountable to patient needs, and reflect on patients' perceptions of their strengths, weaknesses and unmet needs. In England, an online platform through which patients can rate and comment on the doctors they see has been set up. This platform – accessible through the NHS website NHS Choices (http://www.nhs.uk) – allows individuals to rate and comment on individual service providers, for example GP practices or hospitals, and is a model that Portugal could consider.

Another possible model can be found in Denmark, with the Sundhed.dk the Danish e-health portal, which includes the collection and distribution of information among citizens and health care professionals. This includes information on waiting times at all public hospitals and ratings of hospitals in terms of patient experienced quality. One of the other strengths of this platform is that it groups all patient-relevant information together, helping patient participation. In Portugal a "one stop shop" portal for patients, where they can have a maximum of their needs met and give provider feedback, is an initiative to strive for.

Improving the quality of primary care in Portugal

The fact that the Portuguese primary health system is already squarely turned towards measuring, assuring and improving quality will give Portugal a major head start in assuring high quality of care going forward. Looking to the future, Portugal's main priorities for the primary care sector will be, firstly, supporting and expanding areas of excellence and innovation, and, secondly, filling in some key gaps, notably around primary care-led prevention and co-ordination with other levels of care.

The Portuguese primary care system appears to be delivering high quality care

The primary care system in Portugal appears to be performing well, based on OECD indicators, with some examples of excellence and innovation backed up by a comprehensive national indicator system.

Avoidable admissions are well below the OECD average, in the best four countries for asthma and COPD, and the best eight for diabetes. Avoidable admissions fell between 2006 and 2011 across all indicators. Of more concern are antibiotic prescribing practices – Portugal prescribes a higher volume of antibiotics than is typical across the OECD, and of those a high proportion of cephalosporins and quinolones. Antimicrobial resistance and hospital infections are important concerns in Portugal, and various programmes to reduce antibiotic prescribing have been set-up, and seem to be having an impact.

Unlike almost all other OECD primary care systems, Portugal has almost an excess of available information in primary care, with widespread collection of a large number of indicators. It is increasingly possible to consult patient records from hospital in primary care settings and vice-versa. Based on population demographics and burden of chronic disease, for example diabetes, there is reason to expect that health needs will increase, that pressure on primary care will increase, and that budgetary constraints will continue.

Recent primary care system reforms have been innovative and successful

From 2007, the Primary Health Care Reform, which aimed to improve primary health care accessibility, efficiency, quality and continuity of care and increase the satisfaction of professionals and citizens, and an accompanying implementation plan – the Primary Health Care Mission – led to the establishment of a number of pilot Family Health Units (FHU). FHU are primary health care units made up of 3-8 GPs, the same number of family nurses, and a variable number of administrative staff, who were invited to volunteer to form self-selecting groups who would deliver primary care together. These teams have functional and technical autonomy and a payment system sensitive to performance that is designed to reward accessibility and quality, and a particularly comprehensive indicator set which measures performance and is tied to the payment system. FHU sit alongside old-style Primary Health Care Units (PHCU) are essentially clinic settings which group together varying numbers of GPs, paid through a fixed salary, who provide care to their patient list. FHU numbers have increased year-on-year, and the primary care system in Portugal is now split roughly 50-50 between the two models.

Family Health Units can be organised according to two different models – A, B – with a third model (C) which is in the process of being established. All FHU start as Model A, and can transition to Model B, gaining organisational independence, and increasing scope to be paid for additional

services and on performance components. In addition to the different levels of autonomy and payment systems between PHCU and FHU, there are some organisational differences. In some PHCU acute cases are treated in separate facilities, staffed by the GPs of the PHCC, with opening hours varying between three and 24 hours, depending on the location of the PHCU; in FHU acute cases are treated by GPs during their normal working hours. In most PHCU only medical consultations are scheduled; in FHU regular nursing appointments must also be scheduled. PHCU are also obliged to accept patients not registered with them, while FHU only accept patients from their registered patient list.

Strategic reflection on the balance of PHCU and FHU is now needed

Despite Portugal's generally high-performing system, in which sophisticated approaches to innovative delivery, organisation and payment appear to be delivering good returns, some challenges do remain. The disparity between the performance of PHCU and FHU on key quality indicators could be a cause for concern. The primary and community care sector in Portugal will – especially going forward – play a significant and growing role in providing health care for an ageing population characterised by a growing burden of chronic illnesses. Now is the time to make sure that excellent assurances of quality are in place across the primary care system, and that whole primary care is ready and moving towards its expanding role and responsibility for the health of the Portuguese population.

Portugal is arguably unusual in that it is effectively a two-model system, with quite different payment and measurement mechanisms across two different ways or organising primary care. While this is the result of significant innovation and bold – and apparently quite successful – reform in establishing the FHU, they appear to be outperforming PHCU consistently. This effectively means that half the population have access to care of a better quality than the other half. From the point of view of equity, but also for setting the strategic direction of the increasingly important primary care sector, a decision on the direction of FHU and PHCU needs to be taken. Portugal could consider two possible options: setting a date for the transformation of all PHCU to FHU, and/or introducing some of the quality/performance incentives included in FHU, to PHCU. It would seem that many aspects of the FHU payment structure – scope to negotiate for the provision of services, and to agree a certain set of objectives the achievement of which leads to additional financial incentives – could be introduced to PHCU without necessitating a total transformation to the multidisciplinary self-formed FHU model. This introduction would also give Portuguese authorities more leverage to push PHCU to achieve certain quality targets, and to push for the introduction of particular service

provision in line with the strategic direction for primary care, for example more prevention activities.

Maximise the contribution of primary care by fully exploiting available data and the primary care workforce, and promoting prevention

Beyond the need for broader strategic reflection on the direction of the primary care system as a whole, there are three areas to which further attention could be given: the use of the primary care workforce, fully exploiting available data, and making sure that primary care contributes to prevention and management of chronic diseases.

At present, concerns about the primary care workforce in Portugal have been primarily focused on GPs, of a shortage has been anticipated, which is expected to worsening as more GPs retire. Action has already been taken in this respect, with efforts to increase available training places for GPs, but a closer look at the contribution of nurses working in primary care is needed. Portugal has a low number of practicing nurses (6.1 to OECD average of 8.8) and a low ratio of nurses to physicians (1.5 compared to OECD ratio of 2.8). In primary care nurses appear to be under-supplied and under-utilised also, despite Portugal training and exporting large numbers of nurses each year. A fuller application of nurses' skills and competencies, and moves towards a good balance of nurses and GPs, seems to have already started in FHU, where an equal number of nurses and physicians are required, and appointments can be scheduled with nurses directly. Additionally, a family nurse qualification has already been established in Portuguese law – which would give nurses a patient list, and would involve developing some further activities alongside physicians – but is not yet in operation. There are potentially significant gains to be had from Portugal moving ahead with the development of this family nurse role, which could bring cost-saving benefits and could strengthen the capacity and quality of primary care provision if family nurse responsibilities are developed appropriately. As Portugal looks to establish what services family nurses should deliver, and the tasks they should be allowed to perform, there are real opportunities to look to the success of other OECD countries – England, Denmark, Sweden – in the development of similar nursing roles.

Second, although Portugal is extremely advanced in collecting quality information from primary care, to build on this impressive based, improving data linkage, and increasing the use of quality data in self-evaluation by health professionals, are two key areas for Portugal to consider. The better linkage of data is one of the steps Portugal should take to get the maximum utility out of its already very rich data source for primary care. The quality information for primary care collected in Portugal is already actively

exploited to track improvements, and for the FHU to check progress against set indicators and for Model B to set financial incentives. This data usage is very positive, but could go further, with more embedding of data usage by practitioners to track care quality and their own performance and outcomes. There are different ways that this could be approached, for example through benchmarking in the style of the Danish DAMD system, or physician-level quality reports.

The third challenge for Portuguese primary care will be contributing to a wider and more robust prevention effort. A number of worrying indicators suggest an urgent need for better prevention: diabetes prevalence is high (9.8% compared to OECD average of 6.9%), child obesity is rising fast, adult obesity is lower but also rising, female smoking rates are reportedly increasing after a period of decline. The Portuguese government is clearly aware of this challenge, and of the weakness of current prevention approaches, and going has committed 10% of the health budget to prevention, particularly impressive at a time when other countries appear to be cutting prevention spending. However, primary care-led prevention efforts at present appear patchy, and effective interventions should be embedded in primary care practice – led by GPs or family nurses – systematically and across both PHCU and FHU. Incentives for primary care providers to deliver more prevention activities could likely be introduced through existing contracting and performance reward structures, at least for FHU. The scope to incentivise a more robust prevention role from PHCU should be carefully considered by the Portuguese authority; it may be that this more rigid model of care delivery means that there is less possibility of incentivising changing services based on changing population needs.

Improving the quality of hospital care in Portugal

Portugal has committed significant efforts to reorganising the hospital sector and improving quality of acute care across in recent years. These efforts – specialisation and concentration of hospital services, new models of hospital management and payment systems, developing quality and safety standards as well as supporting hospital benchmarking – demonstrate that Portugal is moving toward a more streamlined and efficient hospital system. Despite this, some challenges do remain, particularly around the need to implement more efficient clinical processes, to better exploit the capacity of primary and community care in delivering non-acute care outside of hospitals, a need to review the incentives system linked to hospital performance, and to evaluate the impact of hospital reforms on clinical outcomes and care standards.

An ambitious programme of reforms has been undertaken in the hospital sector

Over the past decades, Portugal has pursued a number of reforms to rationalise its hospital sector through promoting greater specialisation and concentration of hospitals services. Consolidation across the hospital sector started from the early 1990s and is an ongoing process characterised by the the concentration of hospital services into fewer, larger hospital centers and groups. As a result, the number of hospitals in Portugal has dropped from 634 in 1970 to 67 in 2008 and the per capita bed density fell by 16.5% between 1990 and 2011. Alongside this horizontal integration, Portugal started vertical integration from 1999 with the creation of Local Health Units (*Unidade Local de Saúde*, ULS). ULS constitute groups of NHS health care providers that should integrate hospitals and primary care centers in the same geographical area. By improving multi-disciplinary co-operation, ULS are seen as central to meeting the challenge of providing effective and co-ordinated care for patients with multiple needs. In 2014 there were eight ULS in Portugal.

At the same time, new models of hospitals management have been introduced with the development of Public Private Partnerships (PPP) and the transformation of NHS hospitals (also known as SPA hospitals) into Incorporated Public Hospitals (also called SA hospitals), later transformed into Public Enterprises (called EPE hospitals). Starting from 2002, the creation of PPP hospitals and the transformation of public hospitals into public enterprises gave more managerial and financial autonomy to hospitals. The overarching aim of the reform was to improve hospital management and increase quality of hospital services to increase accountability to hospitals boards to improve quality of hospital services. A new payment system for hospitals has also been introduced through the setting-up of a contracting programme (the so-called *Contratos Programa*), which provides an explicit separation between the purchaser and the provider of hospital services. Prospective global budgets based on these negotiated contracts are allocated to NHS public hospitals. The global budget is made up of an activity-based prospective payment model involving systematic DRG grouping and case-mix adjustment for inpatient and ambulatory surgery (the DRG component accounts for nearly 50% of hospitals financing), while the remaining hospital revenue comes from fee-for services (for outpatient and emergency visits), bundled payments (for some chronic conditions), and some quality-based payments.

The reorganisation and rationalisation of the hospital sector is an ongoing process, on the agenda until at least 2015 as part of the National Targets for Hospitals Reorganisation. As part of this, eight initiatives have been set-up,

including financing policy, governance models, reinforcement of the citizen's role, and improving quality and integration of care. From 2011, each hospital must establish a three-year action plan for hospital reorganisation with the Regional Health Authority so that reform implementation can be continuously monitored by regional authorities. Overall, the results of the past and ongoing hospital reforms have been found to be positive, with successes both at exploiting quality, and at increasing efficiency. Based on available evidence, good progress has been made through reducing average lengths of stay, increasing day-case surgery, reducing waiting times and readmission rates. At present for example, almost 100% of Portuguese patients have their cataracts replaced as day cases.

Portugal displays a mixed picture on indicators of quality of care in hospitals compared with other OECD countries

Portugal reports impressive improvements in cardiovascular health, including a two-thirds reduction in stroke deaths, with mortality falling from 330.1 deaths per 100 000 population in 1990 to 97.2 in 2011, the third largest fall in the OECD. Similarly, mortality rates from ischemic heart disease are the fourth lowest among OECD countries (after Japan, Korea and France) with 52 deaths per 100 000 population. Although much of this success can be ascribed to public health initiatives, some of these gains will come from improvements in acute clinical care. Other acute care indicators however suggest concerns in the quality of hospital care. Portugal's in-hospital case fatality rates within 30 days after admission for ischemic stroke is one of the highest among all OECD countries, with an age-sex standardised rate of 10.5 per 100 admissions compared to 8.5 per 100 admissions across OECD countries, for example. Portugal also displays a poorer performance than other OECD countries with regard to delays before surgery and patient safety events such as high rate of health-care associated infection (HCAI). In 2012, the HCAI prevalence was about 11% of in-patients, well above the EU average of 6%. And although Portugal has successfully reduced the number of caesarean sections (C-section), Portugal had in 2013 the fifth highest rates of C-section deliveries amongst OECD countries with more than a third of live births delivered using this clinical procedure (at present C-section rates in Portuguese public hospitals are at 28%).

Quality governance has been strengthened in the hospital system through a number of initiatives

Over the past years, Portugal has instituted an impressive number of quality initiatives to strengthen quality governance in the hospital system. The Department of Health Care Quality (*Departamento da Qualidade na Saúde*, DQS) at the Directorate-General of Health (*Direcção-Geral da*

Saúde, DGS) has developed and implemented quality standards and accreditation (e.g. the ACSA accreditation programme), introduced several programmes around patient safety and adverse events (e.g. the National System of Notification of Incidents and Adverse Events, or the Project Safe Surgery Safe Lives), and hospital performance has also been linked to payment system by means of an impressive information infrastructure developed in 2013 by the *Administraçao Central de Sistema de Saúde* (ACSS). The architecture of the hospital information infrastructure is nationally standardised, enabling the monitoring of hospitals outcomes on an ongoing basis for all NHS hospitals, by hospital and by region. Clinical outcomes of hospital services, and economic and financial performance of hospitals, are available on a monthly basis to hospitals providers and users. The richness of the data infrastructure makes possible to explore areas that may require improvement with respect to both quality and efficiency. The system encourages regular dialogue between hospitals at regional or more local level, which proactively support the diffusion of best practice processes from the top to the least performing hospitals or regions.

Given concerns over performance on some acute care quality indicators, Portugal's priorities must be to develop these quality initiatives further. First, there is scope to expand the coverage of the ACSA accreditation model more widely across the country, since at present only 22% of hospitals are involved in the programme. To this end, Portuguese authorities and its regional agencies might consider establishing strategies to support and guide regions or hospitals in the implementation of the clinical standards and the accreditation scheme. As seen in Australia, support strategies can include accreditation workbooks, implementation guides for each standard, a telephone and e-mail advice centre and mediation service for health services.

Second, Portugal should encourage the adherence to agreed standards of care and recommended the use of core clinical guidelines in the hospital system to optimise clinical outcome and resource use, and to further reduce variability in clinical practice. To push forward the implementation of recommended clinical practice guidelines at a micro level, audits conducted by the DGS should be backed up with feedback to hospital providers, and also linked to well-designed financial incentives or sanctions. Progress in this direction is, encouragingly, underway: the DGS plans to introduce economic incentives and sanctions for good or poor adherence to clinical practice guideline in the coming year. At the same time, the network of Quality and Safety Commissions in each hospital or hospital centre is a commendable development that will surely help to ensure that more effective and efficient clinical processes are being implemented.

Going further on the rationalisation of the hospital sector by shifting more care away from hospitals and into the community

Despite many efforts to rationalise its hospital system, Portugal still needs to reduce its dependency on the hospital sector for the provision of certain medical services. Based on available evidence, 42% of in-hospital emergency visits could have been dealt in the community or in primary care settings. In a similar vein, patients often face unnecessarily prolonged hospital stays; and hospital discharge for chronic and long term conditions (such as cardiovascular disease or cancer) are well below the OECD average. At 6.9 days in 2011 for example, Portugal reports long average length of stay in hospitals for AMI compared to the OECD average of 7.9 days. The hospital discharge rates for cardiovascular disease were at 13.2 per 1 000 population which is well below the OECD average of 19.6.

Taken together, these figures may signal poor capacity in the community to provide rehabilitative or other non-acute care services to patients upon discharge from hospital. There is therefore a strong argument to be made to develop capacity at primary and community levels to better promote effective, safe and patient centered care while continuing the rationalisation of the hospital system. The National Network of Integrated Continuous Care (*Rede Nacional de Cuidados Continuados Integrados*), which has been primarily developed to deliver more co-ordinated care for the elderly in need of long-term care could play a larger role in such a process, and should be further developed to promote community-based facilities for rehabilitative and post-acute care. The development of "intermediate care facilities" in Norway could be a model for Portugal to consider as part of shifting non-acute care away from the hospital sector. These new facilities have a key responsibility in taking care of patients upon discharge from hospital, or where there is a risk of admission to hospitals when the condition could be appropriately managed at a lower intensity care setting. New models of emergency care should, lastly, be encouraged, especially for complaints that could be managed in primary or community care. Developing primary care models of emergency care (as seen in England, New Zealand, Iceland, or Canada), as well as developing fast-track system (as seen in France, United Kingdom, the United States or Canada), are possible avenues for reducing emergency department attendances and more efficiently managing the demand for emergency care.

There are opportunities to better use the hospital information infrastructure

While Portugal has rich data on hospital activities and hospital outcome of care, financial incentives linked to the quality of hospital services remains

relatively modest in Portugal: 5% of the hospital revenue is related to hospital quality or performance indicators such as readmission rates, discharge rates, use of day-case surgery or rates of hip surgeries performed within 48 hours. Although this arrangement represents a successful reform to increase accountability and to drive quality improvement in the hospital system, there is room to better link payment to the desired hospital outcomes of care. First, the proportion of hospital revenue linked to quality of acute care might be increased beyond the 5% level. Second, there might be scope to extend the number of incentivised activities to target areas of poor performance (such as care for AMI, surgical complications as well as care co-ordination between hospital and community-based facilities). The experience from other OECD countries (including Japan, Korea and the United States) should inform development of candidate indicators to be linked to hospital revenue. Collecting and reporting indicators around AMI 30-day case fatality, timeliness of percutaneous coronary intervention (PCI) upon arrival at hospital, as well as around potentially preventable conditions such as foreign body left during a procedure or the use of post-discharge protocols between levels of care; and linking hospital revenue to these indicators is worth considering as an option to encourage continuous improvement in the hospital system.

There is also room to better use the extensive hospital information infrastructure to evaluate the success of the current hospitals reform on quality of acute care. While Portugal has undergone a series of structural changes in the delivery of hospital services over the past two decades, few studies have been carried out to evaluate the effect of the specialisation reform and the impact of the new models of hospitals management. Having established a comprehensive and standardised information infrastructure for hospitals, central government and regional authorities should now ensure that the ongoing reform is monitored and evaluated across all regions. Evaluation of hospital reforms would be critical at central and local levels to drive improvement in quality of care, and learning from successes and failures. At local level, monitoring and evaluating hospital reforms would inform future decisions regarding the establishment of the detailed strategic 3-year plans for each hospital; while at central level evaluation would provide valuable information to revise clinical processes or models of care where necessary.

Increasing value for money whilst improving quality

The suite of initiatives described in earlier sections that aim to deliver quality and efficiency gains is well-designed and should be maintained. Certain areas have been slower to deliver results than others however. Above average lengths of stay for some episodes of care (such as after a

heart attack) and high volumes of non-generic and inappropriate prescribing (such as second line antibiotics) are good examples of areas that remain to be addressed. It will be important to maintain and go further on the performance regimes in both acute and community care. Further structural reform to where and how care is delivered is needed, with an emphasis on shifting care out of hospitals into less-expensive community settings.

Whilst keeping these structural reforms in play, however, Portugal's next challenge will be to shift lens and simultaneously focus on clinical processes and pathways. Achieving more efficient use of the workforce will be particularly critical, since this is where the biggest spend is. The challenge should not be underestimated – changing practices and behaviours at the bedside may well prove more difficult than earlier structural reforms.

Attempts to influence clinical processes have had uneven results and need to go further

As described in earlier sections, a comprehensive and sophisticated set of measures has led to Portugal demonstrating quality and efficiency gains in many areas of its health system. Reforms around payment systems, performance management, concentration and differentiation of functions have been introduced in the hospital sector. Primary and community care has seen the introduction of Family Health Units and the introduction of the *Rede Nacional de Cuidados Continuados Integrados*.

A particularly comprehensive and sophisticated set of measures has led to Portugal exhibiting one of the sharpest declines in pharmaceutical expenditure in recent years, of 5.9% between 2009 and 2011, compared to a 0.9% reduction across OECD countries on average. The Ministry of Health exercises its monopsony powers by setting an annual limit on total pharmaceutical spend (as a percentage of GDP), and uses countries with the lowest purchase prices for each drug (such as Spain, France or the Slovak Republic) as the reference point from which to begin negotiations. In addition, the Ministry settled several agreements with the pharmaceutical industry in order to contain public expenditure on medicines and is currently negotiating a new tax on pharmaceutical sales – in effect, a fiscal claw-back.

Use of pharmaceuticals, however, illustrates an area where valuable structural reforms have not always been matched by changes in practice at the bedside. Substantial scope for further efficiency gains in prescribing exists. Portugal still falls behind other OECD countries such as Germany or the United Kingdom with respect to the share of generics in the pharmaceutical market, for example.

Portugal should ensure that the gains realised through centralised purchasing are not lost at the point of prescribing by backing up guidelines with regular audits of adherence. Use of antibiotics in ambulatory care would be one example of an area to target, given that Portugal exhibits high overall prescribing volumes – and high relative volumes of second-line antibiotics – compared to other OECD countries. Audits should be backed up with individualised feedback to clinicians and managers, matched with appropriate incentives and sanctions. Guidelines also need to be accompanied by clinical information and decision aids oriented toward patients. Currently, there are few decision aids for patients, and patient empowerment is still in its infancy in Portugal. A promising initiative to help patients better understanding evidence-based recommendations, and support them in demanding high-quality and good value care, is the Choosing Wisely initiative.

Further structural reform to where and how care is delivered is needed

Similarly, although Portugal displays some impressive figures in terms of expanded day case surgery, average length of stay (ALOS) in other clinical areas is longer than in most other OECD countries. In Portugal, ALOS after a heart attack is 7.3 days; in Denmark it is 3.9 days. ALOS after a hip fracture is 14.0 days in Portugal (2013 data); in Denmark, Sweden and Norway equivalent figures were less than ten days. Overall, it has been estimated that 30% of hospital activity in Portugal could be done in the community, and around EUR 20 million save a year by transferring more nursing care out of hospitals.

Portugal has the opportunity to use the community and long-term care sector differently, relieving pressure on hospital sector. Closer co-ordination between the acute and non-acute sectors is required, particularly across acute and long-term care services. The recommendations recently published by the National Commission on Co-ordinated Care, address this issue. Work should proceed to prioritise and cost these recommendations and implement the most immediately feasible. One promising line of activity early on would be to support early discharge after hip fracture or stroke, given possibly long lengths of stay for these episodes of care. Sweden has pioneered the early discharge model of care which is associated with improved recovery, reduced odds of death or dependency and increased patient satisfaction.

There is also potential to further differentiate and concentrate hospital services. There is, for example, no up-to-date national cardiology network at present. Addressing this will reduce slack around technically demanding and expensive procedures such as CABG. The large geographic variation across Portugal in rates of CABG underlines the importance of rationalising

activity in this area. Comprehensive consolidation plan covering all hospital specialties and procedures should be pursued, along the lines of reforms in Denmark. Some initiatives are underway in this area, such as updating clinical service networks. It will be important to ensure initiatives to concentrate services should be led by the relevant professional groups – with full public consultation – to allay concerns of worse access. In Denmark, clinicians' leadership was felt to be critical to the success of plans to concentrate services into fewer centres

Portugal's health care workforce could be used in a more efficient manner, and deliver better care

Key to shifting care, and indeed to securing quality and efficiency gains more widely, will be to use the Portuguese health care workforce more effectively. In the first instance, nurses will also have to move to work in the community if more care is to be delivered outside of the acute care setting. 75% of Portugal's nurses work in hospitals. This may be too many if the broader system ambition is to reduce dependence on the hospital sector. Within the Portuguese system, an expanded nursing and midwifery role could be expected to lead to gains in reduced rates of caesarean section or health care associated infections, two quality and efficiency issues that were identified earlier. Nurses may also be in a better position to co-ordinate the early discharge of patients (after stroke, heart attack or falls, for example) and thereby reduce length of hospital stay.

Portugal should look to define a case-manager role within its health system. Rigid definition of the professional to fill that role is less important, as long as they have, or can be trained in, the appropriate knowledge and skills. In several OECD countries, nurses take on this role and case-manage patients with dementia, COPD, diabetes or other complex long-term conditions in close liaison with the patient's medical team. Portugal already has operates a similar model which could be replicated more widely – most patients with diabetes have a named primary care nurse who is responsible for annual checks, patient education and other aspects of case management. It would make sense, then, to start exploring the potential of case managers with this group of patients, particularly given the complexity and burden of diabetes in Portugal.

Extensive international evidence is available to support the sharing or transfer of roles traditionally performed by doctors to nurses. Germany's AGnES programme is a successful illustration of supporting nurses to take on a wider range of roles in the community. There, nurses have been given additional training to visit patients with reduced mobility at home and carry out checks and other aspects of chronic disease management. A key feature

is that video-conferences with a supervising doctor are enabled for more complex cases.

Reforms to the governance and regulation of care would also offer efficiency gains

There are also opportunities to introduce new reforms around the governance of health care in Portugal. A clear opportunity exists to use the Portuguese regions more effectively. They currently have few functions, some of which are to some extent replicated centrally. In a small country such as Portugal, these functions could be managed entirely from the centre. Instead, the Regions should devote their energies to "hands-on" quality improvement activities that central authorities might find difficult to perform. These would include identifying and spreading excellence, as well as supporting underperforming units to do better. In particular, regions could play a valuable role in learning from complaints. Portugal has a good national system for reporting and learning from major adverse events, but gathering learning from near misses and complaints is less robust. Regions could help improve reporting and learning here, in a bottom-up approach.

A better understanding of regional variation is needed

Finally, there are opportunities to achieve a better understanding of regional variation in clinical processes and outcomes, such as health care associated infection (HCAI) rates, or fatality after heart attack or timeliness to hip fracture surgery. It would be instructive to identify service and contextual characteristics that are associated with variation, in order to identify where targeted quality improvement initiatives are needed. Portugal has undertaken this type of analysis to explore determinants of geographic variation in caesarean section rates, but it could be done more extensively across a wider range of clinical areas.

Analysis is also needed on extent to which observed variation reflects lapses of quality. In particular, the costs associated with these potential lapses in quality have not been estimated. These figures need to be estimated more precisely, ideally at local level. That would give health service managers the information they need to plan and manage local services, building a business case for more infection control staff, for example. As a cross-cutting recommendation, Portugal should ensure that data are made accessible to patients so that they have the quality-related information they need to be able to exercise choice.

Recommendations for improving health care quality in Portugal

The Portuguese health system has shown a high-level commitment to continuously improve quality and maintain a universal public system, despite recent financial strains. An ambitious programme of structural reforms and a well-designed suite of quality initiatives have been implemented to bring both quality and efficiency gains. For Portugal, the next steps will in large part be about broadening, deepening and standardising reform efforts already started. In particular, Portugal should:

1. Strengthening the quality governance in the Portuguese health care system:

- Give further attention at a micro level to the quality of care, reflecting on identified areas of weakness such as some surgical adverse events and case fatality after stroke, to ensure that every clinical encounter in all care setting embodies international best practice.
- Consider ways to push care providers towards higher standards of care, and support engagement of weaker performers in quality improvement activities such as hospital accreditation processes.
- Gather, and make better use of, patient feedback, considering ways to move to more provider- and doctor-level feedback to improve patient involvement, increase accountability to patients, and as a central quality improvement model.

2. Improving the provision of primary care service:

- Strategically reflect on the balance of PHCU and FHU, and the direction of the primary care system as a whole, as a priority. High performance by FHU has created a quality disparity within the system, and to correct this all primary care providers should be pushed to deliver higher quality care.
- Consider, as a way of moving the primary care system forward, either setting a date for the transformation of all PHCU to FHU, and/or introducing some of the quality and performance incentives included in FHU, to PHCU.
- Ensure that the potential of the valuable contribution of nurses to the primary care sector is fully harnessed, and that a good balance between nurses – possibly with enhanced competencies – and GPs, and other primary care staff, is struck.
- Maximise the dividends of the sophisticated data system, through improving data linkage, and promoting the use of data by physicians to evaluate the quality of their own care, as demonstrated by the Danish DAMD system for example.
- Strengthen primary care-led prevention efforts, ensuring that effective prevention programmes are embedded across PHCU and FHU, using existing contracting and performance reward structures for FHU to encourage prevention activities.

3. Improving the quality of hospital care in Portugal:

- Expand the coverage of the ACSA accreditation model and of the other accreditation processes across Portugal by providing more support to regions and hospitals. Support might include accreditation workbooks, implementation guides for each standard, a telephone and e-mail advice centre, or mediation service for health services.

Recommendations for improving health care quality in Portugal *(cont.)*

- Encourage the adherence to agreed standard of care and recommended clinical guidelines. Audits conducted by the DGS should be backed up with feedback to hospital providers, and linked to well-designed financial incentives or sanctions.
- Better exploit capacity at primary and community care level to provide rehabilitative or other non-acute care services to patients upon hospital discharge. Further development of the National Network of Integrated Continuous Care should be encouraged, as well as considered of intermediate care facilities, following Norway's example.
- Reduce non-appropriate emergency department visits and manage the demand for emergency care more efficiently by experimenting with models of emergency care delivered in primary care settings.
- Extend quality-linked payments in the hospital system by i) increasing the proportion of hospital revenue linked to performance and quality beyond the 5% level, and ii) extending payments to priority areas such as in-hospital care for AMI, surgical complications, and care co-ordination between hospital and community care.
- Better use the extensive hospital information infrastructure to evaluate the success of the current hospitals reform and monitor its impact on quality of acute care over time.

4. Increasing value for money whilst improving quality:

- Ensure that the gains realised through smarter purchasing of pharmaceuticals are not lost at the point of prescribing by backing up guidelines with regular audits of adherence. Guidelines also need to be accompanied by clinical information and decision aids oriented toward patients.
- Further differentiate and concentrate key hospital services such as cardiology. Addressing this will reduce slack around technically demanding and expensive procedures such as CABG.
- Use the regions more effectively. Regions should devote their energies to "hands-on" quality improvement activities such as identifying and spreading excellence, supporting under-performing units, and learning from near misses and complaints in a bottom-up approach.
- Resolve the contractual and training obstacles to nurses adopting an extended scope of practice. Priorities would be to seek reduced rates of caesarean section or health care associated infections, two important quality and efficiency issues for Portugal at the current time.
- Define a case manager role within its health system. It would make sense, to start exploring the potential of case managers with these diabetic patients, given that these individuals are already allocated a named primary care nurse.
- Better understand regional variation in clinical processes and outcomes, such as health care associated infection (HCAI) rates, in order to identify the contextual characteristics associated with better or worse performance, and where targeted quality improvement initiatives are needed.

Chapter 1

Quality of care policies in Portugal

Overall, the Portuguese health system appears to be delivering high quality care at a low cost. Outcomes across primary and hospital care are generally good, and expenditure on health is relatively low, below the OECD average for per capita spending. Portugal has a robust quality architecture, for the most part extending across the health system, which should be commended. In many respects, Portugal is a leader amongst OECD peers. Best practice examples can be found in the Portuguese health system monitoring and information infrastructure, and the use of clinical guidelines for complex patient needs.

However, room for improvement remains and some areas of weakness can be identified, and some existing initiatives can taken further or made more rigorous. Areas for attention include surgical interventions, case fatality after admission for ischemic stroke, and accreditation for hospitals. There are other areas, notably continuing medical education and development, and patient involvement where efforts will need to be scaled up.

1.1. Introduction

Quality issues have gained importance across all OECD countries as governments and the public increasingly focus on what is being delivered in exchange for major public investments in health care.

This chapter seeks to profile the key policies and strategies that Portugal has used to encourage improvements in the quality of health care. Overall, the Portuguese health system appears to be delivering high quality care at a low cost. Outcomes across primary and hospital care are generally good, and expenditure on health is relatively low, below the OECD average for per capita spending.

The fact that Portugal has managed not only to keep health outcomes good, but has also maintained a tight focus on quality in health system policy and practices, is likely testament to the central position quality has been given in planning and service delivery for a number of years. Portugal has a robust quality architecture, for the most part extending across the health system, which should be commended.

Nonetheless, space for improvement remains and some areas of weakness can be identified. This chapter makes several recommendations for areas where more progress can be made with existing initiatives taken further or made more rigorous, as well as identifying some aspects where quality efforts will need to be scaled up.

The description of policies in this chapter is structured according to a framework for categorising quality policies detailed in Table 1.1. After providing initial background information, this chapter will address the legislative framework and governance for quality of care in Portugal; the quality assurance of health system inputs (such as health care professionals, technologies and health care services); policies for monitoring and standardising quality of care; and the extent and impact of patient involvement in the health system.

Box 1.1. Overview of the Portuguese health system

Overview of the Portuguese health system

The Portuguese National Health Service (NHS) is a publically governed and publically and privately provided health system, that provides coverage for the entire population. Past decades have seen some changes in the governance, financing and organisation of the health system, as well as some key changes in population health and burden of disease.

Health policy, oversight and implementation is led by the central government through the Ministry of Health. The Ministry is responsible for regulation, planning and management of the NHS, as well as regulation, auditing and inspection of private health providers. The Ministry of Health is made up of several institutions, some of which are under its direct administration (e.g. the Directorate-General of Health – DGS ; General Inspectorate of Health-related Activities – IGAS), some under indirect administration (e.g. Central Administration of the Health System – ACSS, National Authority of Medicines and Health Products – INFARMED), some organisations with public enterprise status, a Health Regulatory Agency and a consultative body, the National Health Council (CNS). Though the Portuguese health system follows a strong central governance and financing model, five health regions have been established since 1993: North, Centre, Lisbon and Vale do Tejo, Alentejo, and the Algarve. The regions each have a health administration board, answerable to the Minister of Health, and take responsibility for management of population health, supervision of hospitals, and direct management of primary care and public primary care providers. The RHAs are responsible for the regional implementation of national health policy objectives and co-ordinating all levels of health care, following regionally set health plans and directions from the Ministry of Health.

Health service delivery is through a mix of public and private providers, with public provision dominant in the primary care and hospital sectors. Access to hospitals and publically covered specialist services is controlled by gatekeeping at primary care. Up to a quarter of the population are covered by supplementary private insurance, through health subsystems and voluntary health insurance (VHI), which mainly covers pharmaceutical products, diagnostic technologies, and consultations with physicians working as private practices.

The Portuguese health system is funded mostly through taxes, but also with a relatively considerable rate of costsharing through copayments. The health subsystems (providing comprehensive or partial coverage) are financed through employee and state contributions. Copayments for health services are relatively high in Portugal – 32% in 2012, with an increase of 4.5% between 2007 and 2012 –, although the recent push to introduce a greater proportion of generics has brought down the price of many pharmaceuticals, a cost covered in part by copayments. Exemptions to cost sharing are also in place for a large proportion of the population (over 65s, children, unemployed populations, those with certain chronic conditions). A number of changes to the payment of providers have been made in recent years, with the aim of improving system performance. Notably, public-private partnerships (PPPs) have been introduced for some hospitals, primary care has been reorganised into networks of providers (ACES) including some new clinics with a performance based payment component, and the creation of long-term care networks.

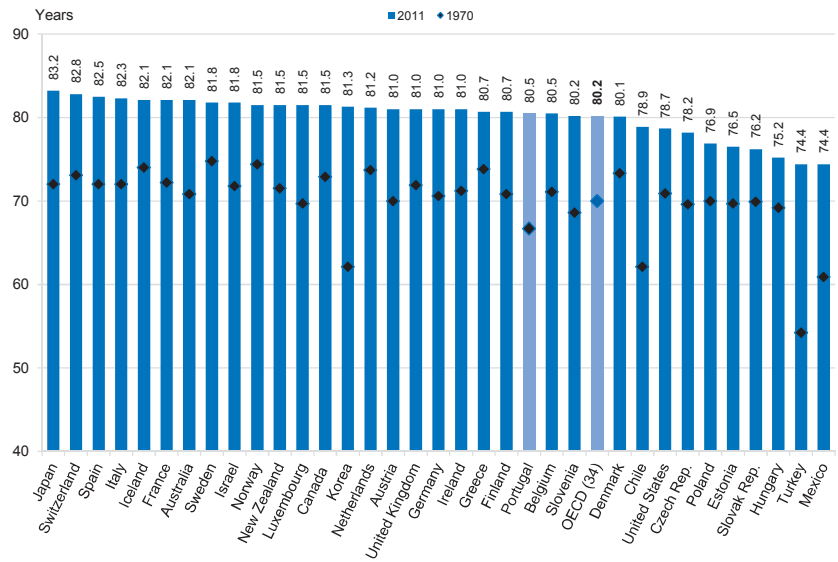
Source: Barros, P., S. Machado and J. Simões (2011), "Portugal: Health System Review", *Health Systems in Transition*, Vol. 13, No. 4, pp. 1–156; OECD (2013), *Health at a Glance 2013: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2013-en; OECD (2014), *Health at a Glance: Europe 2014*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance_eur-2014-en.

1.2. The Portuguese context

Portugal generally performs well on available indicators, with relatively low levels of health spending

Life expectancy in Portugal has improved considerably in the past four decades, rising from 66.7 years in 1970 – well below the OECD average of 70 years in 1970 – to 80.5 years in 2012, above the OECD average of 80.2 (OECD, 2013a). This considerable improvement can be attributed to expanded health coverage and investment in health care, and improved living standards. Infant mortality has also fallen significantly: Portugal recorded 55.5 deaths per 1 000 live births in 1970, falling to 3.4 in 2012 (OECD, 2013a).

Figure 1.1. Life expectancy at birth, 1970 and 2012



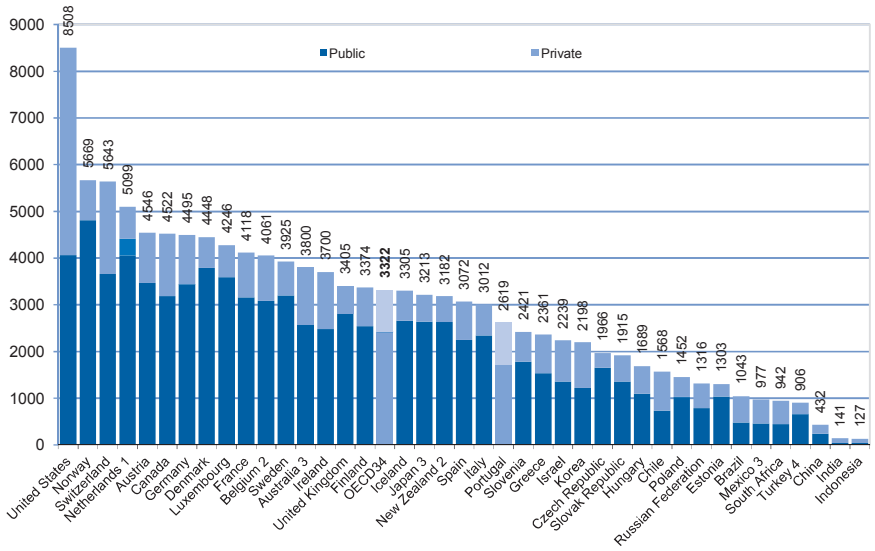
Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Prevalence of chronic diseases such as cardiovascular disease is rising as elsewhere in the OECD, although the mortality rate is low and falling: mortality from ischemic heart disease fell by 55% between 1990 and 2011; cerebrovascular disease mortality also fell by 71% across the same period, but is higher in Portugal than the OECD average, at 97 deaths per 100 000 compared to 69 OECD wide (OECD, 2013a). Mortality from cancer is relatively low and also

falling. Prevalence of diabetes is amongst the highest of OECD countries, lower only than in Mexico. Portugal also has one of the highest prevalence of HIV infection in Europe.

Health spending per capita in Portugal is relatively low compared to other OECD countries, at USD PPP 2 619 per capita in 2011, compared to an average USD PPP 3 322 for the OECD; as a percentage of GDP health spending in was 10.2%, higher than the OECD average of 9.3%. Between 2009 and 2011 health spending in Portugal fell by 2.2%, after over a decade of gradually rising spending, following the financial crisis.

Figure 1.2. Health expenditure per capita, 2011 (or nearest year)



1. In the Netherlands, it is not possible to clearly distinguish the public and private share related to investments.

2. Current health expenditure.

3. Data refers to 2010.

4. Data refers to 2008.

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en; WHO Global Health Expenditure Database.

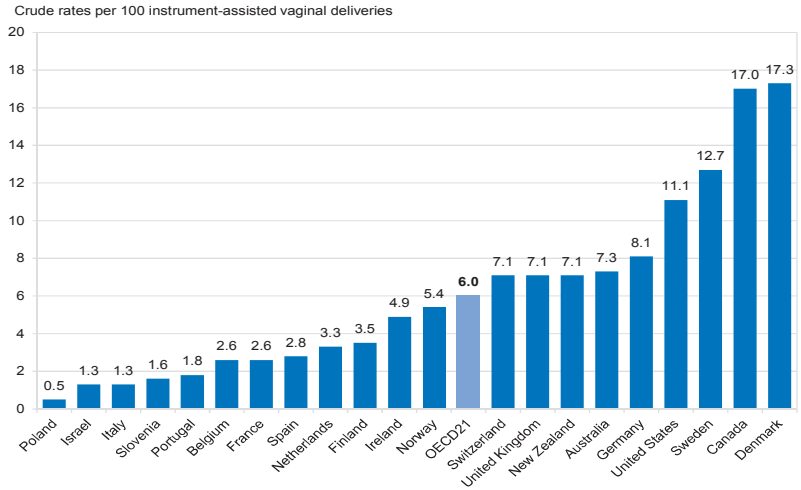
Quality indicators show a mixed picture of outcomes and care delivery

The OECD health care quality indicators show a mixed picture of health outcomes and care delivery: avoidable admissions and obstetric trauma are low; meanwhile mortality following acute myocardial infarction and after admission for ischemic stroke are more worrying. Rates of surgical complication show a mixed picture. Avoidable hospital admission rates for chronic conditions – an indirect measure of the quality of primary care – are well below the OECD average, in the best four countries for asthma and COPD, and the best eight for diabetes (see Chapter 2). These indicators suggest that the Portuguese primary care system is helping to secure good quality care.

Patient safety in hospitals is an issue of major concern, and a central component to the delivery of high quality care. Outcomes and errors associated with certain procedures in hospital settings can be taken as markers of patient safety (OECD, 2013a). Notably, rates of obstetric trauma and rates of surgical complications can be taken as patient safety measurements. Such measures indicate the occurrence of *adverse* events for the most part (events which can never be fully avoided given the nature of some procedures, although increased incidence at an aggregate level may indicate a systematic failing), and also sentinel events that should never occur for example in the case of a foreign body left in during a surgical procedure.

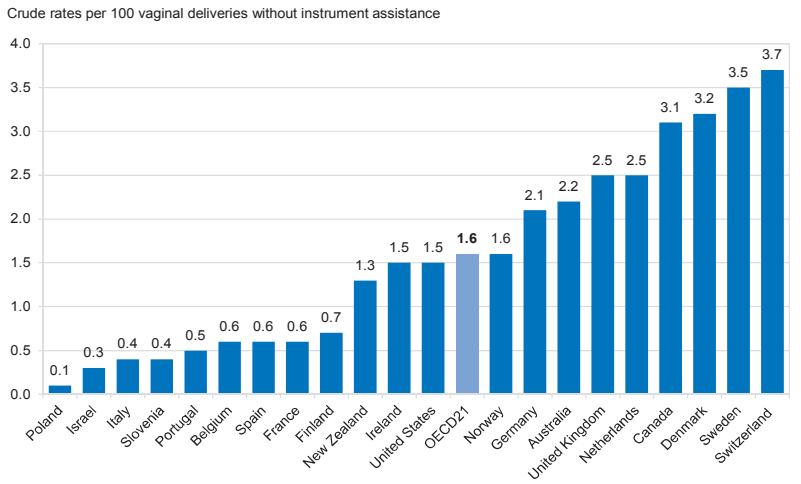
Low rates of obstetric trauma also reflect positively on care quality in Portugal. Obstetric trauma during delivery is considered a good indicator of patient safety during childbirth, with research suggesting that employing appropriate labour management and high quality obstetric care can help prevent potentially avoidable tearing of the perineum during vaginal delivery, which risk short and long term complications (OECD, 2013a). For rates of obstetric trauma concerning vaginal delivery with and without an instrument, Portugal had a rate well below the OECD average (Figure 1.3 and Figure 1.4).

Figure 1.3. Obstetric trauma, vaginal delivery with instrument, 2011 (or nearest year)



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

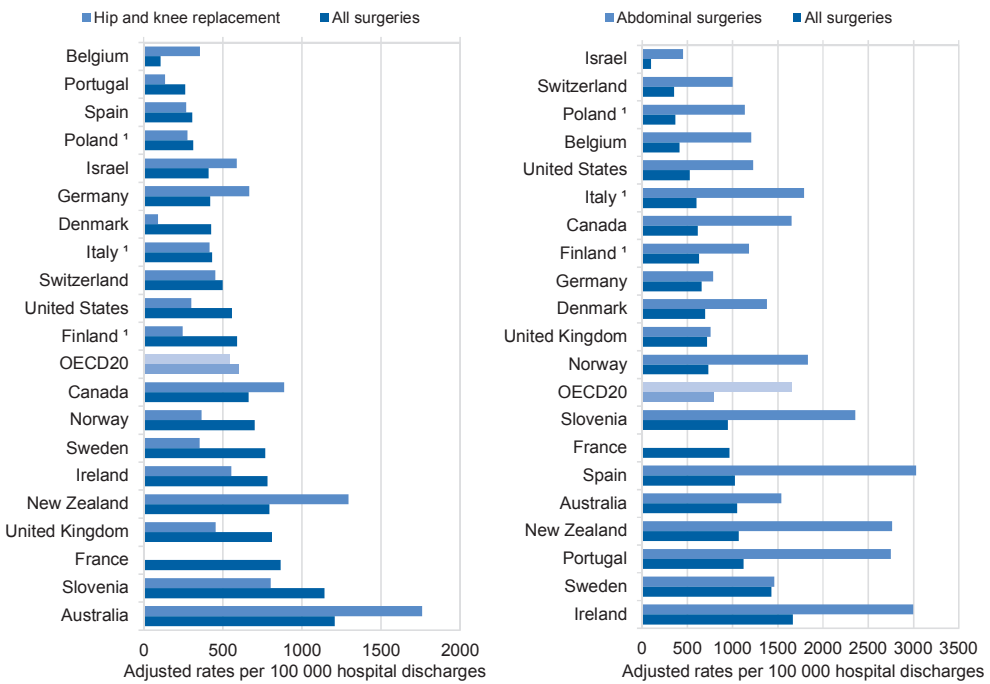
Figure 1.4. Obstetric trauma, vaginal delivery without instrument, 2011 (or nearest year)



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

A more mixed picture emerges from looking at rates of surgical complications. Rates for two *adverse* events associated with surgery – post-operative pulmonary embolism or deep vein thrombosis in adults, and post-operative sepsis – are mixed in Portugal, with good performance on the former, and rather poor performance compared to the OECD average on the latter (Figure 1.5).

Figure 1.5. Post-operative pulmonary embolism or deep vein thrombosis in adults, 2011 (left) and post-operative sepsis in adults (right), 2011 (or nearest year)



1. The average number of secondary diagnoses is < 1.5.

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Looking at rates per 100 000 hospital discharges where a foreign body was left in during a procedure (adults, 2011 or nearest year), Portugal had a rate above the OECD average, at 6.5 compared to 5.0 (OECD, 2013a). A foreign body left in during a procedure is considered a "never event", for which risk factors include emergency surgeries, unplanned changes in the procedure, patient obesity and changes in the surgical team. Research suggests that methodical

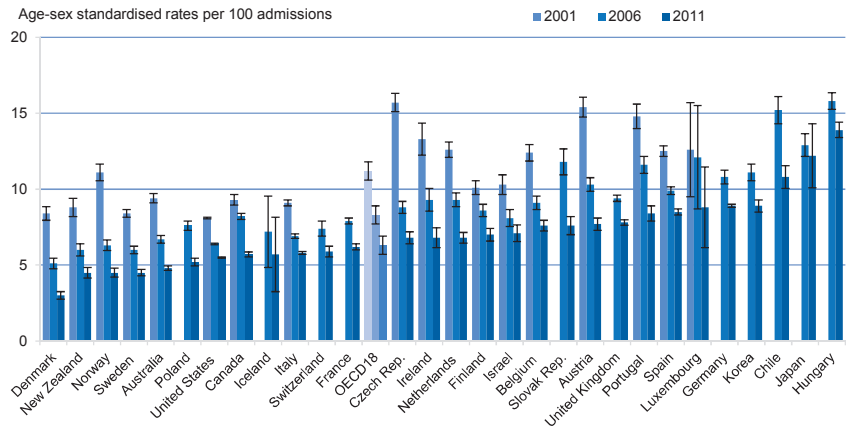
wound exploration, and effective communication among the surgical team including across hierarchies, can act as preventative measures.

Both mortality following acute myocardial infarction (AMI) and case fatality in adults aged 45 and over within 30 days after admission for ischemic stroke can be indicators of whether patients are receiving recommended care. Treatment in the acute phases of acute myocardial infarction has contributed to the reduction in deaths due to coronary heart disease in the past decades, associated with new care approaches including the introduction of coronary care units and treatments aimed at rapidly restoring blood flow. Treatment for ischemic stroke has also advanced dramatically over the last decade, with the use of both thrombolytic treatment as well as care delivery in dedicated stroke units. Both indicators can be influenced both by quality of care in hospitals, as well as differences in hospital transfers, average length of stay, and AMI severity.

For case fatality after admission for AMI, Portugal has a marginally higher rate than the OECD average, at 8.4 per 100 admissions (over 45) compared to 7.9 for the OECD (OECD, 2013a). Unfortunately Portugal was unable to report patient-based case fatality in 2011, which covers within 30 days of admission both in and out of hospital. All OECD countries have seen a reduction in admission-based case fatality following AMI since 2001, and Portugal is not an exception. Encouragingly, Portugal has seen case fatality fall from relatively significantly above the OECD average in 2001, to almost on the OECD average by 2011 (Figure 1.6).

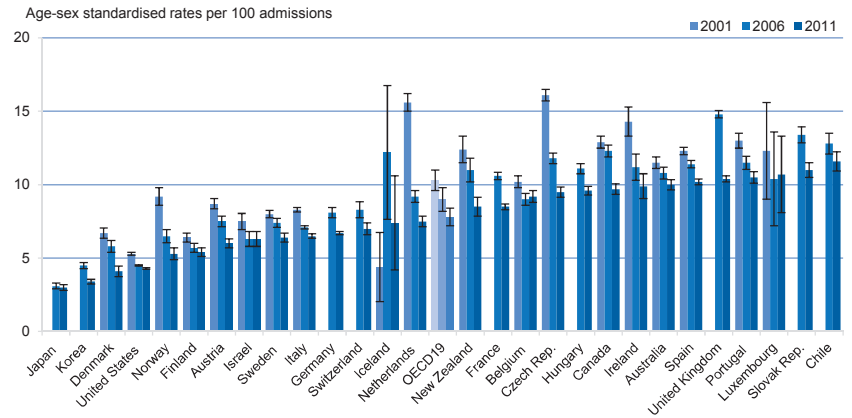
Case fatality after admission for ischemic stroke is higher in Portugal than is typical across the OECD. In 2011, case fatality per 100 admissions was 10.4 in Portugal, compared to 8.5 across the OECD. As for case fatality after admission for AMI, Portugal was unable to report patient-based mortality in 2011. Unlike case fatality after admission for AMI, Portugal has seen relatively small improvements in case fatality across the past decade, although these are broadly comparable to changes seen in most other OECD countries (Figure 1.7). Nonetheless, a few countries were able to reduce their case fatality rates significantly, in excess of 40%, notably the Czech Republic, the Netherlands, and Norway. In these countries improvements can at least in part be attributed to a high degree of access to dedicated stroke units and high quality of care delivered (OECD, 2013a), and may offer lessons for Portugal.

Figure 1.6. Reduction in admission-based (same hospital) case fatality in adults aged 45 and over within 30 days after admission for AMI, 2001-11 (or nearest year)



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Figure 1.7. Reduction in admission-based (same hospital) case fatality in adults aged 45 and over within 30 days after admission for ischemic stroke, 2001-11 (or nearest year)



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

1.3. Profiling policies on quality of health care and their impact

Quality issues have gained importance across OECD countries in recent years as governments and the public increasingly focus on what is being delivered in exchange for major public investments in health care. Policies to address quality of care can not only help improve patient outcomes, but can often do so at similar levels of investment. This chapter seeks to profile the key policies and strategies that Portugal has used to encourage improvements in the quality of health care. The description of policies in this chapter is structured according to a framework for categorising quality policies detailed in Table 1.1 below.

Table 1.1. A typology of health care policies that influence health care quality

Policy	Examples
Health system design	Accountability of actors, allocation of responsibilities, legislation
Health system input (professionals, organisations, technologies)	Professional licensing, accreditation of health care organisations, quality assurance of drugs and medical devices
Health system monitoring and standardisation of practice	Measurement of quality of care, national standards and guidelines, national audit studies and reports on performance
Improvement (national programmes, hospital programmes and incentives)	National programmes on quality and safety, pay for performance in hospital care, examples of improvement programmes within institutions

1.4. Overview of key quality of care policies and the legal framework for the quality of care

Health system design

Ministry of Health

At the centre of the Portuguese health system – policy, planning; oversight and directives for implementation – is the Ministry of Health. The Ministry of Health is responsible for establishing policy measures, and legislation concerning the health service, while implementation of measures falls to Regional Health Authorities (*Administração Regional de Saúde*), and the Central Administration of the Health System (*Administração Central do Sistema de Saúde*). This separation is in line with the 1979 law which established the NHS,

which stipulated that there should be centralised control (through the Ministry), but decentralised management and direct management of services (The Gulbenkian Foundation, 2014).

Bodies under the direct administration of the Ministry include the Directorate-General of Health with responsibility for all public health programmes, quality, epidemiological surveillance, health statistics and studies; the General Inspectorate of Health-related Activities providing audit services; and the General Secretariat offering co-ordination and technical (The Gulbenkian Foundation, 2014; Barros et al., 2011).

Regional Health Authorities

Though the Portuguese health system follows a strong central governance and financing model, five health regions have been established since 1993: North, Centre, Lisbon and Vale do Tejo, Alentejo, and the Algarve. The regions each have a health administration board, answerable to the Minister of Health, and take responsibility for management of population health, supervision of hospitals, and direct management of primary care and public primary care providers. The RHAs are responsible for the regional implementation of national health policy objectives and co-ordinating all levels of health care, following regionally set health plans and directions from the Ministry of Health.

In many OECD countries regional or municipal authorities are central actors in the health system, both setting policy and purchasing and delivering health care for the local population. In Portugal, most of the health system steering happens at a central level. The current role of the regions merits closer examination in Portugal, both because some quite significant variations in medical practice observable between regions, and because there are some clear opportunities to use the Portuguese regions more effectively. Both of these issues are explored in greater detail in Chapter 4.

The legal framework for quality of care

The legal framework for quality of care is established in the Health Framework Law, which is enshrined in the Portuguese Constitution, which stipulates that the National Health Service (NHS) of Portugal integrates all health provision which falls under the responsibility of the public authorities.

In Portugal, quality is regulated by the Organic Law of the Ministry of Health (Decree-Law No. 124/2011 of December 29),

which confers competencies for the planning and programming of national quality policy in the health system to the Directorate-General of Health, as well as ensuring the elaboration and implementation of the National Health Plan and ensuring the national co-ordination and development of health programmes. The government also created nine priority health programmes (Dispatch No. 2902/2013 of February 22), under the co-ordination of the Directorate-General of Health.

Key institutions for assuring quality

Quality of care is a priority for the Portuguese health system, and this is reflected in core policy addressing quality, as well as a dedicated Department of Quality in Health which sits under the Directorate-General of Health. The Ministry of Health has the role of the co-ordinator of the health system, part of which is to promote quality of health care delivery, to guarantee citizens' rights in accessing NHS services, and to approve and publish the National Strategy for Quality in Health. The Directorate-General of Health, located within the Ministry of Health, but with administrative autonomy, has the primary mission of regulating, guiding and co-ordinating health care services, including health promotion and prevention. The Directorate-General also defines the technical conditions for the adequate health care delivery, and plans and programmes the national policy for quality in the health system, to ensure the elaboration and implementation of the National Health Plan.

Within the Directorate-General sits the Department of Quality in Health, which is responsible for ensuring and improving health care quality across a broad range of domains. Specifically, the department is responsible for co-ordinating and evaluating the activities and programmes of continuous improvement around organisational and clinical quality, and co-ordinating the qualification system of health units. The department also establishes and co-ordinates activities and programmes to promote patient safety and to systematically evaluate patients' experience; develops and maintains the system of surveillance of diseases covered by the integrated disease management; and co-ordinates Portuguese patient mobility abroad and the foreign patient flows in Portugal and to assess the impact on the health system. The National System of Notification of Incidents (NOTIFIC@) is also a core part of the department role, as it manages this notification system. Finally, the department is responsible for defining and monitoring indicators for performance evaluation, access

and practice of the health system units in the area of clinical and organisational quality, including the management of the Transparency Portal. The department is supported in its quality by an advisory board of clinical, academic and scientific experts, the National Council for Quality in Health.

Alongside the Directorate-General of Health and the Department of Quality in Health, the Quality and Safety Commissions have a primary role in the implementation of the National Strategy for Quality in Health (discussed below). These commissions were created by the government in hospitals and groups of primary health centres (ACES), and should operationalise the actions planned annually at the national level.

The Health Regulation Authority (*Entidade Reguladora da Saúde* – ERS) is responsible for the regulation and supervision of the activities of health care providers. Nearly 15 000 health care facilities are currently overseen by the ERS while drugs and medical devices enterprise are excluded from the scope of ERS. Regulation and supervision activities include, for example, carrying out inspections and audits to heath care provider facilities, and carrying out investigations of situations with significant adverse impact on the rights of patients or on the quality and safety of care. ERS also manages the systems monitoring the perception of the quality of services by users and health professionals, in particular the national system for complaints, suggestions and comments from users of the National Health Service (SIM-Cidadão).

Core quality policies

In addition to the legal framework set out in the Health Framework Law, there are two key health care policy documents that steward quality of care in Portugal, the National Strategy for Quality in Health, and the National Health Plan. The National Strategy for Quality in Health (Order No. 14223/2009, June 24, of the Ministry of Health) has been published by the Ministry of Health since 2009, and should be implemented within five years, and then consolidated over the five years that follow. The National Strategy for Quality in Health identified key strategic priorities: clinical and organisational quality; transparent information sharing with citizens; patient safety; national qualification and accreditation of health units; integrated disease management and innovation; management of international mobility of patients; and evaluation of and response to complaints and suggestions coming from NHS users. The National Strategy for Quality in Health should then be implemented by the Department of Quality in Health,

and closer to the ground by the Quality and Safety Commissions. Actions taken under the scope of the National Strategy should include dissemination of clinical guidelines, implementation of national indicators, adverse event monitoring and educational learning, dissemination of rules of procedure to avoid most frequent causes that endanger patient safety, especially the clinical error, the surgical error and the medication error, accreditation, and promoting development of innovative health care models and evaluation of such trials.

The National Health Plan 2012-2016 is the second core policy document for the NHS, and is managed by the Directorate-General of Health. This Plan identified health care quality as one of its four priority areas, alongside access, healthy policies, and citizenship.

From a policy level quality improvement is driven through the implementation of the National Strategy for Quality in Health, through two governance networks working together, within the Quality and Safety Commissions. The first network is for the control of health care associated infections and antibiotic resistance, which is ensured by Regional and Local Co-ordinating Groups, and was created by the government within the national Health Priority Programme: Programme for the Prevention and Control of Infections and Antimicrobial Resistance. Secondly, the network of governance for the regulation of good clinical practice is ensured by the clinical directors of primary health care units and hospital care units, to promote greater efficiency in the delivery of health care and improvement of results.

1.5. Assuring the quality of inputs into the Portuguese health care system

Professional training and certification of doctors and nurses

Physicians in Portugal are educated at one of eight medical schools, and follow a six-year degree programme, the last year of which encompasses institutional medical practice. This is then followed by an internship which comprises one year of general training – the so called "common year" – and a variable period of four to six years of specialised training, leading to specialisation. Physicians are granted medical practice rights after two years of internship. Once registered as a medical doctor, the professional has the right to practice. This right may only be withdrawn or suspended as a result of disciplinary or criminal proceedings. There is also a register of medical doctors who are specialists.

Different medical schools have different pedagogic focuses and approaches; notably, the medical schools in Braga and Covilhã promote less hospital-based training, and have greater orientation

towards preparation for practice in the community. Both schools are newly established, having opened in 1998, and have been developing quite innovative educational programmes with problem-solving orientated lectures, preference for a more interactive and tutorial-based system, and a focus on multidisciplinary integration.

Training for nurses consists of a four-year course, that must follow completion of school-level education. Following qualification there are options for specialisation for nurses, typically after completion of two years of clinical experience (Barros et al., 2011). Specialisation through post-graduate programmes of study includes midwifery, psychiatric nursing, and community nursing. A family nurse specialism has been established but is not yet operational (see Chapter 2 for further details).

Both doctors and nurses are regulated by professional public societies (Professional Societies) – *Ordem dos Médicos e Ordem dos Enfermeiros* – in accordance with public societies legislation (Law No. 2/2013, 10 January).

Professionals educated in Europe under the EU directive on medical education allowing free movement of medical professionals within Europe (Directive 2005/36/EC) can work in Portugal without additional training, while those with a licence to practice from outside the European Union may be required to undergo further training or a transition programme to ensure compliance with Portuguese norms. The number of foreign doctors working in the Portuguese NHS, historically mostly from Spain, Brazil and central European countries, decreased over the past decade. Medical training in Portugal also complies with the directive of the European Union on education of health care professionals, and as such Portuguese medical professionals can work anywhere in Europe. Indeed, Portugal is a net exporter of nurses, and has seen a growing trend of Portuguese-trained nurses moving abroad to work. For instance, in 2013, 1 211 Portuguese nurses were working in the United Kingdom. According to data from the UK's Nursing and Midwifery Council; in just four years, from 2010 to 2015, there was an increase of almost 500% of Portuguese nurses in the United Kingdom.

Continuing professional education and development is under-developed

At present, there is no system of accreditation, peer-review, re-certification or mandatory continuous medical education in Portugal. The development of a policy on re-certification (which would include CPD/CME activities) has started, notably in a proposal presented by the Portuguese Order of Physicians to the government in

February 2013 with a submission regarding a change in the statutes governing physicians. Nevertheless, the proposal has not yet been approved or discussed. Continuous professional development (CPD) is not integrated in national standards or guidelines for quality of care, and CPD is entirely voluntary, with no consequences if professionals should fail to comply with the voluntary CPD framework, and no monitoring of compliance. Professionals are not explicitly incentivised to undertake CPD activities, although 15 days per year should be reserved for activities in voluntary CPD. Physicians are, though, typically following a career progression path, undergoing written and practical examination(s) with a jury of peers as part of advancing to the next level of seniority, typically after five years of basic practice.

There are a number entities that provide activities for voluntary CPD for doctors in Portugal such as scientific societies, higher education institutions, hospital services and primary care services, the professional body with regulatory competence (Order of Physicians), private sector, professional organisations, and the Ministry of Health and Ministry of Education. These entities are involved in the development of the content of formal CPD activities. There is no prescribed content that a doctor must follow beyond the structural CPD requirements. There is no regulation on what percentage of CPD activities followed must relate to continuous medical education and what percentage must relate to other types of CPD.

There is clear scope for CME/CPD activities to be strengthened and formalised in Portugal, for both physicians and nurses, following a direction of travel set in OECD countries that Portugal should see as peers. A first step would be to make CME/CPD compulsory for physicians (and nurses), with some form of monitoring, even if sanctions and incentives are very weak. Such a move would establish ongoing training, education and learning as an immutable part of physicians care and practice.

To have a real impact on care quality, CME/CPD should match with identified shortcomings in the health system and/or in individual clinicians' practice. There are ways, for example, to positively weight credits for courses identified as meeting a health system need – for example in Italy – and Portugal could follow such an approach, for instance encouraging the uptake of courses on prevention strategies or multiple morbidity management (OECD, 2014b). Portugal could also look to countries like the United Kingdom and the Netherlands where efforts have been made to maximise the impact of CME/CPD by developing recertification/relicensing requirements.

Box 1.2. Recertification/relicensing approaches in the Netherlands and the United Kingdom

Physician re-licensing in the Netherlands

In the Netherlands, physicians – both GPs and specialists – must undergo revalidation every five years.

Revalidation is overseen by a combined committee of the Central College of Specialists together with the government organisation the Central Information Centre for Professional Practitioners in Healthcare.

Requirements for revalidation include participation in continuing medical education (CME) and other training activities, a minimum level of participation in peer review activities, and an assessment by a visiting team of three doctors. To meet the requirements of doctors must have completed a minimum number of hours of accredited training activities in the period prior to revalidation, and doctors are free to choose CME according to their personal interests, and not necessarily gaps in their knowledge and skills.

Re-licensing and peer review in the United Kingdom

In the United Kingdom, a system of five-yearly revalidation was introduced for physicians in 2012, and is due to be introduced by the end of 2015 for nurses. Participation in CPD activities has long been required for doctors working in the United Kingdom, a condition of employment in the NHS and later a condition of participation in the royal collages (speciality schools) for physicians (Merkur, 2009). For physicians, revalidation covers all physicians working in all fields. The royal colleges have a role in supporting recertification, as they have traditionally been responsible for setting standards within their field and for supervising the training of doctors. The General Medical Council is responsible for quality control of over the appraisal process for relicensing.

Revalidation involves the appraisal of a doctor's performance in the workplace, against national standards set by the GMC, across a range of domains (for example, knowledge, skills and performance; safety and quality; communication). Evidence required in doctors' portfolios differs across domains, and may include proof of training or assessment of skills, continuing medical education, audit (a quality improvement process), or validated tools for feedback about doctors' practices and anonymous records (Villanueva, 2010). A portfolio of evidence of quality improvement activities is submitted annually, and appraised by a peer (usually a senior doctor working in the same organisation); revalidation is secured following five successful appraisals.

Source: Merkur, S. et al. (2008), "Physician Revalidation in Europe", *Clinical Medicine*, Vol. 8, No. 4, pp. 371-376; General Medical Council (2012), *Ready for Revalidation: Supporting Information for Appraisal and Revalidation*, available at www.gmc-uk.org/Supporting_information__for_appraisal_and_revalidation.pdf_48977650.pdf, accessed 20 August 2014; Nursing and Midwifery Council (2013), "Background to Revalidation", website of the Nursing and Midwifery Council, available at: www.nmc-uk.org/Nurses-and-midwives/Revalidation/Background-to-revalidation/, accessed 20 August 2014; OECD (2014), *OECD Reviews of Health Care Quality: Italy 2014: Raising Standards*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264225428-en; Schäfer, W. et al. (2010), "The Netherlands: Health System Review", *Health Systems in Transition*, Vol. 12, No. 1, European Observatory on Health Systems and Policies; Villanueva, T. (2010), "Revalidation Wave Hits European Doctors", *Canadian Medical Association Journal*, Vol. 182, No. 10.

Accreditation and quality assurance of health care facilities

Health accreditation is one of the strategic priorities of the Portuguese Ministry of Health, and a key assurance mechanism for health care facilities. Its main objective is the certification and public recognition of the quality achieved in organisations providing health care, according to predefined standards. The national and official accreditation programme in Portugal, the National Model of Health Accreditation, is based on the Andaluzia Accreditation Model (ACSA International). In addition to this voluntary programme, managed by the Directorate-General of Health, there are two private companies with accreditation programmes: CHKS (United Kingdom) and JCI (United States). Accreditation under any of these programmes is voluntary.

The National Model of Health Accreditation covers accreditation of Services and Healthcare Units accreditation of Clinical Competencies, accreditation of Continuous Training Programmes and accreditation of Health Website. ISO certification is used in supporting services such as image services, laboratories and transfusion services. ISO certification is not recommended by the Directorate-General of Health or the Health Minister for clinical services.

In September 2010 "ACSA International" was established, through an agreement between the Directorate-General of Health of Portugal and the Agency of Sanitary Quality of Andalusia (a non-profit public entity). The Specific Co-operation Protocol for the ACSA model, agreed between the two bodies, includes a matrix to encourage the dissemination and implementation of ACSA International, in partnership with the two institutions, the European Union and the community of Portuguese-speaking countries.

The ACSA International model values, above all, the accreditation of clinical management in clinical services, i.e. of hospital services or hospital departments, functional units of primary health care, of units of the national network of long-term care, of day hospitals or specialised hospitals, although it can be applied to the entire health care institution. However, the accreditation of a hospital as a whole always has a "generalist" character. Priority is given to accrediting smaller parts of the larger unit, i.e. hospital service, which can be held to context specific standards and assessment process. In 2014 508 units had been accredited under ACSA, and 191 units were in the accreditation processes. To be accredited the unit must demonstrate respect for patient rights, demonstrate effective care which respects clinical guidelines, have a rational organisation of patient information

and health records, and a rational usage of pharmaceuticals and technologies, demonstrate good professional competency, and have good support services. Importantly, the unit must also demonstrate engagement and consistency with set objectives and contractual obligations, and have an internal strategy for following this, as well as have a system of evaluation for collected performance indicators (which must also be communicated internally and publically).

Portugal's approach to accreditation differs from that of many other OECD countries, in that the main focus is on accreditation by service (hospital department, unit of care, etc.), rather than necessarily the whole health care provider (e.g. the hospital). There are certainly recognisable strengths to this approach – so long as accreditation procedures go beyond simply checking off services against minimum standards. Taking a more granular approach to accrediting or inspecting services recognises that fact that in large hospitals or other units of care, there can be big divergences between the quality of care offered between departments. Portugal's accreditation programme also covers all types of health unit (primary care, hospital, hospital services, etc.), which is another strength. The United Kingdom through the Care Quality Commission (CQC) inspectorate role has taken a similar service-by-service approach to checking standards and quality. CQC inspections focus on looking at whether the given service is safe, effective, caring, responsive to people's needs, and well-led.

The key to making accreditation approaches effective in Portugal and elsewhere, will be both ensuring that there are adequate infrastructures and systems for quality improvement that are separate from accreditation (of particular importance if accreditation is voluntary), and that accreditation is not a one-off check but rather feeds into the continuous quality process. According to the National Model of Health Accreditation, all health units that are given their certification ought to request their reaccreditation after five years. In practice, reaccreditation corresponds to a brand new process of accreditation.

The accreditation model for health care units in Portugal is voluntary, which can be a positive way of encouraging units to strive for excellence in quality. There are, additionally, a number of mechanisms to check and encourage high quality in Portugal, which are discussed elsewhere in this chapter and this volume – including extensive performance and quality indicators at primary and hospital care levels, the inclusion of quality indicators and targets in some contracting, audits of adherence to clinical guidelines, and targeted programmes for example around patient safety. Nonetheless, there is a

clear value in having sufficiently ambitious quality standards, and then supporting care providers in delivering them. This seems of even greater importance given that there are some clear signs of variation in practice and clinical process, notably between regions for hospital-based care. Efforts to drive more uniformly high levels of quality across care settings and across regions could follow two paths: establishment of sufficiently ambitious minimum standards for all care providers (for example as Australia has done, see Chapter 3), or encouragement and support for those regions where outcomes are weaker to engage more fully in the accreditation process. Taking both approaches simultaneously could be another way forward in ensuring that all Portuguese citizens, regardless of their location, can access high quality care. The strengthening of the role of the General Inspectorate of Health-related Activities (IGAS) is another avenue for consideration, as at present the IGAS performs the disciplinary and audit function for the NHS, and audits NHS institutions and services, but does not appear to have a systematic role in quality or evaluation.

In terms of initial licensing, requirements for private health care providers are at least as demanding as those for other sectors. Private providers are also subject to all the rules set by the Health Regulation Authority (ERS). Some opt to pursue an accreditation model. Additionally, the guidelines issued by the Department of Quality in Health are meant for both health professionals and health units, and good practice is required of both the public and the private sector.

Safety of pharmaceuticals and devices

The safety and appropriate use of pharmaceuticals in Portugal is ensured by INFARMED, the national authority for medicines and health products. INFARMED is tasked with monitoring, assessing and regulating all activities relating to human medicines and health products for the protection of public health.

The monitoring of pharmaceutical safety (pharmacovigilance) is conducted in accordance with robust legislation that ensures the protection of public health, and falls under the responsibility of INFARMED. INFARMED works with pharmaceutical companies, patients, health care professionals, national regulatory authorities, the European Medicines Agency (as co-ordinator of the system) and the European Commission. The pharmacovigilance tasks and responsibilities of INFARMED fall under European Union Directive 2001/83/EC, Regulation (EC) No. 726/2004 and the Commission Implementing Regulation (EU) No. 520/2012). INFARMED is part of a European network of alerts and rapid

exchange of information on quality and safety, as well as European pharmacovigilance databases (Eudravigilance).

One of the additional areas of activity of INFARMED is the publication of information to health care professionals and citizens with a view to promote the safe and rational use of medicines and other health products.

INFARMED is also the Portuguese national competent authority for medical devices, in the context of market surveillance, clinical investigation and in the designation and monitoring of notified bodies. Medical devices are regulated according to European Directives to ensure a high level of health protection and safety of consumers and users, since the legislation establishes a set of essential requirements in order to ensure the safety, quality and performance of medical devices and also requires that information is made available with the medical device in order to allow its appropriate use.

Concerning INFARMED's responsibility for medical devices' market surveillance in Portugal, different activities are performed:

- desk review analyses (including the evaluation of the information provided on medical devices' registries, campaigns for specific products with evaluation of the labels, instructions for use and other technical information),
- on-site inspections,
- laboratorial analysis,
- vigilance/surveillance of medical devices – this system includes an articulated set of rules and both material and human resources, aimed at the systematic collection of information regarding medical devices' safe use (including incident notification) and their scientific evaluation, and ensures appropriate measures are taken where justified to protect citizens' health.

If non-conformities are found in medical devices, corrective and preventive actions are implemented; these may include measures to restrict placing these devices in the market, and also the production and publication of information on INFARMED's website. Furthermore, other information and recommendations regarding safety, quality and performance are published and include also the appropriate use of medical devices.

1.6. Policies to promote and assure patient safety

Patient Safety is one of the seven strategic priorities of the National Strategy for Quality in Health in Portugal, which defines the development of following specific actions: elaboration of guidelines in the field of patient safety, namely in surgical and medication safety; the creation of the national system of notification of incidents and adverse events and the co-ordination of the prevention and control of health care associated infections.

Patient safety is the joint responsibility of the Directorate-General of Health and the regional and local bodies. The Directorate-General of Health addresses patient safety through the Department of Quality in Health which is responsible for issuing clinical and organisational guidelines, and also through the co-ordination of patient safety programmes and public health policies in order to improve quality in primary care units, hospitals and long term care facilities. The Health Regional Administrations and all the public health care units – through their Quality and Safety Commissions – and the Regional and Local Infection Control and Antibiotic Resistance Commissions are responsible for implementing the strategic positions and actions defined in the National Strategy for Quality in Health.

The National System of Notification of Incidents (NOTIFIQ@) is a further instrument of continuous improvement for Quality and Patient Safety. This Notification system is designed to promote a culture of patient safety amongst health care providers. NOTIFIQ@ is structured in accordance with the recommendations of the World Health Organization and the European Union Council and is available for free at Ministry of Health, covering all levels and areas of care, and providing health professionals and citizens of a tool for reporting and learning from mistakes. This system, which is intended for regular use, is based on anonymous and notifications confidential, allowing alert services for the correction of the causes of incidents and adverse events and prevent them from occurring again. Notifications are then fed back to the local settings. Started in 2013, by September of 2014 NOTIFIQ@ had recorded 337 notifications from health professionals and 94 notifications made by citizens (DGS, *Relatório de Monitorização Trimestral do Notifiq@*, Setembro 2014). Most incidents and events were patient incidents (accidents, falls, pressure, ulcers) (25%), related to clinical procedures and concerning professional behavior (14%).

1.7. Health system monitoring: Information infrastructure and public reporting

Not only does Portugal have an extensive information infrastructure which – relatively exceptionally – spans almost all levels of care, but this data is also in many instances actively used to drive quality improvements. Data sources include setting-specific information structures, and disease-specific registers and data sources.

Much of Portugal's rich data infrastructure is thanks to the use of electronic patient records and unique patient identifiers. These records go towards creating the Portuguese Health Data Platform (PDS), which consists of a Patient Portal (*Portal Do Utente*, launched May 2012), a Professional Portal (*Portal Do Professional*, launched June 2012), an Institutional Portal (*Portal Institucional*, under testing) and an International Portal (*Portal Internacional*, piloted June 2013). The different portals hold different information, to be used in different ways. For instance, the Professional Portal provides health professionals with patient clinical data and records stored from different institutions and central repositories. The Institutional Portal, when operational, should provide statistics from anonymised clinical data to central institutions.

Eventually, PDS is intended to be a platform linking together data from across the health system. Already good progress has been made in making several data sets available in one place. Prescriptions, a chronic kidney disease register, a surgical safety checklist, and birth reports are all, for example, included in PDS. Long-term care, an oft-neglected area of data collection, is also included in PDS using the RNCCI database.

The PDS database consists of several application modules that allow the recording of: medical, nursing, and social service evaluations; assessment by other professionals (rehabilitation medicine, physiotherapy, psychology, occupational therapy, etc.); IAI, a bio-psychosocial evaluation method; pressure ulcer risk evaluation and recording; falls risk evaluation; health care associated infections; pain evaluation; discharge abstracts; diabetes assessment; adverse drug reaction notification; and acute exacerbations.

There are also some mandatory minimal datasets:

- For hospital discharge teams (EGA) and primary care referral teams (CS): medical, nursing and social evaluations; evaluation of physical autonomy; pressure ulcers; pain evaluation.

- For integrated home care teams (ECCI), and for inpatient facilities: the same for hospital discharge teams upon admission, during care and on discharge. In addition the recording of falls, diabetes, pressure ulcers risk, and an individual intervention plan.

Nonetheless, not all of Portugal's rich data can be linked together or accessed from all health care services, and in practice patients cannot easily be followed across care settings.

The primary care information architecture is called SClinico, and covers more than 350 facilities. Information available includes demographic data (name, gender, date of birth etc.) and clinical data (health problems, allergies, personal and family history, medical history, medication and prescriptions, appointments, referrals, etc.). All health care providers working in primary care have access to this information, and home-based care can be added to the platform. Primary care doctors can also the PDS platform through which they can visualise hospital data. SClinico is discussed further in Chapter 2, along with the impressive number of quality indicators collected and – crucially – used in primary care practice.

The information infrastructure in hospitals is, like primary care, extensive. Nationally standardised across aspects such as discharge summaries, reports of allergies or the use of surgical checklist, all under national clinical guidelines, this structure facilitates high-level planning, and quality monitoring, for all NHS hospitals in Portugal. Performance indicators, which go far beyond the typical process- and activity-based hospital indicators, are collected across four dimensions – access, quality, productivity and financing. The reported data then is available to hospital providers and service users on an online platform on a monthly basis. These indicators are set out in full in Chapter 3.

Again, though, the shortcoming of the available hospital data is that is not effectively connected with many of Portugal's other rich data sources, both disease-based and vertical collections (see Box 1.2), and institutional databases like SClinico. To secure high quality, well co-ordinated care across the patient pathway making better data linkages must be the way forward for Portugal. Already ahead of many OECD countries, in terms of data coverage and attempts to bring data sources together, challenges around protecting patient privacy, the legal basis for connecting patient data, and administrative and technical hurdles, do remain in Portugal. Nonetheless, if the strides in developing and using health data that have been made so far can be continued, Portugal will be an example to follow for other OECD countries.

Box 1.3. Further health system information sources in Portugal

In addition to the institution-wide information system, such as SClinico and the hospital information structure, a number of additional data sources are collected in Portugal, and often used by the Directorate-General of Health and National Institute of Health. Many of these data collections, such as the National System of Notification of Incidents, are used as a core part of quality assurance.

- The GID IRC platform automatically collects data from patients with chronic renal disease from public and private providers, based on the patient identification and on the patient identification number. Data is used to monitor the quality of the health care delivery.
- BIO.DGS.PT will allow the registration of prescriptions of biological agents to patients with the following diseases: rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, polyarticular juvenile idiopathic arthritis, plaque psoriasis and Crohn disease. This registration facilitates incidence and prevalence monitoring of these diseases.
- The information system database of the Regional Health Administrations (SIARS) links administrative data with the national patient registry and collects clinical and daily practice data from GP's electronic health records for about 100 regional/national indicators. This data is also used for random clinical audits.
- The National System of Notification of Incidents, anonymised database, collects notifications of incidents and adverse events in the Portuguese health system institutions, for statistical analysis.

1.8. Development and use of practice guidelines

In addition to a wide number of national health programmes, Portugal has been pursuing some quite innovative work around the dissemination of best practice, and using clinical care pathways. National health programmes, covering areas designated Priority Health Programmes, cover disease areas including diabetes, mental health, respiratory diseases, and some prevention areas. A full list of Priority Health Programmes is available online (www.dgs.pt/programas-de-saude-prioritarios.aspx).

Clinical guidelines, which are mandatory, are also widely used. In September 2011 a protocol was signed between the Directorate-General of Health and the Portuguese Medical Association (representing all medical specialties) to drive improvements in the health system. This Protocol included guideline development and implementation, evaluation of the impact of guidelines and their

applicability, to train clinical auditors and to perform clinical audits, and to develop integrated care pathways. Issuing scientific advice on clinical guidelines falls to the Scientific Advisory Board, appointed under dispatches from the Secretary of State Assistant to the Minister of Health. Guideline production increased considerably over 2011-13, with most guidelines developed around medical tests and outpatient drugs (31 and 35 respectively, between 2010 and 2014). Guidelines have also been developed for medical devices and hospital drugs (7 and 30 respectively, between 2010 and 2014).

Evaluations of the impact of guidelines is underway. A financial impact study of eight guidelines has been started, and seems to suggest long-term savings. Audits have also been carried out by trained clinical auditors across hospitals, primary care units, and local health units, and across all regions. Early results suggest that compliance with guidelines is much better in hospitals, with an average of 58% compliance across Portugal, compared to 32% in audited primary health care settings. There were also some quite significant differences in compliance rates between regions, with Lisboa e Vale de Tejo showing the highest rate of compliance.

Having established this audit system, over the coming year Portugal intends to continue the auditing process, as well as establishing follow-up processes for poor compliance. Follow-up has not yet been agreed upon, but suggestions include public recognition for good compliance, and financial penalties for poor compliance. The audit process for clinical guidelines is a valuable step to understanding their use, and Portugal will need to tread carefully if they are to implement sanctions or penalties for non-compliance. OECD countries haven't usually introduced negative sanctions for poor adherence to guidelines, and this would be a complex measure to implement. Focusing on positively encouraging guideline use, through good information dissemination as a first step, and possibly public reporting of adherence rates and/or financial incentives as a next step, may be a sounder approach.

It is also worth noting that the vast majority of Portugal's clinical guidelines focus on pharmaceuticals and devices; other OECD countries have developed guidelines which also address clinical care process and best practice care. Portugal's Integrated Care Pathway guidelines (discussed below) do redress this imbalance somewhat. That said, some setting-specific guidelines which take a whole-disease approach may well be valuable. For example, clinical guidelines on depression can be very useful in primary care, and the guideline can be tailored towards the primary care setting (OECD, 2014c). For Portugal

the same may also be true of prevention efforts from primary care, which at present are relatively under-developed (WHO, 2010). Guidance around how primary care practitioners can help with the prevention of overweight and obesity, or smoking cessation, may be valuable. At present, though, the development of such guidelines does not appear to fit in either of the guideline development work programmes that Portugal has.

Guidance increasingly reflecting complex patient needs

As an increasing number of patients in OECD complex health needs, involving multiple care providers. Portugal is no exception to this trend, and health care governance models are needed to ensure high quality care across multiple service settings, and often for multiple comorbid diseases. One way to facilitate better co-ordination and patient movement across settings is through portable health records, which Portugal does not have; information systems are not consistently joined up across settings. Portugal has, however, taken some steps to doing this through developing Integrated Care Pathway models.

Portugal's disease model was designed to address some significant chronic diseases, and established in 2008. Developed in compliance with the National Strategy for Quality in Health and the National Health Plan 2012-2016, the publication of Integrated Care Pathways started in 2013. This model takes into account, amongst other dimensions, stratification of risk populations, identification of patients with chronic disease, active participation of professionals and patients in disease management, use of case managers for better co-ordination, constitution of multidisciplinary teams and integration of different health professionals, integration of care throughout the different levels of care, without organisational barriers and an integrated information system with individual and aggregated data of the population.

The Integrated Care Pathways are addressed to the different specific levels of care, and should cover both chronic and acute disease phases. The pathways demand the commitment and effective co-ordination of clinical, medical and nursing directions of hospital services, primary health care and long term care units and require the involvement of other health professionals, indispensable for their implementation.

The Integrated Care Pathways are characterised by, first, the identification of the pilot-team who is to be responsible for their implementation, then by the involvement of health professionals,

headed by professionals with recognised authority by their peers, by the training on their different components, on the clinical and organisational guidelines, as well as on other matters, such as confidentiality and data protection, patients' rights, maps of professional skills. The pilot team promotes inter-level care meetings to ensure the continuity and the integration of care as well as the adoption of strategies to allocate resources.

It is too early to assess the impact of the Integrated Care Pathways, although it is expected that patient-centered care processes will improve, along with co-ordination of care and population risk stratification. There is also a hope that the pathways will help the implementation of a direct result between funding, quality and safety, and clinical standards. A thorough evaluation of the impact of the Integrated Care Pathways will be very important. Additionally, if the pathways are found to be effective and successful, the next step will be a closer consideration care provision for comorbid diseases. Multiple morbidities, including multiple chronic diseases, are a rising concern, especially given population ageing. Comorbid diseases can also significantly complicate care delivery and co-ordination, and drive increased care costs. A vertical, cross-sector pathway like the Integrated Care Pathways, seems particularly appropriate for such cases, and is something that Portugal could consider going forward.

1.9. Patient and public involvement in improving health care quality

Portugal has had a Patient's Charter (*Carta dos Direitos e Deveres dos Doentes*) since 1997, which provides official protection of patients in the NHS (Barros et al., 2011). The Charter covers the main legal provisions around patient rights and obligations, including the right to respect and dignity, to be informed of health care decisions with entitlement to a second opinion, the right to accept or refuse procedures and care, the right to privacy and access to records and data. The Charter also sets of the patient's responsibility to look after their own health status, to follow all health care delivery system rules, and the duty to avoid unnecessary expense for the NHS. The Charter was updated annually, and published on the Ministry of Health website, and defines considerations such as maximum waiting times. The Charter, and the laws regarding assistance for pregnant women during delivery, support for families during hospitalisation and patients' rights to support while in emergency care services within the NHS, have since been subsumed by a single piece of legislation, Law 15/2014. This legislation (Law 15/2014) compiles and organises previous legislation on NHS users' rights and duties/obligations.

In practice, though, patient involvement in health system decision-making appears to be weak. Strengthening the role of the patient in assuring and improving the quality of care should be a policy priority. Instead, patient involvement seems to be limited to reviewing legislation and policy that is available online, and lobby group and user group activities. While both can be important, this level engagement is likely not sufficient in the Portuguese context. This is in part because patients are and should be pushed to focus on self-care approaches, for example around chronic disease, demanding engagement with their own health status and the advice and guidance of the health system, even before they actively seek health care. In addition, though, is the fact that satisfaction with the Portuguese health system has historically been low; in 2002 around 80% of the Portuguese population surveyed on overall satisfaction with the health care system indicated they felt the system required either fundamental change or should be completely rebuilt, compared to an average 51% EU-wide (WHO, 2010). Cabral and Silva (2009) found that patient satisfaction with primary and acute care had improved in the 2000s, although waiting times remained a concern. In 2015, the proportion of people requiring adjustments or a complete restructuring of the Portuguese health system was much lower, averaging nearly 54%.

Portuguese patients' experience with primary care in 2014 will be assessed in January 2015. The use of an instrument based on the EUROPEP tool, as well as the inclusion of questions currently used by the OECD in its HCQI project, will allow for international comparisons.

Regarding hospital care, the Ministry of Health teamed with a Lisbon University to implement a system to assess quality perceived and patient satisfaction in a set of hospitals, using an ECSI related tool (European Consumer Satisfaction Index). This was used in 2004, 2006 and 2008 (the latter is available at www.acss.min-saude.pt/Portals/0/Relatorio_Global_Final.pdf). In 2009, this was applied in all NHS hospitals.

Additionally, the Health Regulation Authority also assesses patient satisfaction in their annual report on hospital quality (see, for instance, www.ers.pt/pages/198).

A 2010 WHO assessment of Portugal's health system made improved patient relations a core recommendation: "ensure a broad engagement of patients and the general public in health system decision making and pave the way for broader public engagement across government activities". While these patient experience and

satisfaction surveys should be a positive step, four years later this recommendation still applies, and does not appear to have been followed-through on. Indeed the WHO suggestion of the creation of Local Health Councils as a good opportunity to look for a broader and more effective engagement of citizens and stakeholders at local level is a sound one, and that Portugal could still do well to explore, possibly as part of the responsibilities of Regional Health Authorities.

Portugal does have a patient feedback system, but to improve accountability to service users this is a relatively weak mechanism

The main way that patient feedback is facilitated in Portugal is through the SIM-Cidadão system. This system is co-ordinated by the Ministry of Health, and should collect complaints, suggestions and comments on the NHS. Citizens can submit such feedback by fax, letter, or by using the "Yellow Book" (*Livro Amarelo)*, a complaints book that all public services, and therefore all NHS institutions, have to have available, so that citizens might register complaint, or in person in a Citizens Office (*Gabinetes do Cidadã*o). Strategic documents are also shared online with an invitation for feedback, along with clinical guidelines, which are available at the Directorate-General of Health website. Patient associations also participate in working meetings with technical bodies of the Ministry of Health and political groups of the Parliament, to identify needs and strategies to improve access and quality in health care.

The intention is that the SIM-Cidadão system serves as an instrument to for patients and citizens to act on their right to participation and feedback, to serve as an indicator of the satisfaction of users of the National Health Service, and to be an instrument in continuous quality of care. Such ambitions are well placed; patient and public involvement in improving health care quality is, at its best, oriented both facilitating patient participation, and accountability to service users' needs. In Portugal, though, delivery on feedback and accountability to citizens and patients is not as good as it could be. Collecting patient feedback is useful and important, but unless this feedback is much less effective if it is not regularly and publically reported. SIM-Cidadão reports are published online, namely on several of the Ministry of Health's institutional sites.

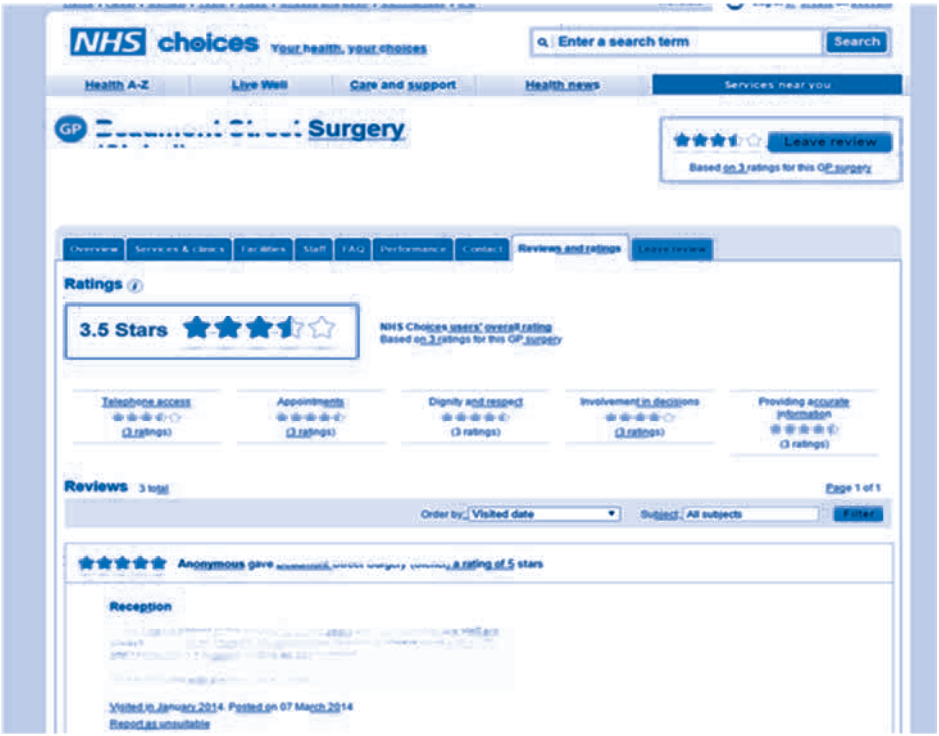
Better facilitation of patient feedback, including at a provider and physician level, is one avenue to consider

Beyond public reporting at a high-level for instance system-wide, to push forward health quality improvement there is scope to move to provider- and doctor-level feedback. Reporting at this much more localised level can push providers and physicians to become more accountable to patient needs, and reflect on patients' perceptions of their strengths, weaknesses and importantly unmet needs. In England, an online platform through which patients can rate and comment on the doctors they see has been set up. This platform – accessible through the NHS website NHS Choices (www.nhs.uk) – allows individuals to rate and comment on individual service providers, for example GP practices or hospitals. All ratings and comments are then viewable publically on the site (see Figure 1.8). Appropriate details on the service are also in the same place, for example available facilities and departments, address and contact detail for hospitals, and opening hours, facilities and staff for GP practices. While Portugal does make some basic information available online (opening hours and days, specialist consultants operating with the practice, etc.), there is no form of provider- and doctor-level feedback facilitated, and patients cannot leave comments online.

England's NHS website also reports how well service providers are meeting relevant standards, and available quality and outcome data by provider. For example, data by physician for consultants in adult cardiac surgery shows volume of operation, and risk adjusted hospital mortality rate after adult cardiac surgery. By hospital indicators include whether the hospitals is meeting Care Quality Commission national standards, measures of how well the ward's staffing requirements are being met, whether patients would recommend the hospital to family and friends, and space for written comments.

In Denmark, a similar platform for physician rating has been introduced. *Sundhed.dk,* the Danish e-health portal, includes the collection and distribution of information among citizens and health care professionals. This includes information on waiting times at all public hospitals and ratings of hospitals in terms of patient experienced quality.

Figure 1.8. Patient rating and feedback in NHS England



Source: NHS Choices website, available at: www.nhs.uk/Service-Search/, accessed 20.11.2014.

One of the other strengths of this platform is that it groups all patient-relevant information together, helping patient participation (OECD, 2013a). Personal health data, treatment notes, medication information are included on *Sundhed.dk*, along with various e-services such as online appointment setting with GPs and prescription renewal. A "one stop shop" portal for patients, where they can have a maximum of their needs met, is an initiative to strive for.

1.10. Conclusion

In general Portugal's quality architecture is robust. A keen focus on quality is reflected in both the clear establishment of basic quality assurance mechanisms (professional training, core policy qualities, use of clinical guidelines, data collection), as well as in some increasingly innovative approaches, for instance the Integrated Care Pathways

approach as an extension of clinical guidelines, and the rich data infrastructure which extends also to primary care. There are some areas where Portugal could do more to strengthen quality in the health system. Some attention should be given to ensuring that the accreditation system in Portugal, at present voluntary and on a service-specific basis, is fit for purpose, either through further promotion of the accreditation process, or with the introduction of core minimum standards. While the strength of this system is that it encourages excellence, and takes a detailed granular approach to appraising the quality of services, it may need to be complemented by additional assurance mechanisms, for instance minimum service standards. There may also be scope to introduce some additional clinical guidelines, sitting between the product-specific guidelines for pharmaceuticals and devices and the cross-provider Integrated Care Pathways. Guidelines to support primary care providers in smoking cessation and obesity prevention efforts may be appropriate. Finally, an area for further attention is around patient involvement. Efforts to seek patient feedback on health system design and performance are weak, as are ways for patients to give meaningful feedback to practitioners and providers. A more complete patient response platform, which goes to a provider and practitioner level, and patient participation forums, are two avenues to explore.

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Chapter 2

Primary care provision in Portugal

The primary care system in Portugal appears to be performing well, based on OECD indicators, with some examples of excellence and innovation backed up by a comprehensive national quality indicator system. The fact that the Portuguese health system is already squarely turned towards measuring, assuring and improving quality will give Portugal a major head start in assuring high quality care going forward. The dynamic and innovative nature of the health system, with a number of impressive initiatives in primary care – for example the introduction of Family Health Units, and a very large cachet of quality indicators for primary care – is another significant strength. Looking to the future, Portugal's main priorities will be, firstly, supporting and expanding areas of excellence and innovation, and, secondly, filling in some key gaps, notably around primary care-led prevention the effective use of the primary care workforce.

2.1. Introduction

The primary care system in Portugal appears to be performing well, based on OECD indicators, with some examples of excellence and innovation backed up by a comprehensive national indicator system. The fact that the Portuguese health system is already squarely turned towards measuring, assuring and improving quality will give Portugal a major head start in assuring high quality care going forward. The highly dynamic and innovative nature of the health system, with a number of impressive initiatives in primary care – for example the introduction of Family Health Units, and a very large cachet of quality indicators for primary care – is another significant strength.

Nonetheless, the primary and community care sector in Portugal will – especially going forward – play a significant and growing role in providing health care. Now is the time to make sure that excellent assurances of quality are in place across the primary care system, and that primary care is ready and moving towards its expanding role and responsibility for the health of the Portuguese population. Based on population demographics and burden of chronic disease, for example diabetes, there is reason to expect that health needs will increase, that pressure on primary care will increase, and that budgetary constraints will continue. Looking to the future, Portugal's main priorities will be, firstly, supporting and expanding areas of excellence and innovation – notably building upon the apparent success of the Family Health Units, and fully exploiting the rich information system –, and, secondly, filling in some key gaps, particularly around primary care-led prevention.

This chapter starts by setting out the Portuguese primary care system, in particular describing the older Primary Health Care Units and the more recently introduced Family Health Units. The next section then looks at quality measures and outcomes associated with primary care in Portugal, drawing on national information sources and comparable OECD indicators. Sections 2.4 and 2.5 consider the main priorities for the Portuguese health system going forward, make recommendations for areas of policy focus, and point out areas of weaknesses that should be addressed.

2.2. The Portuguese primary care system

The organisation of primary care: Primary Health Care Units, Family Health Units

The primary care system in Portugal represents the first port of call for patients with non-emergency concerns, cares for patients with controlled

chronic disorders, and has a major role in prevention activities. The majority of services are carried out by general practitioners (GPs)/family doctors, assisted by nurses and other auxiliary health professionals. Diagnostic tests and examinations for example blood tests are not usually carried out in the same site as primary care visits, but rather patients visit a diagnostic centre with their prescription. The primary care system in Portugal is, somewhat unusually, split roughly 50-50 between two models. The two models are, firstly, Primary Health Care Units (PHCUs), and secondly the more recently introduced Family Health Units (FHUs). These two models differ both in staff size and makeup, and in terms of facilities, and have different payment mechanisms, and different contracting arrangements. Most primary care is carried out in PHCUs or FHUs, although emergency care facilities to sometimes fulfil a primary care-type function, and some generalist physicians (physicians without a specialism) are based in hospitals.

PHCUs are essentially clinic settings which group together varying numbers of GPs, who provide care to their patient list (around 90% of the Portuguese population have a named family doctor, although this is not compulsory; GPs can have up to 1900 patients on their list, increased from 1 500 in 2012), as well as for off-list patients. PHCUs vary in structure and size, some operating in purpose-built facilities while others have been incorporated into residential buildings, or former hospitals or monasteries (Barros et al., 2011).

FHUs were introduced from September 2006, following a series of pilots, and a strategic primary care reform. FHUs are primary health care units made up of 3-8 GPs, the same number of family nurses, and a variable number of administrative staff, who were invited to volunteer to form self-selecting groups who would deliver primary care together. While the traditional working style in primary care is of GPs operating relatively independently, even if within the administrative and physical unit of the PHCU, FHUs were intended to encourage more multidisciplinary team working, and collaboration between doctors, nurses and administrative staff. Because FHUs are made up of self-selecting teams of professionals, who elect to set up the practice together, and who elect to be subject to the additional requirements included in working in an FHU (discussed further in the following sections), FHUs are generally reported to be successful and cohesive working teams.

The average FHU has around 12 000 patients, seven doctors and 20 professionals in total. These teams have functional and technical autonomy and a payment system sensitive to performance that is designed to reward productivity, accessibility and quality, with core indicators used to measure performance and tied to the payment system. The number of FHUs has been increasing steadily since their introduction in September 2006, as

health practitioner-led groups (physicians and nurses) apply to establish a FHU, a process supported by the Ministry of Health and the regions. Conversion to FHUs can also be slowed when there are difficulties finding appropriate facilities for new FHUs, and by administrative and funding limits. FHUs see only those patients on their list, and do not have to see off-list patients, unlike PHCUs.

There are some further specific differences between the services offered by PHCUs and FHUs. In some PHCUs acute cases are treated in separate facilities, staffed by the GPs of the PHCU, with opening hours varying between three and 24 hours, depending on the location of the PHCU; in FHUs acute cases are treated by GPs during their normal working hours. In most PHCUs only medical consultations are scheduled; in FHUs regular nursing appointments must also be scheduled.

In addition to the PHCUs and FHUs, some primary care services are delivered in Community Care Units (CCU) and Public Health Units (PHU). In May 2014 there were 221 CCUs, which provide care to groups with special needs and deliver particular community interventions. These units typically deliver a range of multidisciplinary services, including health care, psychological and social support, home care and patient follow-up, including follow-up for at risk individuals and families. PHUs provide comprehensive community care and support, complementing the action of the PHCUs and FHUs, and aim to promote general public welfare in the area of health. The PHUs should also monitor local health and the administration of local health strategies at a community level, and would conduct population studies and epidemiological surveillance (Pisco, 2011).

Administrative responsibility for primary delivery is held by the ACES, which are groups of primary care centres, created in 2008 to allow for a better use of resources and management structures (Barros et al., 2011). The ACES are publically funded, and organisationally independent, while siting within the relevant regional health authority. Each of the ACES has responsibility for the population of a given geographical area, for which they should provide primary care services.

Primary care innovation and reform with the establishment of the Family Health Units

In 2005, a strategic reform of primary care led by the Primary Health Care Mission, which aimed to improve primary health care accessibility, efficiency, quality and continuity of care and increase the satisfaction of professionals and citizens, was started. The reform of primary care followed a series of reforms addressing the management of the health system starting in the 1990s, including the establishment of the five health regions in 1993,

reform of the management of hospitals, and some introduction of private practice and competition into the National Health System (see also Chapter 1) (Ferrinho et al., 2006). This reform led, by 2006, to the establishment the Family Health Units (FHU) as an alternative to PHCUs.

The Primary Health Care Mission (*Missão para os Cuidados de Saúde Primários*) was created in 2005 to lead the strategy to redesign primary care provision models, the main objectives for which were to improve accessibility, efficiency, quality and continuity of care and increase the satisfaction of professionals and citizens (Barros et al., 2011; Pisco, 2011). Prior to the establishment of the FHUs, PHCUs had little autonomy, with decision making and management decisions controlled by the health regions. Particular problems within the primary care system were identified, including GP shortages and further shortages expected due to retirement (particularly in some regions), and dissatisfaction of patients and doctors with primary care provision arrangements. There were also concerns about the fact that around 15% of the population did not have a named family doctor, and about 33% of the population would typically go straight to the emergency department in hospitals, attend hospital outpatient visits, or go to private practitioners, rather than visit a PHCU (Barros et al., 2011).

In 1998, an experimental payment system for GPs, using payment according to capitation and performance indicators as an alternative to fixed salaries, was introduced on a voluntary basis for GPs working at primary care centres (Barros et al., 2011; da Silva Fialho et al., 2011). As part of this experiment 20 groups of GPs organised themselves into small, autonomous units, operating within existing health centres. The payment of these groups included a small capitation component; PHCUs were and are salaried, with an operating budget controlled by the region (and from 2008 by the ACES). Evaluation of these groups by the Ministry of Health suggested that there had been efficiency gains (da Silva Fialho et al., 2011). This experiment therefore formed some of the backdrop to the direction taken by the Primary Health Care Mission.

The Mission established that the FHUs should be created based around small and self-organised multidisciplinary teams, functional autonomy, and with a payment system that rewards productivity, accessibility and quality, and that the units should deliver a portfolio of basic services (Pisco, 2011). The documentation allowing the establishment of FHUs was signed in 2006, but it was not until 2007 that the incentives, financing and objectives affecting FHUs were fully defined. These units were described as "the organisational elementary cells on the individual and family health care provision, formed by a multi-professional team with organisational, functional and technical autonomy, integrated within the other functional

units of the primary care centre" (Ministério da Saúde, 2006; da Silva Fialho, 2008).

The establishment of FHUs was based on the voluntary submission of a self-selecting team of between three and eight family physicians, and an equal number of family nurses and administrative staff, who should cover a patient population of between 4 000 and 18 000 (da Silva Fialho, 2008; Pisco, 2011). Unlike PHCUs, In PHCCs (Primary Health Care Centre), in which employees are civil servants employed by the region, operating under a rigid and nationally established organisational structure, the working processes and organisation of FHUs is left to the employees, who negotiate goals and targets with local authorities (the region or ACES).

There are three models of FHU, of which Model A and Model B are already operational, and the organisational and financial incentives, payment structures, and organisation vary between the models. All FHUs start as Model A FHUs, and must prove that they are meeting specific quality, clinical and functional targets before they are allowed to apply to transition to Model B and theoretically eventually to Model C. Model C was developed principally as an avenue for private sector providers (for profit as well as not-for-profit) to participate in the FHU scheme. At the time of writing, no Model C units had been created.

- *Model A:* all FHUs start as Model A FHUs, and must prove that they are meeting specific quality, clinical and functional targets before they are allowed to apply to transition to Model B. All of the Model A FHU's personnel remuneration is governed by the public administration's legislation for the correspondent sector and career (e.g. legislation affecting GP salary, family nurse salary). Within Model A FHUs there is scope to negotiate the provision of additional services, and to receive additional remuneration for these services. Model A FHUs can also negotiate with the contracting agency (typically the ACES/Regions) to agree a certain set of objectives, the achievement of which leads to additional financing for the Unit.
- *Model B:* FHUs can progress from Model A to Model B, with the approval of the relevant ACES/Region. The remuneration process for Model B FHUs has two components: a fixed component and a variable one. The fixed component corresponds to the legislated remuneration, while the variable component is based on all of the supplementary payments that the FHU can receive derived from the individual health professionals' performance, and the unit's results, across a selection of indicators.

- *Model C*: this model is hybrid between public and private management. Model C FHUs can either be a public FHU with some private contracts for some specific services, or a private FHU which activities depend on previously set up contract with the Regional Healthcare Administration. This model has not been used yet but it is being prepared.

By 2014 these FHUs had increased significantly year-on-year to cover around half of the Portuguese population (see Table 2.1). All FHUs start as Model A and while some type A units seek greater autonomy under the Model B structure, others may prefer to be more stable in a less complex level (Model A). Modifications are being made to the FHU regulation so that if a FHU transitions to Model B and then sees performance drop off the FHU can be returned to Model A.

Table 2.1. Organisation of primary care at the end of 2013, by Regional Healthcare Administration (RHA)

	North	Central	Lisbon and Vale do Tejo	Alentejo	Algarve	**Portugal**
Number of ACES	24	9	15	4	3	**55**
Number of PHCUs	163	100	136	42	17	**458**
Number of FHU	200	45	124	15	9	**393**
FHU Model A	96	30	70	10	6	212
FHU Model B	104	15	54	5	3	181

Source: Information from May 2014 provided by the Portuguese authorities, see www.acss.min-saude.pt.

Payment systems differ within the primary health care system

One of the most significant differences between PHCUs and FHUs is the payment systems for personnel, particular for Model B FHUs. Staff working in PHCUs are paid based on a fixed salary. By contrast, in FHUs staff are salaried, but there is a performance based payment component, the significance of which varies depending on which model (A or B) the FHU is in.

In Model A remuneration mostly by salary, but a financial incentive component is included for the whole FHU. Attainment of this component is usually based on fulfilling certain objectives, and can be used for example in the development of key infrastructure, or completion of specified training.

In Model B FHUs, the remuneration process for all staff is formed by two components: a fixed and a variable one. The fixed component corresponds to the legislated remuneration (salary). The variable one corresponds to all supplements and compensations that derive both from the worker's performance and from the health care unit's results. FHU Model B

remuneration is in full composed of: a smaller fixed salary fraction plus a series of supplements; capitation (up to a defined ceiling); a complement for the provision of specific services under contract beyond the basic job description; a premium for achieving negotiated goals; and fee-for- service payments for house calls (da Silva Fialho et al., 2011). In Model B FHUs the performance based payment component can reach up to 30% of total physician remuneration (the rest is salary-based), and up to 10% for nurses.

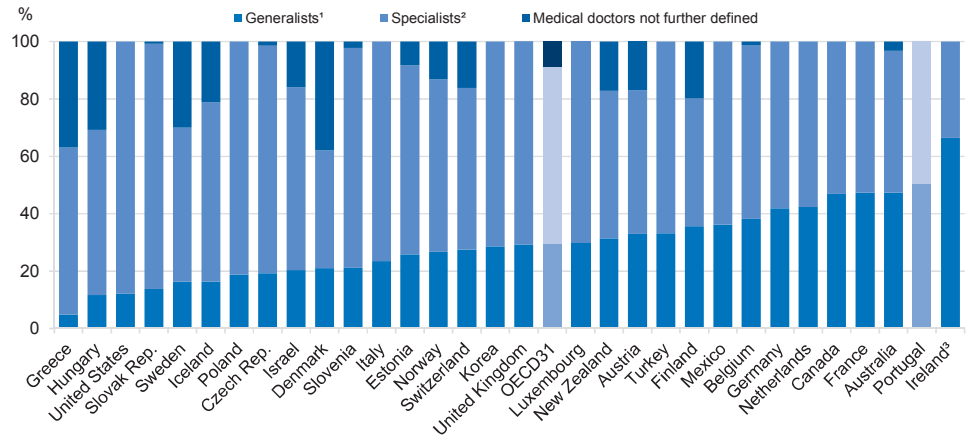
Fuller development of the components of Model C is ongoing. The expectation is that Model C will be a hybrid between public and private management – either be a public FHU with some private contracts for some specific services, or a private FHU which activities depend on previously set up contract with the Regional Healthcare Administration.

GPs/family doctors make up the bulk of the primary care workforce

The bulk of the primary care workforce is made up of GPs/family doctors, the majority of whom are primary care specialists under the "General practice and family medicine" specialism, who have received four years of primary care-specific training after graduation from medical school. Nurses commonly work in primary care settings, particularly as part of FHUs, but there is no family nurse specialism at present. Portugal has a radio of nurses: doctors that is low compared to the OECD average (1.5 nurses: one physician in Portugal, compared to 2.8 nurses: one physician across the OECD in 2011) (OECD, 2014). The ratio of nurses to doctors in primary care lower again, in 2013 there were 1.1 nurses to every doctor working in primary care (ACSS, 2013). In FHUs an equal ratio of nurses to physicians is required.

Compared to other OECD countries, Portugal has a high number of GPs and generalists per 100 000 population, with 4.2 compared to the OECD average of 1.9 per 100 000. Even excluding generalists (0.54 per 100 000 population) and other generalists (non-specialists) (1.56 per 100 000), there are 2.1 general medical practitioners in Portugal, again about the OECD average. As a share of all doctors Portugal can also be seen to have a high number of generalists, with just over 50% of all doctors working as generalists (see Figure 2.1). Compared to the workforce composition across other OECD countries generalist are well represented in the Portuguese medical workforce; only in Ireland did generalists represent a greater share of all doctors than in Portugal (OECD, 2013a).

Figure 2.1. Generalists[1] and specialists[2] as a share of all doctors, 2011 (or nearest year)



1. Generalists include general practitioners/family doctors and other generalist (non-specialist) medical practitioners.

2. Specialists include paediatricians, obstetricians/gynaecologists, psychiatrists, medical, surgical and other specialists.

3. In Ireland, most generalists are not GPs ("family doctors"), but rather non-specialist doctors working in hospitals or other settings.

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Concerns about shortages of GPs have been raised in Portugal, both because of high numbers of GPs approaching retirement (see Table 2.2), and because of the anticipated increasing importance of primary care to respond to the twin challenges of an ageing population and an increased burden of chronic disease in the years to come. The Portuguese Government has taken steps to anticipate this shortage, and increase available places for the general practice and family medicine specialisation in medical education. In terms of the number of positions open for interns in general practice and family medicine, this has increased 58% from 2009 to 2015, reflecting a major effort in this field (information provided by Portuguese Authorities, see www.acss.min-saude.pt). The introduction of the FHUs, and the fact that they constitute a more autonomous, team-based and dynamic environment for GPs, appears to have been popular amongst GPs and had a positive impact on general practice as a choice of specialisation.

Table 2.2. Rate of retirement[1] of general practitioners in Portugal, and impact on shortage of GPs (number of patients left without a GP)

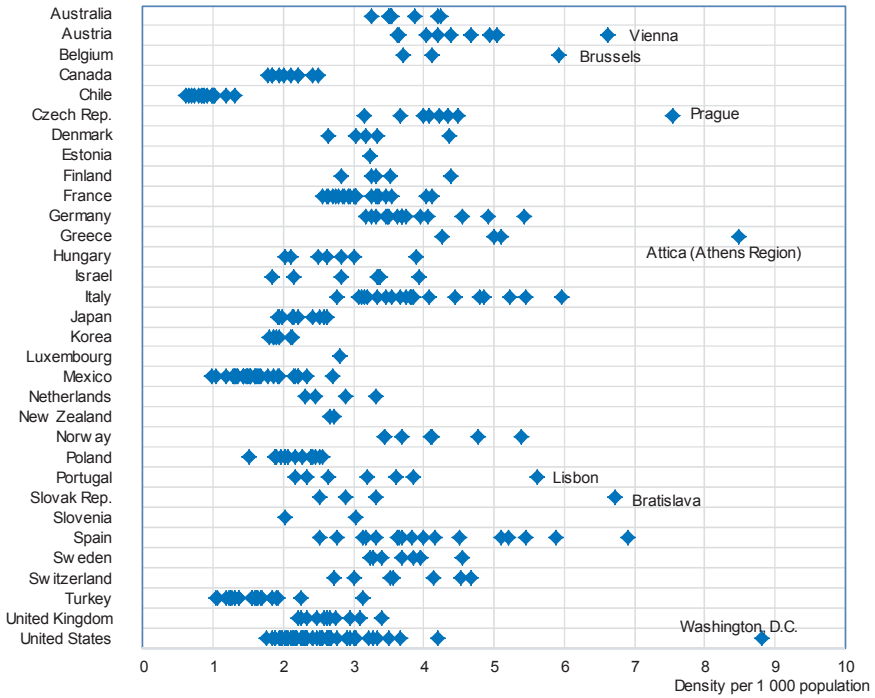
Year	Number of full time equivalent doctors at retirement age	Anticipated number of patients affected
2014	66	107 507
2015	86	142 656
2016	151	248 292
2017	193	319 582
2018	348	587 241
2019	392	664 026
2020	562	955 245
2021	610	1 027 901
2022	453	771 896
2023	303	511 433
2024	208	346 994
2025	97	160 476
2026	92	153 885
2027	64	106 412
2028	51	84 577
2029	59	99 772
2030	41	68 249
2031	46	78 280
2032	49	80 140
2033	44	71 667

1. Assumes retirement age of 65 years.

Source: Information provided by Portuguese authorities, see www.acss.min-saude.pt.

The distribution of GPs and family medicine doctors varies across Portugal, and the North and the regions of Lisbon and Tagus Valley, have the lowest ratio of GPs/family doctors: population, and are the populous regions of the country. The city of Lisbon has the highest density of physicians in Portugal (OECD, 2013a). Considering physician density by territorial level some regional disparities in Portugal are apparent, although disparities are not unlike those seen in most European countries (see Figure 2.2).

Figure 2.2. Physician density, by territorial level 2 regions, 2012 (or nearest year)



Source: OECD (2014), *Health at a Glance: Europe 2014*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance_eur-2014-en.

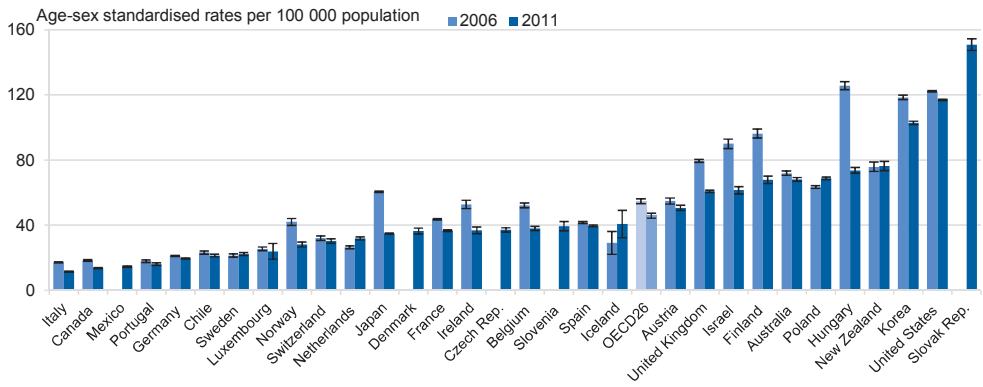
The most significant concern regarding GP distribution in Portugal is likely emerges not in looking at GP density per population, but rather in considering the travel distance required to access a GP. The Portuguese population is increasingly concentrated in the large cities of Lisbon and Porto, and in the more densely populated coastal areas. Inland areas are becoming more scarcely populated, and have a more elderly population compared to the urban and coastal areas. These populations are finding that they have to travel quite long distances to reach their nearest GP, a particular challenge for frail elderly citizens in these areas. In some regions transport services are available, and schemes where primary care providers in a mobile practice visit villages without a local GP have been set up in some places; medical home care and home care provided by nurses are also both more common in less densely populated areas.

2.3. Quality and outcomes of primary care in Portugal

Based on OECD outcome indicators Portuguese primary care is performing well

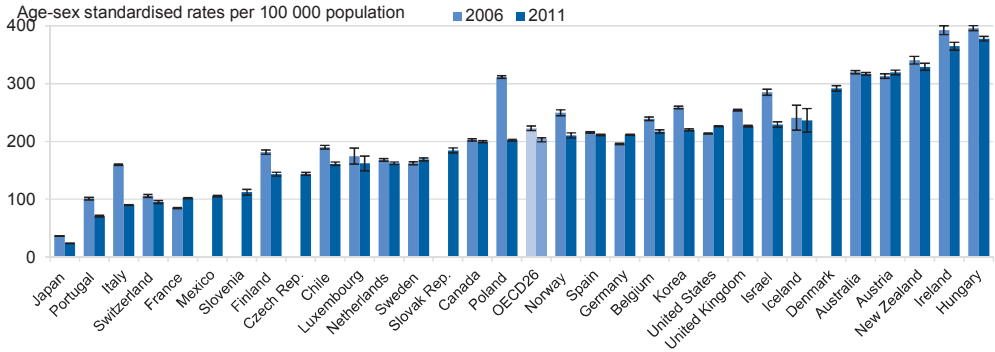
Taken as a whole, based on OECD indicators the Portuguese primary care sector appears to be performing well. Avoidable hospital admission rates for chronic conditions – an indirect measure of the quality of primary care – are well below the OECD average, in the best four countries for asthma and COPD, and the best eight for diabetes. Furthermore, age-sex standardised admission rates have been falling between 2006 and 2011 across all three indicators, pointing to consistently good performance from primary care and indeed improvements (although rates are not standardised for background prevalence of the condition, or other factors which are likely to influence admission rates). The relatively low and falling admissions for diabetes in hospitals are particularly impressive, given Portugal's very high rate of diabetes (see Figure 2.5).

Figure 2.3. Asthma hospital admission in adults, 2006 and 2011 (or nearest year)



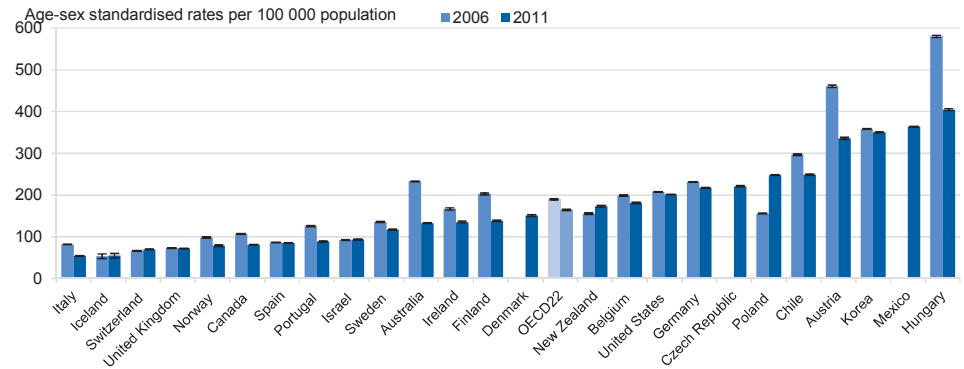
Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Figure 2.4. COPD hospital admission in adults, 2006 and 2011 (or nearest year)



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Figure 2.5. Diabetes hospital admission in adults, 2006 and 2011 (or nearest year)



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Some prescribing patterns in primary care raise concerns but are being addressed with strategic initiatives

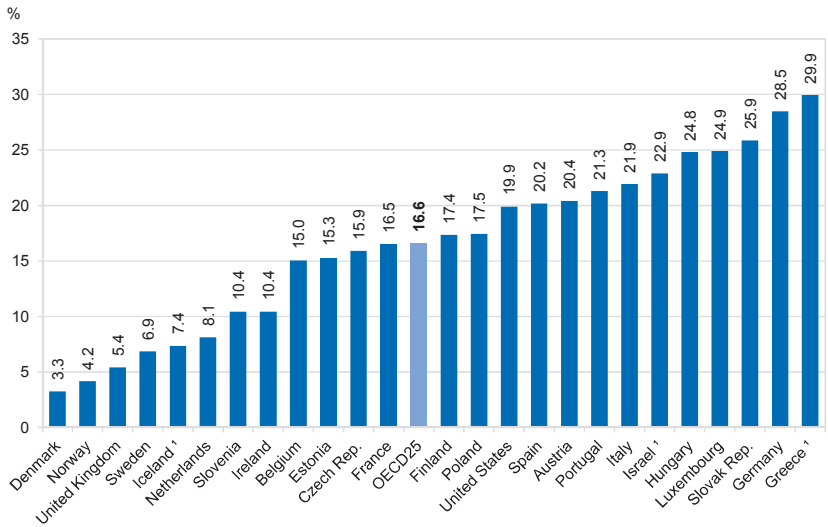
Prescribing patterns of some pharmaceuticals can also be used as indicators of the quality of primary care. Portugal prescribes a higher volume of antibiotics than is typical across the OECD, and of those a high proportion of cephalosporins and quinolones.

Furthermore, antimicrobial resistance and hospital infections are important concerns in Portugal (see also Chapter 1), and have a link to prescribing patterns of antibiotics. Consumption of antibiotics is correlated

with the spread of resistant bacterial strains, hence there is an international drive to limit their use. Infections caused by resistant microorganisms often fail to respond to conventional treatment, resulting in prolonged illness, greater risk of death, and higher costs. Reduced prescribing of antibiotics in primary care has been associated with reductions in antibiotic resistance (Butler et al., 2007). Given this, Portugal's relatively high rate of antibiotic prescribing – 22.4 daily defined doses per 1 000 population per day, compared to the OECD average of 20.5 (OECD, 2013a) – is cause for some concern.

In addition, the prescribing of second-line antibiotics in Portugal is high (see Figure 2.6). Quinolones and cephalosporins are considered second-line antibiotics in most prescribing guidelines, whose use should be restricted to ensure that a second-line treatment is available should first-line antibiotics fail. The volume of quinolones and cephalosporins as a proportion of the total volume of antibiotics prescribed has been validated as a marker of quality in the primary care setting (Adriaenssens et al., 2011; OECD, 2013a).

Figure 2.6. Cephalosporins and quinolones as a proportion of all antibiotics prescribed, 2010 (or nearest year)



1. Data refer to all sectors (not only primary care).

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Steps have been taken in Portugal to address antimicrobial resistance and hospital infections that can be linked to over-prescribing of antibiotics,

in particular various programmes to reduce antibiotic prescribing. A National Infection Control Programme was started in 1999, followed by a National Antimicrobial Resistance Programme in 2000, grouped together as the Portuguese Programme on Prevention and Control of Infection and Antimicrobial Resistance (PPCIRA) in February 2013. As part of this National Programme the management and stewardship has been extended to primary care, and mandatory epidemiological surveillance – comprehensive reporting on microbial resistance – and mandatory antimicrobial stewardship are included under the PPCIRA Structure and Mission Law No. 15423/2013. The Programme identified 80% of the problematic use of antimicrobials as coming from community settings (including primary care). The stewardship effort is led principally by Multidisciplinary Antimicrobial Stewardship Teams, who work with primary care providers and ACES, and by using scientific guidelines.

At present reported data on antimicrobial resistance are not available by primary care setting or physician. Prescribing data by health centre, region, or individual doctors is, however, available. However, it does not appear that individual doctors are making use of this data, or that national or regional management and intervention strategies are making use of the data as part of either sanctions or strategic goals for PHCUs or FHUs.

There is an extensive quality information infrastructures for primary care

Unlike almost all other OECD primary care systems Portugal has almost an excess of available information in primary care, with widespread collection of a large number of indicators. Data collected includes demographic information and clinical data (health problems, allergies, prescriptions, vaccinations), to which all health care providers have access. Portugal collects a large amount of primary care-level data on quality, going far beyond the capacities of most OECD countries, including a wide number of quality indicators. Additionally, percentage of patients with specific disease diagnoses and health status, and the incidence, are recorded (e.g. diabetes, hypertension, dementia, asthma, chronic bronchitis etc., and also obesity, high blood pressure, tobacco use).

The bulk of these indicators are collected as part of contracting arrangements with primary health care bodies – the ACES, which are groups of primary health care providers, and the providers (PHCUs and FHUs). Indicators have been included in contracting arrangements for ACES, PHCUs and FHUs since 2009, with the publication of the "Methodology of Contracting for Primary Health Care", which is applied to the given year. Each year a set of indicators used in contracting was published – "Identity

Card of Indicators Used in the Contracting of Primary Health Care" (*Bilhete de Identidade dos Indicadores de Contratualização dos Cuidados de Saúde Primários*') – which sets out clear and transparent calculation rules and specifications for the registration of a matrix of 100 indicators for contracting and monitoring, covering a large number of clinical areas and expanding the number of outcome indicators that are available in the contracting process in primary care. The indicators should provide information senior management, and be used to evaluate performance and achievement, benchmarked against other institutions, and measure dimensions of quality including access, efficiency and satisfaction. Indicators are collected across several domains – e.g. women's health and family planning; maternal health; child and youth health; hypertension; diabetes; cancer screening; mental health – a selection of which are included from the 2014 list are included in Table 2.3. A full list of indicators is available online. Some of these indicators collected are used as part of the incentives that are set for Model B FHUs.

Beyond the indicators that are collected for contracting in primary care, the national primary care information architecture is called SClinico, and covers family practice, nursing appointments, nutrition appointments, and basic emergency care. This software, developed and maintained by the Ministry of Health, covers 90% of primary care providers, and proves very cost-effective to run given that there are no licencing fees or external contracting requirements. Primary care physicians also have access to a web platform – the Portuguese Health Data Platform – through which it is possible to see all information recorded by hospitals. Patients' electronic health records can also be accessed through this web platform by the patients themselves, once registered, and can be used to request medical appointments and medication renewals. While it is increasingly possible to consult patient records from hospital in primary care settings and vice-versa – 90% of consultations of jointly accessible records were found to come from primary care settings, with just 10% of consultations coming from hospitals – the visualisation of and access to hospital electronic patient records by primary care is now possible. Billing data is also used to identify some prescribing practice, which feeds in as a quality indicator.

Table 2.3. Select indicators collected under the Identity card of indicators used in the contracting of primary health care, 2014

Indicator domain	Indicator
Organisational/cross-cutting	Proportion of consultations by the respective family doctor Overall utilisation rate of medical consultations Rate of medical consultations at home per 1 000 registered Rate of nursing visits at home by more than 1 000 subscribers Proportion of users referred for hospital consultation
Maternal health	Proportion of pregnant women with first medical consultation performed in the first trimester Proportion of pregnant women with six or more nursing visits in maternal health Proportion of postpartum home visit with nursing
Child health	Proportion of newborns with nursing home visit conducted by the 15th day of life Proportion of children with at least six medical consultations surveillance of child health in the first year of life Proportion of children with at least three medical appointments surveillance of child health in the second year of life Proportion of children under 7 years free of dental caries and other diseases of the teeth and gums Proportion of children who complete six months, with exclusive breastfeeding until the age of three months Proportion of children aged 2 years, with weight and height recorded in the last year Proportion of children 2 years of life, with appropriate monitoring in the area of child health during the second year of life
Hypertension	Proportion of clients with hypertension, with at least one record of BMI in the last 12 months Proportion of users with hypertension with blood pressure recording in each semester
Diabetes	Proportion of users with diabetes, with at least one foot examination of recorded in the last year Proportion of clients with diabetes, with record management regimen (three items) in the last year Proportion of clients with diabetes, with consultation of nursing surveillance diabetes in the last year Proportion of clients with diabetes, with at least two HgbA1c tests in the past year Proportion of clients with diabetes, with the last record HgbA1c lower or equal to 8.0% Proportion of users with diabetes, with at least one or at least referencing a record of performing examination of the retina, in the last year
Mental health	Proportion of users aged over 18 years and a diagnosis of depression who were prescribed antidepressant therapy Proportion of users aged over 65 years who were not anxiolytics or sedatives or hypnotics prescribed in the period
Adult health – screening and prevention	Share of women with mammography in recent two years Proportion of users aged years with screening for colon and rectal cancer performed Proportion of users aged 14 and over, with quantification of smoking habits in the last three years Proportion of users aged over 14 years and with smoking, whom smoking-related consultation was held in the last year Proportion of users aged 14 and over, with quantification of alcohol consumption, registered in the last three years
Pharmaceuticals	Proportion of users aged over 75 years, with chronic lower than five prescription drugs Proportion of packaging billed drugs that are generic Proportion of users aged over 65 years with no prescription trimetazidine in the last year Average spending on drugs billed for user Average expenditure per user of prescription drugs user
Patient experience	Proportion of users satisfied or very satisfied Number of days with complaints by close per 1 000 medical consultations conducted or nursing

Source: Government of Portugal Ministry of Health (2014), "Bilhete de Identidade dos Indicadores de Contratualização dos Cuidados de Saúde Primários", available at: www.acss.min-saude.pt/Portals/0/bilhete_identidade_indicadores_contratualizacao_2014___2014_02_25.pdf, accessed 22.09.2014.

2.4. Challenges facing the Portuguese primary care system

In many respects, the Portuguese primary health care system appears to be performing well. Avoidable admissions to hospital are low, suggesting that primary care services are doing a good job of managing conditions in the community. The introduction of the FHUs following the 2005 primary care reform appears to have been a success, with this innovative step being rewarded by indicators of high quality in the new FHUs. Satisfaction with primary care also appears high; Portuguese surveys of levels of satisfaction of long-term care and primary health care users found that over 80% of users in most regions were "satisfied" or "very satisfied" with the services they receive (WHO, 2010).

However, in the coming decades Portugal will face, as most OECD countries, the twin challenges of an ageing population, and an increased burden of chronic diseases, and the increased pressure on the health system that is expected to come with this. An effective response demands a high performing primary care system delivering high quality care. Furthermore, primary care quality does not appear to be evenly distributed across the Portuguese system, with some concerning disparities in quality and outcomes between PHCUs and FHUs. Considering the shaped of the primary health care system as a whole is important part of understanding how well Portuguese primary care provision is equipped to come with existing and anticipated challenges, and there are indications that emergency rooms are being quite widely used as an alternative to PHCUs and FHUs. The quality implications of these usage patterns, and the message that this sends about the services provided elsewhere, should be carefully considered.

Socio-demographic shifts and an ageing population will put pressure on primary care

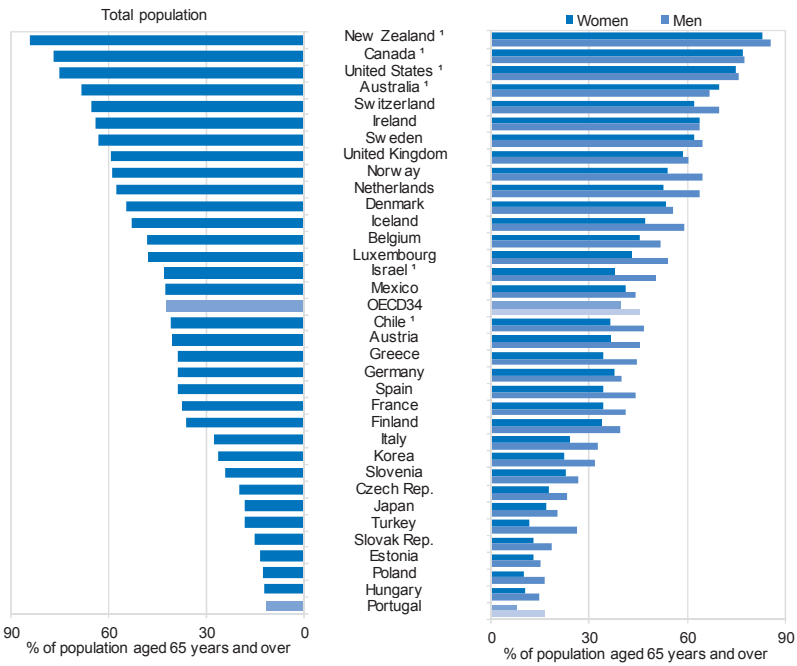
Compared to other OECD countries, Portugal already has a high percentage of the population aged 65 years and over – 18% in 2010, compared to the OECD average of 15% – and older people are expected to make up a growing proportion of the population in the next 40 years. By 2050 Portugal it is projected that 32% of the Portuguese population will be aged over 65 years, and that 11% of the population will be aged over 80 years (OECD, 2013a).

A larger elderly population can be expected to lead to increased health needs, and an increasing burden on primary care. Older populations can be expected to have greater and more complex health needs, more chronic conditions, and often multiple chronic conditions. A relationship between the population demographics and the demand for health care has already been observed in Portugal; in regions where a higher proportion the population is over 65 a greater demand for health care has been recorded, for instance a higher rate of home nursing visits.

In Portugal, the pressure of increased need for health care from older populations is made more acute by the fact that in many regions and areas associated with ageing – for example Alentejo and Algarve – there is also lower population density, driven in large part by migration of younger and professionally active populations away from these areas. Reduced population density has resulted indirectly in an increase in distance from services for many elderly populations; as regions loose population density, they are also gradually losing services and equipment given the reduced demand.

Worryingly, the proportion of the Portuguese population aged over 65 years and reporting to be in good health is very low, the lowest amongst all OECD countries. Across OECD countries in 2011 an average of 42.2% of the population over 65 reported to be in good health; in Portugal just 12% of the population over 65 reported being in good health (Figure 2.7). Older women in Portugal reported particularly poor health.

Figure 2.7. Population aged 65 years and over reporting to be in good health, 2011 (or nearest year)



1. Results not directly comparable with other countries due to methodological differences (resulting in an upward bias).

Source: OECD (2013), *Health at a Glance 2013 – OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2013-en.

Systematic co-ordination between levels of care does not appear to be full established and operationalised across Portugal, even if theoretical and informal linkages do exist. Poor care co-ordination will likely contribute to shortcomings in care, especially for frail elderly populations, and individuals with multiple morbidities. Some limited co-ordination efforts have been made, seemingly with some success. Co-ordination approaches for maternity and child health since the 1990s, and are believed to have helped with reducing child mortality effectively and fast. A similar model has since been put in place for diabetes. Nonetheless, without consistently good co-ordination between primary care, community settings, hospitals and long-term care settings, there is a real risk that vulnerable older people will slip through the gaps and their health needs go unmet. That vulnerable individuals are be well supported and followed-up at key moments, for example following discharge from hospital, is particularly important.

Risk factors for chronic disease and already high rates of diabetes give cause for concern

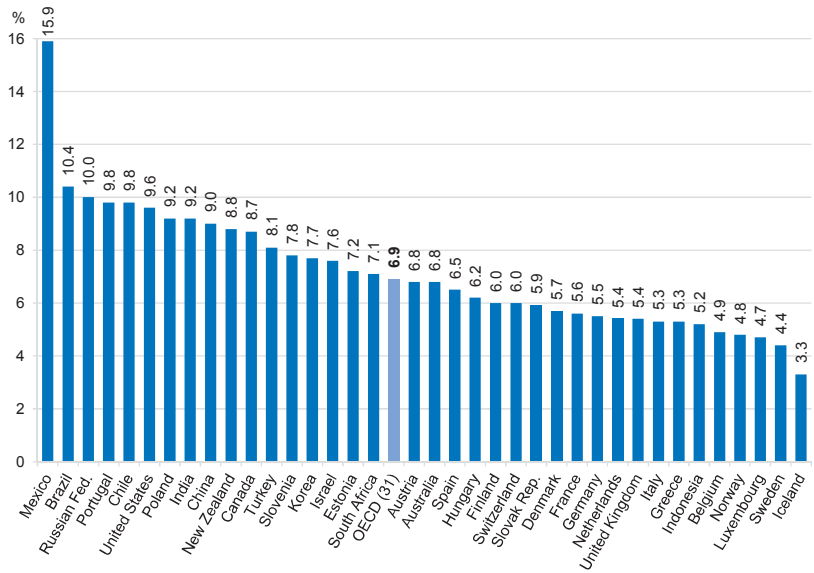
The burden of chronic diseases is already increasing in OECD countries, and is expected to continue to grow. A combination of lifestyle factors and behaviour, and populations that are living longer, is leading to greater prevalence of chronic conditions such as diabetes, COPD and heart disease. Rates of behaviour that poses a risk to health status, and the existing burden of some chronic diseases, are a cause for concern in Portugal.

Hypertension, tobacco, alcohol misuse, obesity and low physical activity are the leading risk factors for illness and disability in western Europe. In Portugal tobacco consumption amongst adults is lower than the OECD average, with 18.6% of the population smoking compared to an average of 20.6% of the population for the OECD, and has fallen by -10% since 2000 (OECD, 2013a). Obesity rates and alcohol consumption amongst adults are lower than the OECD average, and fruit and vegetable consumption is higher, all of which are encouraging signs.

However, while Portuguese adult obesity rates in 2011 were low compared to many other OECD countries – 15.4% of the population over 15 were classified as obese; OECD-wide 17.6% of the population was obese – they have been rising. Adult obesity rates in Portugal rose by 4% between 2000 and 2011 (OECD, 2013a). Relatively high rates of child obesity in Portugal, and low rates of physical activity amongst children, gives a worrying picture of population health for the decades to come. Obesity amongst children in Portugal is higher than the OECD average, for both boys and girls, and children in Portugal do less daily moderate-to-vigorous activity than children in most other OECD countries.

Portugal is already experiencing a high burden of some chronic diseases, notably diabetes and cardiovascular disease. Alongside the rise in risk factors – primarily obesity and inactivity – diabetes has been increasing rapidly in every part of the world. Both Type-1 and Type-2 diabetes inflict enormous health burdens on the community; people with diabetes are at a greater risk of developing cardiovascular diseases, and have an elevated risks for sight loss, foot and leg amputation due to damage to nerves and blood vessels, and renal failure requiring dialysis or transplantation. In Portugal, prevalence of diabetes is amongst the highest in the OECD (Figure 2.8). For many people, the onset of Type-2 diabetes can be prevented (or delayed) through regular physical exercise and maintaining a healthy weight. Cardiovascular diseases are another cause for concern; while mortality rates from ischemic heart disease are low and have been falling, deaths from cerebrovascular disease is higher than in most other OECD countries, even if mortality rates did fall by 71% between 2000 and 2011. This growing disease burden demands a response that combines prevention, and addressing the leading risk factors for disease, and good management of chronic conditions at the primary care level.

Figure 2.8. Estimated prevalence of diabetes, adults aged 20-79 years, 2011



Source: OECD (2013), *Health at a Glance 2013 – OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2013-en.

At present, the prevention efforts that should make up a core part of the fight against chronic diseases and their associated risk factors, are not well enough developed in Portugal. There are a number of National Priority Programmes run by the Ministry of Health, which include the National Programme for Diabetes, the National Programme for the Prevention and control of Smoking, and the National Programme for the Promotion of Healthy Eating. There are specific indicators around the early detection of and screening for certain diseases, notably cancer, and extensive indicators collected in primary care that should give alerts to risks such as hypertension and obesity (see Figure 2.3). There are also examples of targeted primary prevention, for instance interventions to try to prevent diabetes in high-risk groups, limiting access to certain (high in salt, fat and/or sugar) foods, and distribution of fruit in schools. The fact that secondary prevention efforts, such as management of diabetic and hypertensive patients, is monitored at primary care (and incentivised in Model B FHUs) is strength in Portugal. What is more worrying is the performance of FHUs on these indicators is markedly better than PHCUs: in 2013 the proportion of controlled diabetics in PHCUs was 41.5%, compared to 61.6% in FHU Model As, and 70.3% in FHU Model Bs; the proportion of hypertensive patients with controlled blood pressure was 37.8% in PHCUs, 53.8% in FHU Model As, and 65.2% in FHU Model Bs (information provided by Portuguese Authorities, 2014). These indicators suggest that prevention efforts are not reaching the whole population at an even rate.

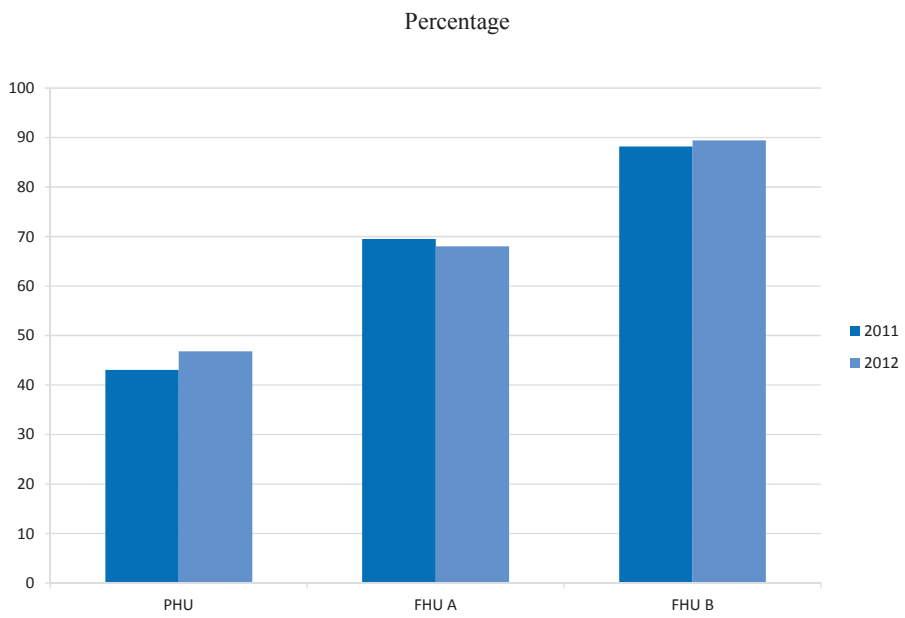
Faced with the significant challenge of chronic and preventable diseases, and a rising prevalence and burden, Portugal must maintain, if not increase, prevention efforts. It is encouraging that Portugal has not, unlike many other OECD countries, cut spending on prevention in recent years. Going forward, prevention efforts should be systematically embedded in health care practice, and in primary care, and should be reaching the whole Portuguese population. Such efforts could include evidence-based primary care interventions, for instance diet councelling in primary care (OECD, 2010), as well as monitoring of – and incentives for – good management of high-risk patients and chronic disease.

Quality is not equally distributed across all primary care settings

Whilst across primary care outcomes and quality appear to be robust and in some cases improving, available information suggests some important differences of quality and outcomes between PHCUs, and FHUs. Because population-standardised (e.g. by age, sex) data is not available across collected quality indicators, comparisons between PHCUs and FHUs are not entirely robust, but the differences do nonetheless provoke a need for further close analysis, and likely further strategic action.

Taking two quality indicators collected for FHUs and PHCUs – Hypertensive patients with blood pressure measured in Figure 2.9 and diabetics with nurse supervision last 12 months in Figure 2.10 – available data suggest that FHUs both Model A and Model B are out-performing PHCUs quite considerably. Data from 2013 suggest that FHUs perform better in terms of proportion of controlled diabetics (PHCUs 41.5%; FHU A 61.6%; FHU B 70.3%) and proportion of hypertensive patients with controlled blood pressure (PHCUs 37.8%; FHU A 53.8%; FHU B 65.2%).That Model B FHUs are performing better is to be expected, given the required performance standards for transition from Model A to Model B, but the quite significant disparity between the FHU Model A and PHCU demands further attention. There may be some explanatory factors in these differences in reported data, for example poorer data recording by PHCUs, or a more challenging patient population. A better understanding of the disparities between PHCUs and FHUs, based on further analysis of the extensive data available, is needed.

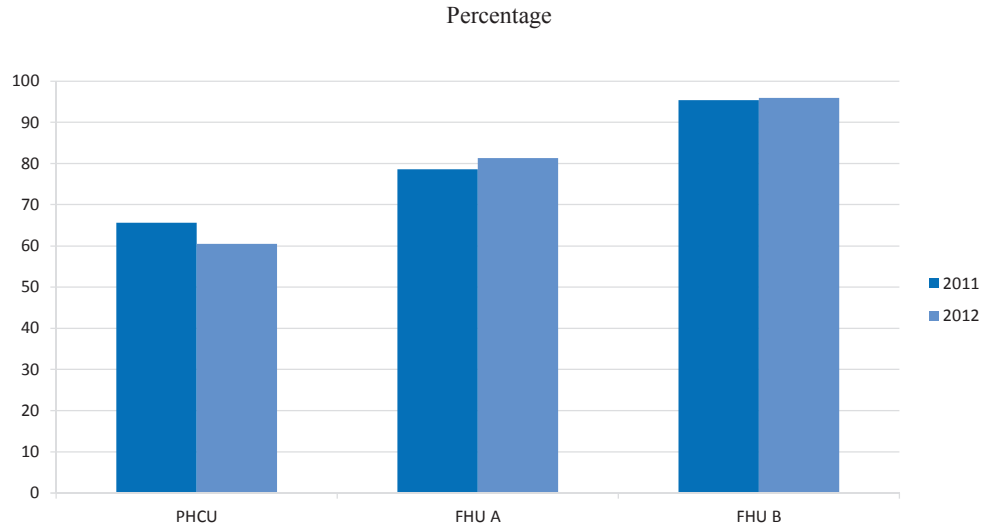
Figure 2.9. Hypertensive patients with blood pressure measured each semester



FHU: Family Health Unit; PHE: PHU: Public Health Unit.

Source: Data supplied by Portuguese authorities.

Figure 2.10. Diabetics (18-75 years) with nurse supervision last 12 months



FHU: Family Health Unit; PHE: PHU: Public Health Unit.

Source: Data supplied by Portuguese authorities.

A number of academic reviews of PHCUs and FHUs also suggest better performance by FHUs. A 2011 review by da Silva Fialho et al. (2011), comparing a selection of PHCUs and FHUs from the Greater Lisbon area, suggested that waiting time for an appointment with a GP in a FHU was 54% lower, with the total number of consultations 6% higher on average. Waiting times for emergency/acute consultations, and nursing appointments, were also lower in FHUs, and a higher average number of nursing consultations were delivered. Da Silva Fialho et al. (2011) and Gouveia et al. (2007) found that in spite of a higher level of GPs' remuneration in FHUs, global costs were lower in FHUs, with spending on diagnostic tests, pharmaceuticals and other procedures lower than in PHCUs. A comparative review by Pisco (2011) concluded that "FHUs proved to offer simultaneously more efficiency, accessibility, better working environment, greater citizen satisfaction".

More analysis is called for, but these apparent quality differences between the performance PHCUs and FHUs should be considered a problem for the overall quality of primary health care in Portugal. It is problematic, especially from an equity perspective, to have roughly half of the population with access to primary care services that are performing measurably poorer. While the gradual, organic and health professional-led transition from

PHCU to FHU has worked well up until this point, the identifiable disparities in quality and performance suggest that more decisive action is now needed.

Use of emergency departments in hospitals as an alternative to primary health care settings

There are widespread reports in Portugal of emergency departments in hospitals being used as an alternative to primary care settings. It has been suggested that citizens choose to visit emergency departments for even more routine needs, which could be dealt with by a GP, because emergency department visits are a "one stop shop", where diagnostic tests can be performed in the same visit on site. A visit to a GP, meanwhile, might require follow-up visits with diagnostic laboratories off-site (e.g. for an x-ray or laboratory tests), and then a second visit to the GP. Data on emergency department visits in Portugal appear to support reports of this practice, with visit rates between 2002 and 2011 increasing slightly.

Many OECD countries see emergency department usage for problems that could be seen in primary care settings as a major problem. Unnecessary visits to emergency departments can drive up waiting times, lead to over-use or resource intensive emergency care services, present challenges in triaging cases between the urgent and non-urgent, and contribute to costs and blockages elsewhere in the system, for example around admissions and discharges in hospitals. Generally, unnecessary hospital usage is seen as a driver of higher costs, and there are often efforts to keep this down. The United Kingdom, for example, has been placing GPs in some emergency departments, to whom non-urgent cases are directed. This approach is designed to free-up emergency department physicians for more urgent cases, reducing backlogs and waiting times (OECD, forthcoming 2015). This practice is also used in some Portuguese emergency departments, and could be made more widespread and systematic.

Whether the use of emergency departments as an alternative to primary care in Portugal is problematic or not will depend on the impact on the system, on emergency care departments, and elsewhere in the hospital sector, and the message that should be taken from these trends for the primary care system. If emergency department usage as it stands is not causing significant strain on the system, and is not considered a problem, it might be that visiting the emergency department is a good way for, for example, elderly citizens to get all of their immediate health needs met in one go, and in one location. If this is the case, efforts should nonetheless be made to provide appropriate follow-up by GPs or other community services, and to keep safety and quality high in emergency settings. Use of emergency

department as an alternative to primary care settings could, however, suggest problems with timeliness, access, and service provision in primary care, which would demand closer attention. This is an area which would merit further consideration from the Portuguese authorities, to ensure that citizens' health needs are being appropriately met, and the health system is not coming under undue strain.

2.5. Maximising the dividend from primary care in Portugal

Despite Portugal's generally high-performing system, in which sophisticated approaches to innovative delivery, organisation and payment appear to be delivering good returns, some challenges do remain, particularly around the disparity between PHCUs and FHUs, the medical workforce, and approaches to prevention.

Assuring excellence and expanding promising innovative approaches to the whole primary care system: Taking a decision on FHUs

Portugal is arguably unusual in that is effectively a two-model system of primary care operating across the country, with quite different payment and measurement mechanisms across two different ways or organising primary care. Portugal should be commended for the careful, considered and ultimately fruitful reform implemented in the primary care system. Other OECD countries have much to learn from the way in which FHUs were established, with a slow, controlled and voluntary roll-out, in-built measurement system, and a clear two-step (soon to be three-step if Model C FHUs when fully operational) for progression and, importantly to return to the more stable Model A if Model B or C FHU is struggling. The improvements that the FHUs appear to have delivered in efficiency and care quality should also hold lessons for other OECD countries – around the potential benefits of multi-disciplinary primary care practices, increasing autonomy of primary care practitioners, and incentive models and payment systems – and would certainly benefit from further evaluation.

The two-model system of primary care in Portugal is undoubtedly the result of significant innovation and bold – and apparently highly successful – reform in establishing the FHUs, this two-model system does raise some concerns. While data standardised to the population, notably age-standardised, is not available reducing the pertinence of some comparisons, available data appears to show that FHUs are outperforming PHCUs consistently in the quality of care they deliver. This disparity in quality between PHCUs and FHUs brings with it a serious risk that half of the Portuguese population have access to care of a poorer quality than the other half.

From the point of view of equity of health care quality for the Portuguese population, but also in order to set a strategic direction for the increasingly important primary care sector, a decision on the direction of the FHUs and PHCUs probably needs to be taken.

The current intention for primary care appears to be to carry on with the fairly steady conversion of PHCUs to FHUs, with the underlying assumption that all PHCUs will eventually become FHUs. However, given this quality disparities between PHCUs and FHUs this doesn't seem a robust enough approach, and more strategic direction setting is called for. Two approaches could be considered: the establishment of a date by which all PHCU must have transformed to FHUs; or the introduction of some of the quality/performance incentives and measures included in FHUs, to PHCUs.

By setting an appropriate date for the transformation of all PHCUs to FHUs, the relatively gradual and organic transformation process could be maintained, underpinned by a clear intention of eliminating disparities in quality and performance. While the transformation of all PHCUs to FHUs has potential to contribute to a more cohesive primary care system, concerns could be raised about undermining the voluntary nature of transformation to an FHU – which can be seen as part of the model's success – and the potential costs of operating the model system-wide, with the establishment of a new FHU incurring some capital outlay from Regional Health Authorities. For these reasons, the introduction of some of the quality/performance incentives and measures included in FHUs, to PHCUs is another avenue worth considering. Introducing the full suite of quality indicators collected for FHUs to PHCUs would give more granular quality information on PHCUs, and better facilitate benchmarking and comparison between the two models. Most aspects of the Model A FHU payment structure – scope to negotiate for the provision of services, and to agree a certain set of objectives the achievement of which leads to additional financial incentives – could be introduced to PHCUs without necessitating a total transformation to the multidisciplinary self-formed FHU model. This introduction would give Portuguese authorities more leverage to push PHCUs to achieve certain quality targets, and to push for the introduction of particular service provision in line with the strategic direction for primary care, for example more prevention activities.

Fully exploiting available data to drive improvements in quality

Portugal not only already collects a significant suite of quality indicators from primary care, but these quality indicators are already being used to drive improvements in quality. Most explicitly, quality indicators and targets are included in contracting with ACES, PHCUs, and FHUs, and in the incentive structures for FHUs. Awareness of areas of concern can lead to

targeted action, as appears to have been the case around prescribing of pharmaceutical generics and antibiotics – further discussed in Chapter 1.

Although Portugal is comparatively advanced in collecting quality information from primary care, to build on this impressive based, improving data linkage, and increasing the use of quality data in self-evaluation by health professionals, are two key areas for Portugal to consider. There is also increasing demand for better data linkage, again not yet in place. Quality indicators and other information systems, for example human resources information (age, type of contract) and performance data are not joined up. The better linkage of data is one of the steps Portugal should take to get the maximum utility out of its already very rich data source for primary care. The quality information for primary care collected in Portugal is already actively exploited to track improvements, and for the FHUs to check progress against set indicators and for Model B to set financial incentives. This data usage is very positive, but could go further, with more embedding of data usage by practitioners to track care quality and their own performance and outcomes. There are different ways that this could be approached, for example through benchmarking as with the Danish DAMD system (Box 2.1), or physician-level quality reports.

Box 2.1. Self-monitoring of GP practice using the DAMD system in Denmark

Denmark uses a system of automatic data capture from primary care records to monitor quality. The data include diagnoses, procedures, prescribed drugs and laboratory results. Most data is collected automatically, limiting any additional burden on GPs themselves, although annual data checks and specific research projects may request additional data via occasional pop-up screens. Participation was initially voluntary at set up of the system in 2006, but since April 2011 every practice is obliged to participate within two years (currently, just over 70% of practices are participating). Data are sent to the Danish General Practice Database (DAMD) hosted by the University of Southern Denmark.

DAMD provides a platform through which GPs can access quality reports from their own practice for over thirty areas, including management of chronic diseases such as depression, COPD, diabetes or heart failure; routine care such as childhood vaccination and provision of contraception and aspects of effective practice administration. As well as being able to identify individual patients that are sub-optimally treated, the system allows them to benchmark their practice against other practices at municipal, regional and national levels.

Source: OECD (2013), *OECD Reviews of Health Care Quality: Denmark 2013: Raising Standards*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264191136-en.

Addressing workforce balance in primary care: task shifting and the family nurse specialism

Concerns about the primary care workforce in Portugal have been primarily focused on GPs, of which there is understood to be a shortage and a worsening shortage as GPs retire. Action has already been taken in this respect, with efforts to increase available training places for GPs, but attention needed to look at the role of nurses in the Portuguese primary care system. Across the system Portugal has a low number of practicing nurses (6.1 to OECD average of 8.8) and a low ratio of nurses to physicians (1.5 compared to OECD ratio of 2.8). In primary care nurses appear to be under-supplied and under-utilised also, despite Portugal training and exporting large numbers of nurses ever year. This trend is likely related to a combination of relatively low wages for nurses in Portugal compared to neighbouring European countries (Portugal is unable to report remuneration rates of nurses as part of OECD data, but low wages have been widely commented on), and low recruitment of nurses within the system.

Nursing staff could be better used in primary care settings, including taking on a broader range of responsibilities and tasks. A fuller application of nurses' skills and competencies, and moves towards a good balance of nurses and GPs, seems to have already started in FHUS, where an equal number of nurses and physicians are required, and appointments can be scheduled with nurses directly. This positive development of nursing roles could be extended further. In other OECD countries there is a growing trend of "task shifting" in primary care, wherein a range of tasks and services that would have traditionally been performed by GPs, are taken on by specialist nurses. The range of tasks varies between countries and health systems. In Sweden, nurse-led clinics provide for patients with long-term conditions, such as diabetes and heart failure as in Sweden (Masseria et al., 2009), and nurses play a role in co-ordinating care for chronically ill patients. In Denmark, nurses have taken on new roles managing elderly patients and others with complex, chronic care needs, particularly in the context of services provided. In England the proportion of consultations undertaken by practice nurses increased from 21% to 35% between 1995 and 2008 (Goodwin et al., 2011). Some OECD countries – the United Kingdom, parts of the United States, and Sweden – allow nurses to prescribe a limited selection of pharmaceuticals, and issue repeat prescriptions.

Evidence strongly suggests that nurse practitioners, including nurse prescribers, can be effective at delivering an expanded range of services in primary care: a number of systematic reviews comparing nurse practitioners and physicians working in primary care have shown that the performance and outcomes of nurse practitioners equals and in some cases exceeds that of

physicians, with nurses often scoring higher on patient satisfaction, communication, and giving advice and patient support (Horrocks et al., 2002; Newhouse et al., 2011; Health Affairs, 2013). Nurse practitioners are nearly always paid less than physicians for providing the same services, which means that the same care can be delivered at a lower cost to the health system (Health Affairs, 2013).

In Portugal, a family nurse qualification has already been established in law – which would give nurses a patient list, would involve developing some further activities alongside physicians – but is not yet in operation. Some task shifting and increased team working is already taking place in FHUs, which are required to have equal numbers of physicians and nurses. There are potentially significant gains to be had from Portugal moving ahead with the development of this family nurse role, which could bring cost-saving benefits if nurses replaced some of the retiring GPs, and could strengthen the capacity and quality of primary care provision if family nurse responsibilities are developed appropriately. The work of nurses in FHUs in areas such as health risk prevention and follow-up of chronic diseases seems to be delivering positive results, based on the quality performance of FHUs in general. As Portugal looks to establish what services family nurse specialists should deliver, and the tasks they should be allowed to perform, there are real opportunities to look to the success of other OECD countries – England, Denmark, Sweden – in the development of similar nursing roles.

Making sure that the Portuguese primary care system is equipped to cope with the high and growing burden of chronic disease

The third major challenge for Portuguese primary care will be contributing to a wider and more robust prevention effort. A number of worrying indicators suggest an urgent need for better primary prevention: diabetes prevalence is high, child obesity is high and rising fast, adult obesity is lower but also rising. The Portuguese Government is clearly aware of this challenge, and of the weakness of current prevention approaches, and going has committed 10% of the health budget to prevention, particularly impressive at a time when other countries appear to be cutting prevention spending. Primary care should have a significant role to play. Primary care-let prevention efforts at present appear patchy, and effective interventions should be embedded in primary care practice – led by GPs or family nurses – systematically and across both PHCUs and FHUs.

Whilst there are a number of National Priority Programmes around prevention, including the National Programme for Prevention and Control of Smoking, National Programme for the Promotion of Healthy Eating, and National Programme for Prevention and Control of Diabetes, prevention

efforts do not appear to be well established across all primary care providers. Enhancing the contribution of primary care to preventing poor health and risk of chronic disease likely requires some targeted interventions. Tailored interventions in primary care have been found by the OECD (2010, 2012b) to be effective at reducing harmful alcohol consumption, and tackling obesity; counselling in primary care to tackle obesity was found, across a study of six OECD countries, to lead to a gain of up to half million life years free of disability, although is more expensive other interventions.

In Portugal there is an obvious opportunities to better embed prevention efforts in FHU primary care practice, by including set prevention activities in the agreed activities of the FHU. The inclusion of a wider range of professionals – for example dieticians, counsellors – within select FHUs could also be compensated. The scope to incentivise a more robust prevention role from PHCUs should be carefully considered by the Portuguese authority; it may be that this more rigid model of care delivery means that there is less possibility of incentivising changing services based on changing population needs. The potential for family nurses, or nurse practitioner-equivalents, to contribute to primary care-level prevention efforts is also significant, and should be considered a further motivating factor for making the Portuguese family nurse role operational.

2.6. Conclusion

Overall, the Portuguese primary care system is an impressive one. Compared to other OECD countries, outcomes appear to be good and improvements ongoing; data collection is advanced compared to many OECD countries, and the use of quality indicators in contracting, performance management and incentive setting is sophisticated. With the establishment of the Family Health Units, Portugal carefully introduced an innovative model of primary care provision, which appears to be delivering professional and patient satisfaction, good outcomes, and improved value-for-money. The next step for Portugal will, primarily, be to fully exploit the strong base of primary health care that already exists, in preparation for the changing burden of disease and ageing population. This should include efforts to assure equal levels of care quality between Primary Health Care Units and Family Health Units, as well as making sure available data is fully exploited to drive quality improvements. Filling in some of the indefinable gaps in primary care provision – under-use of nursing staff; under-provision of prevention services in primary care – will need to be achieved concurrently.

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Chapter 3

Improving the quality of hospital care in Portugal

Portugal has committed significant efforts to reorganising its hospital sector and improving quality of hospital outcome of care in recent years. These efforts – specialisation and concentration of hospital services, new models of hospital management and payment systems, developing quality and safety standards as well as supporting hospital benchmarking – suggest that Portugal is moving toward having a more rationalised hospital system. Portugal has improved hospital outcome of care (such as decreasing both caesarian-section rates and disease-specific mortality rates), and has also reduced hospital spending. Although good progress has been made, space for improvement remains and some areas of weakness can be identified.

As the 2011 hospital reorganisation occurs, it will be important for Portugal to reduce its dependency on the hospital sector for the provision of certain medical services including rehabilitative and emergency care. Portugal also needs to nurture and embed a culture of quality improvement in the hospital sector to ensure that more effective and efficient clinical processes are being implemented. Portugal might further better reward the best-performing hospitals and align financial incentives between the different types of NHS hospitals. The last key priority for Portugal not to be under-estimated is to monitor the impact of the current structural reform and ensure that quality of hospital outcome of care is continuously improving.

3.1. Introduction

Considerable effort has been invested in improving hospital care in Portugal across the past decade. Based on available evidence, Portugal appears to offer good and appropriate care to the whole population as demonstrated by low disease-specific mortality rate. In 2011 for example, Portugal reported the lowest ischemic heart disease mortality rates among OECD countries, below Japan, Korea and France. At the same time, Portugal saw one of the fastest decreases in hospital spending among OECD countries, falling by 13% between 2000 and 2011.

Taken together, these performance indicators suggest that Portugal has achieved a good balance between fiscal consolidation and a high-level commitment to continuously improve quality of acute care. Portugal's effort to improve the hospital health system reflects years of policy changes. Several reforms, characterised by the specialisation and concentration of hospital services, the introduction of new models of hospital management and the setting-up of innovative payment systems, have been accompanied by an impressive suite of quality initiatives, which together have been particularly successful to improve quality of acute care while reducing the supply of hospital services.

Despite this positive story, there are shortcomings in the hospital sector that require attention to guarantee safe, effective and patient-centered hospital care. *OECD Health Statistics* show that Portugal hospital sector remain characterised by long average lengths of stay and low discharge rates compared to the OECD average, which might suggest the heavy reliance of the health care system on hospital care. This is particularly true for certain medical services such as post-acute care and non-urgent emergency care that could be more efficiently delivered in the primary and community care settings. Other indicators around patient safety events, high rate of health care associated infections and delays before surgery also signal the presence of inefficiency or weaknesses in hospital clinical processes, suggesting that patients do not systematically received the recommended care. Last, although hospital revenue is linked to care quality and performance, the room for budget adjustment based on quality-based payments remains minor in Portugal. To drive for more significant improvement in hospitals performance, there might be a scope to deepen the links between quality and income.

This chapter suggests key options to tackle the challenges faced by the Portuguese hospital system and highlights instruments to drive quality improvement in hospital outcome of care. After providing an overview of Portugal's supply of hospital services (Section 3.2), this chapter presents its ambitious programme of reforms (Section 3.3). It then points to its

performance in examining some indicators of hospital outcome of care (Section 3.4), followed by a presentation of the main quality initiatives that have been introduced to drive for continuous quality improvement in the acute sector (Section 3.5). Section 3.6 discusses the main challenges the Portuguese hospital sector needs to tackle. The chapter finishes (Section 3.7) by suggesting key options for improving hospital outcome of care and by making several recommendations where more progress can be made.

3.2. The supply of hospital services in Portugal

The Portuguese hospital sector consists of both publicly and privately owned facilities. All hospitals belonging to the NHS are under the jurisdiction of the Ministry of Health, through Regional Health Administrations (RHAs), while private sector hospitals have their own management arrangements. Although the Portuguese hospital sector has experienced gradual reductions in the number of beds and facilities over time, long average lengths of stay and low discharge rates signal the strong reliance of the Portuguese health care system on hospital care.

Hospital services are provided by both the public and private sectors

Hospitals provide secondary and tertiary care to the Portuguese population, which are managed by the five RHAs (further described in Chapter 1). RHAs are responsible for the supervision and control of hospitals and for contracting services with public and private hospitals for NHS patients (Barros et al., 2011). Since 2002, prospective global budgets based on negotiated contracts are allocated to NHS hospitals. It is an activity-based prospective payment model involving systematic DRG grouping (called hospital case-mix adjusted budgets). The DRG component accounts for 50% of hospitals financing, while the remaining payment comes from bundle payment, out-patient activity and depends upon hospital performance (further described in Section 3.3).

Since the 1990 NHS law that instituted a mixed health care system, secondary and tertiary care is provided by both the public and private sectors (Busse et al., 2011). The place of the private sector is large and is mainly responsible for carrying out specialist visit, elective surgery, ancillary test and kidney dialysis. In 2012, according to official statistics, there were 103 private hospitals (both for profit and not-for-profit); of these, only two had a relevant NHS contract (both not-for-profit). Contracting with purely private hospitals has decreased over time, but public-private partnerships have become more common in recent years (see Section 3.3). There were also 104 public-owned hospitals, either stand-alone, part of hospital centres or part of local health units.

The state owns NHS hospitals are managed as independent institutions. Public hospitals are allowed to make profits and run deficits, although the Ministry of Health generally compensated deficits (Busse et al., 2011). NHS hospitals are involved in elective and non-elective care, ambulatory surgery, maternity service, diagnostic procedure, ancillary test, and accident and emergency service.

Portuguese hospitals can be classified according to the type of care they provide:

- *Hospital centres and groups* (HC), providing highly specialised services with advanced technology and specialist human resources;
- *Specialised hospital,* providing a broad range of specialised services in the areas of oncological treatment, mental health, physical medicine and rehabilitation, and children hospitals;
- *Local Health Units (ULS – Unidade Local de Saúde),* which constitute groups of NHS health care providers that integrate hospitals and primary care centers of the same geographical area;
- *Other type of hospitals,* not integrated in hospital centres or groups, or other forms of concentration of hospitals.

Portuguese public sector hospitals are currently classified in one of four groups (according to Portaria No. 82/2014, issued on April 10th 2014), based on their responsibilities and the medical and surgical specialities offered to the population:

- *Group I hospitals* have a catchment area of 75 000 to 500 000 inhabitants, with no indirect influence area, and have a low degree of differentiation and specialisation.
- *Group II hospitals* have a direct influence area and the indirect influence area of group I hospitals, and some medical specialities such as ophthalmology, dermatology or rheumatology.
- *Group III hospitals* have all medical and surgical specialities, with direct and indirect reference areas.
- *Group IV hospitals* are specialised in oncology, physical medicine and rehabilitation, psychiatry and mental health care.

There are currently 23 HC, nine individual hospitals, eight hospitals in ULS (which include primary care centres), three oncology institutes, one institute specialised in ophthalmology, three physical medicine and rehabilitation institutes and one psychiatric hospital centre.

In terms of management type, six are traditional public administration hospitals (called *Hospitais SPA*), 38 have public enterprise status (called *Hospitais EPE*) and four are public-private partnership arrangements (please refer to Section 3.3 for more information about models of hospital management).

It is worth noting that even though the role of the private sector is important in Portugal, the capacity and activity of the NHS hospitals are larger than the private hospitals. Numbers of inpatient beds, appointments, outpatients or emergency department visits per 1 000 population are all larger in the public sector that the private sector (see Table 3.1).

Table 3.1. Comparison between NHS and private hospitals, 2010

	NHS hospitals	Private hospitals
Number of inpatient beds	23 841	9 598
Number of appointments per 1 000 population	1 092,4	37.7
Number of outpatient visits per 1 000 population	88,5	22.2
Number of emergency visits per 1 000 population	657,9	71.6

Source: Information provided by the Portuguese authorities.

Both NHS and private hospitals are concentrated in the coastal region, especially in the major urban centres. The more specialised hospitals are located in main districts, specifically in the northern RHA (Oporto), central RHA (Coimbra) and Lisbon RHA (Lisbon).

Specifically, NHS hospitals are distributed geographically as follows:

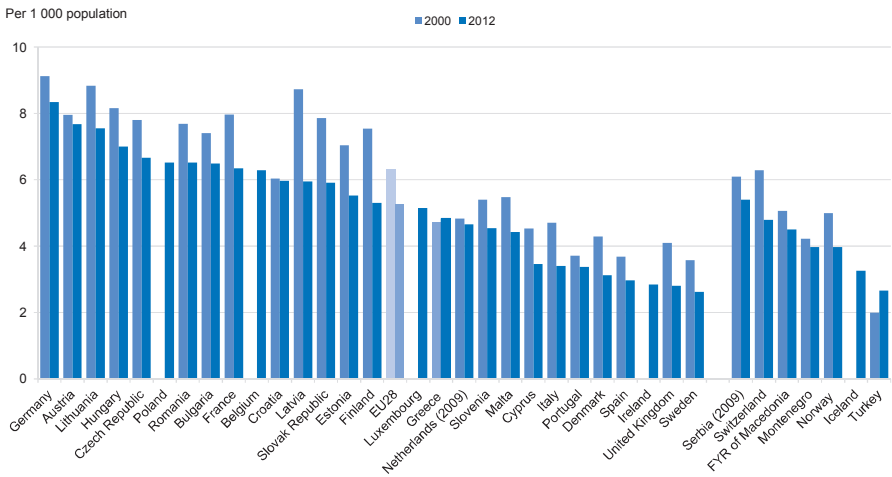
- *Northern RHA:* nine HC, one hospital, three ULS, one oncology institute, one physical medicine and rehabilitation hospital and one psychiatric hospital;
- *Centre RHA:* five HC, four hospitals, two ULS, one oncology institute and one physical medicine and rehabilitation hospital;
- *Lisbon RHA:* eight HC (one is a psychiatric centre), three hospitals, one oncology institute, and one institute specialised in ophthalmology;
- *Alentejo RHA*: one hospital and three ULS;
- *Algarve RHA:* one hospital centre and one physical medicine and rehabilitation institute.

Portugal has seen a gradual reduction in the number of beds and facilities over time

As in most other OECD countries, Portugal has seen a progressive reduction in the supply of hospital services. Relative to its population size, Portugal has the sixth lowest number of hospital beds and has nearly a third fewer hospitals than other OECD countries (Figures 3.1 and 3.2).

In 2012, the number of hospital beds in Portugal was 3.4 per 1 000 population, below the EU average of 5.2 beds (Figure 3.1). The number of hospital beds in Portugal has decreased by 9%, to 3.4 per 1 000 population in 2012 from 3.7 per 1 000 population in 2000. In line with many OECD countries, the decrease in hospital beds has coincided with advances in medical technology; a reduction of average length of stay in hospitals and an increase in the number of day surgery (OECD, 2014a).

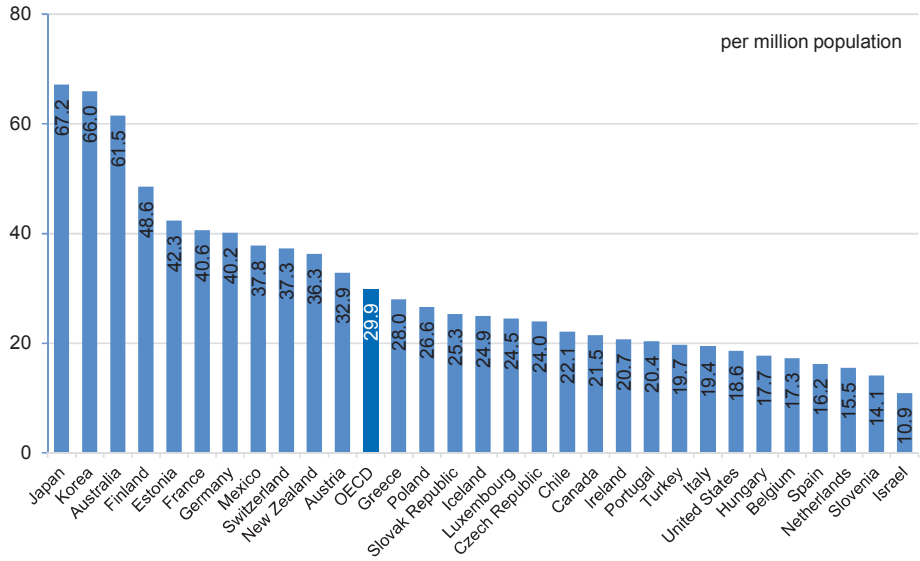
Figure 3.1. Hospital beds per 1 000 population, 2000 and 2012 (or nearest year)



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en, Eurostat Statistics Database, WHO European Health for All Database.

Trends in hospital numbers have also been similar to those in other OECD countries (Figure 3.2). The number of hospitals has decreased by 15% between 1990 and 2012, going from 24 hospitals per million population in 1990 to 20 hospitals per million population in 2012. Such reductions have been entirely driven by a decrease in the number of public sector hospitals. The number of public hospitals has decreased by nearly 30% between 1990 and 2012; while the number of private hospitals has increased by 10% over the same period.

Figure 3.2. Hospitals per million population, 2012 or latest year available



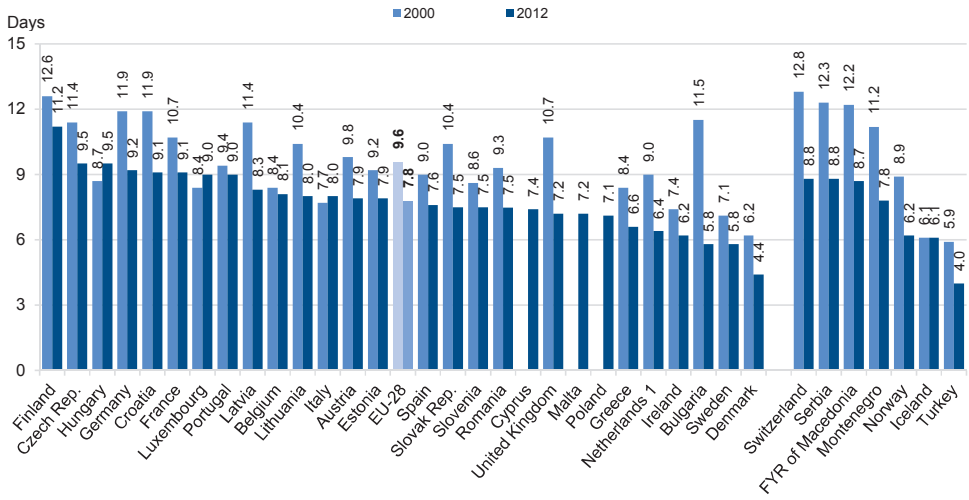
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.

Long average lengths of stay and low discharge rates reflect the heavy reliance of the Portuguese health care system on hospital care

Although the supply of hospital services has been gradually reduced in Portugal, the average length of hospital stay (ALOS) is the eight highest (Figure 3.3) and the hospital discharge rates are the third lowest among European countries (OECD, 2014a). Together these figures reflect the heavy reliance of the Portuguese health care system on hospital care.

The average length of hospital stay in Portugal is at nine days, a figure that is above the OECD average of 7.8 days (Figure 3.3). The reduction in ALOS between 2000 and 2012 was also very slight and below the average decrease seen in other OECD countries. At the same time, Portugal reports among the lowest hospital discharge rates across OECD countries, which reflects (together with long average length of stay) the heavy reliance of the health care system on hospital care (OECD, 2014a). Another potential explanation is the poor availability of post-acute care settings to provide rehabilitative care for patients upon discharge.

Figure 3.3. Average length of stay in hospital for all causes, 2000 and 2012 (or nearest year)



1. Data refer to average length of stay for curative (acute) care only (resulting in an under-estimation).

Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO-Europe Health for All Database.

3.3. An ambitious programme of reform has been undertaken over recent years

The structure of supply of hospital services described in the previous section reflects years of policy changes. Since the early 1990s, Portugal has pursued a number of reforms to rationalise its hospital sector. Overall reforms have been undertaken in three different directions:

- *The first one* is the specialisation, concentration and downsizing of hospitals services. A process of horizontal and vertical integration of hospitals has occurred, which has conducted to the differentiation of hospital function;
- *The second* is the introduction of new hospital status and models of hospital management; which has been accompanied by a new payment system;
- *The third direction* is a further reorganisation of the hospital sector through the 2011 reform which is comprehensive in scope, and is explained in more detail below.

The hospital sector has been first reorganised by a process of horizontal and vertical integration

Portugal's programme of restructuring its hospital sector began in the early 1990s to bring together quality and efficiency gains. Three measures can be mapped-out.

First, small hospital departments or units have been closed. This was particularly the case for small maternity departments and emergency departments which saw a small number of patients. The decision to close hospital departments was based on clinical safety criteria and decided on the basis of technical report. Second, maternity, psychiatric and emergency services have been concentrated into fewer but larger units. Third, two or more nearby hospitals have been put under the same management team. In this case, hospital services have been concentrated into some major hospitals, and Portugal started to set-up large specialised hospitals centres (which integrate two or more hospitals). The overarching objective of establishing hospital centres was to reinforce the complementarity between hospital units (to promote a better use of resources) and also to differentiate the function of hospital beds. These hospitals centres were being created to promote resource rationalisation, synergies between hospitals and their services, achieve efficiency gains, improve access and drive quality improvement. Between 2005 and 2009, 17 hospital centres were created and at present there are 23 hospital centres in Portugal (Simoes et al., 2014).

The reorganisation of the hospital sector has successfully reduced the supply of hospital services. The number of public hospitals in Portugal has dropped from 634 in 1970 to 67 in 2008 (Barros et al., 2011) and *OECD Health Data* show that per capita bed density has fallen by 16.5% between 1990 and 2011. It is important to note that Portugal has developed the National Network of Integrated Continuous Care in 2006 to shift opportunities for treatment towards care-delivery settings other than hospital for long term care, which has also contributed to reducing acute hospital beds. As a result of this reorganisation, Portugal saw one of the fastest decreases in hospital spending among OECD countries, along with Mexico and Iceland. Hospital spending has for example decreased by 13% between 2000 and 2011 in Portugal, which is well above the 3% average decrease seen in other OECD countries.

The specialisation, concentration and downsizing of hospitals services are still ongoing processes in Portugal. The RHA of Lisbon for example, has seen a recent concentration of 32 hospitals into 16 hospitals units. In the same region, the number of acute beds has been reduced from 8 150 in 2011, to 8 000 in 2012 and to 7 850 in 2013. Overall, all hospitals experienced a reduction in the number of beds, with greater significance in Lisbon. The

gradual reduction in the number of hospital beds and facilities has been associated with a reduction in the number of hospital admissions. In 2010 and 2012 for example, the number of admissions in the RHA of Lisbon decreased by 7% and 2.3% per year respectively.

Besides horizontal integration, Portugal started vertical integration from 1999 with the creation of Local Health Units (ULS – *Unidade Local de Saúde*). USL constitute groups of NHS health care providers that integrate hospitals and primary care centers within the same geographical area. USL have a centralised management and have co-ordinated services between both hospitals services and primary health centres. This model of care intends to improve multi-disciplinary co-operation between different level of care to achieve efficiency gain and provide more patient-centred care. USL are seen as central to meet the challenge of providing effective and co-ordinated care for patients with multiple needs. In 2014, there were eight USL in Portugal (three of these units in the Northern Region, two in the Centre and another three in Alentejo). Since 2009, ULS are financed through a mixed model including an adjusted capitation, pay for performance, service level agreement, and taking into account patient flows to and from the catchment area.

New models of hospital management have been introduced

The 2002 hospital reform introduced new forms of management to bring together quality and efficiency gains. Two types of intervention have been undertaken: i) the transformation of some NHS hospitals into hospital enterprises, and ii) the development of public and private partnership. These transformations have been accompanied by the introduction of a new payment system for hospitals based on explicit contracting programme (the so-called *Contratos Programa*), and combined with an adapted DRG payment system.

Transformation of public hospitals into public enterprises

The first policy change occurred in 2002 with the transformation of 34 public hospitals (corresponding to half of the supply of hospital services) into 31 Incorporated Public Hospitals (called *Hospitais SA*), latter transformed into public enterprises (called *Hospitais EPE*) (OECD, 2004; Barros et al., 2011). Hospitals that were not involved in the transformation process continue to have the same public status (called *Hospitais SPA*).

This transformation gave more managerial, administrative and financial autonomy to EPE hospitals. The overarching aim of the measure was to provide management accountability to hospitals board to increase quality and efficiency. While SPA hospitals are under the direct administration of

the government, EPE hospitals remain under the public property but differ from the latter in terms of management arrangement.

In particular, the reform introduced an explicit separation between the purchaser and the provider of hospital services. For both *Hospitais EPE* and *Hospitais SPA*, explicit contract programme have been agreed with the Ministry of Health (represented by the Administraçao Central de Sistema de Saùde - ACSS and the RHA). Each year, hospitals have to commit to certain levels of activities in return for an overall yearly budget. Beyond production level, contract sets qualitative targets and quality standards (OECD, 2004). Nearly 5% of the contract reward EPE and SPA hospitals for improved outcomes, quality and productivity. With the new hospital status, performance indicators and management improvement are being systematically monitored (see Section 3.5). The NHS can further apply penalties to EPE hospitals up to 1% of the contracts' overall amount according to certain activities including for example the drug prescribing patterns.

In 2014, there were six SPA hospitals and 38 EPE hospitals among NHS hospitals or hospital centres (and four hospitals were being public-private partnership hospitals – see below).

Creation of public-private partnership hospitals

The second policy change was the creation of public-private partnerships (PPPs) in 2001. PPP hospitals are public institutions with administrative, financial and asset management autonomy under contracted private management (OECD, 2004). In this case, hospital services are jointly provided by public and private parties sharing financial, technical and operational risk. The overarching objective of creating PPP hospitals was to improve general performance in the health sector and also ensure that private funds will finance a new set of urgent hospital investments. The RHA are the legal public contracting entities for PPP.

As already mentioned, there are four PPP hospitals in the Portuguese NHS, one in the Northern RHA of Braga, and three in Lisboa's RHA (in the municipalities of Cascais, Vila Franca de Xira and Loures).

PPP involves two different contracts: a first contract of 30 years for building and equipment; a second contract of ten years related to clinical management. The contract regarding clinical management includes:

- the production lines computed from DRGs and using patient case-mix (inpatient, outpatient appointments, with different prices for first and follow-up visits; emergency episodes),

- the unit price, which is established at the time of the final private proposal and which is annually updated according to official inflation rate,
- performance and service indicators to reach (and for some, minimum annual values to be respected), whose assessment will translate into payment deductions in case of under-performance.

Several differences have been acknowledged between PPP and EPE hospital contracts. First, PPP hospital's contracts are reported as more rigid than EPE hospital's contracts. Although the link between quality standards and hospital revenue is common to both PPP and EPE hospitals, quality and performance targets are different. Overall, PPP contracts are more detailed and are more demanding with a longer list of indicators to monitor. No performance bonuses apply to PPP hospitals but penalties can be applied, up to 5% of the overall contract if quality standards and performance results are not achieved. There are other differences beyond quality and performance targets between EPE and PPP hospital's contracts including for example the price of hospital services, the production lines and the requirements toward the maintenance of building and equipment.

The new payment system for NHS hospitals

Following the transformation of hospital status, a new payment system has been introduced for NHS hospitals. NHS hospitals receive an activity-based prospective payment model, based on negotiated contract (called *Contractos Programa*), involving systematic DRG grouping and the computation of hospital case-mix adjusted budgets (Barros et al., 2011). The setting-up of a contracting programme provided an explicit separation between the purchaser and the provider of hospital services. These hospital budgets are allocated by the Ministry of Health through the ACSS.

In 1997, Portugal was one of the first European countries to apply a DRG-type payment system, which now determines nearly 50% of the hospital revenue (while it represented only 10% of hospital revenue in 1997). The NHS started to use DRG-based hospital budget allocation to encourage a more efficient use of resources through increasing hospital productivity and also to curb the uncontrolled growth of public expenditure in the health sector (Busse et al., 2011). The DRG system in Portugal applies to all NHS hospitals for inpatient care and ambulatory surgery. Overall, 669 DRGs are defined within 25 Major Diagnostic Categories (MDCs). The DRG system is supervised and maintained by the ACSS within the Ministry of Health. All patients discharged from hospital are classified into DRGs on the basis of the principal diagnosis, secondary diagnoses, procedures, age,

sex and discharge status. The DRG-based case payments cover the full costs of treatment for a patient in a particular DRG. Out-patients and patients treated in psychiatric and rehabilitation care settings, as well as private hospitals are not included in the DRG system (Busse et al., 2011).

With the introduction of the hospital contract in 2002 (following the new hospital status), hospital have to commit to certain levels of activities for other hospital services including external consultations, emergency department episodes and day care, in return for an overall yearly budget. These services are paid on the basis of fee-for-services with a volume cap that is negotiated between the hospital and the ACSS. A price for each line of activity is thereby established, enabling a payment for the activity effectively done.

Care for certain chronic diseases is paid through bundle payments, which are also covered by the hospital contract. As part of bundle payments, packages of care are defined for patients with complex health needs such as patient with HIV, multiple sclerosis, pulmonary hypertension, breast cancer, cervical cancer, colorectal cancer or hepatitis C. In this case, hospitals are reimbursed for the whole episode of care to improve the delivery of effective and co-ordinated care. Lastly and perhaps more importantly, quality and performance targets are defined in the hospital contract. Nearly 5% of the total hospital budget is allocated to hospital according to their performance levels. The list of activities that are incentivised for EPE and SPA hospitals are presented in the table below (Table 3.2).

Other indicators might have an impact on the prices applied in the hospital contract. All caesarean sections performed over the maximum volume contracted are, for example, paid as vaginal delivery. By way of contrast, all first outpatients visit referred by the family physician and all telemedicine appointments are paid with a 10% bonus to hospital. Overall, the introduction of financial bonuses and penalties in the acute care sector is one of the most innovative policies to use financing in order to drive improvements in quality of care across OECD countries.

Table 3.2. List of indicators used for pay-for-performance purpose for EPE and SPA hospitals

Access	
	Percentage of primary care visit in the total of medical visits
	Percentage of patients referred from primary care physician (within the maximum waiting times defined by law)
	Percentage of outpatients discharged in the total outpatient visits
	Percentage of surgical patients treated in a timely manner
	Inpatients referred to the long-term care network in a timely manner
Clinical performance	
	Average length of stay Percentage of readmissions within 30 days
	Percentage of patients with a length of stay above the maximum threshold
	Percentage of hip fractures with surgery performed within 48 hours of admission
	Percentage of day case surgery in total elective surgeries (amongst surgical procedures that can be performed in day-case setting)
	Percentage of generic medicines prescribed
	Percentage of surgeries where the Surgical Safety Checklist has been used
Economic and financial performance	
	Percentage of spending on overtime, supplements and sub-contracting in the total personnel expenses
	Reporting a positive or null earnings before interest, taxes, depreciation, amortisation
	Growth of debts overdue

Source: Information provided by the Portuguese authorities.

In sum, the negotiated contract for SPA and EPE hospitals cover the following set of activities:

1. inpatient episodes and day case activities are financed through the DRG system adjusted by case-mix (representing 45% and 9% of the overall contract respectively,;
2. outpatient visits are paid on the basis of fee-for-services (paid according to the number of visit and representing 17% of the overall contract),
3. emergency medical services are paid on the basis of fee-for-services (paid per episode except if patients are admitted to hospital and representing 8% of the overall contract),
4. packages of care for some chronic diseases are paid through bundled payments defined per patient treated per year (representing 10% of the overall contract),

5. quality of hospital outcome of care and financial sustainability are paid through pay-for-performance (representing 5% of the overall contract),
6. other services which represent 6% of the overall contract.

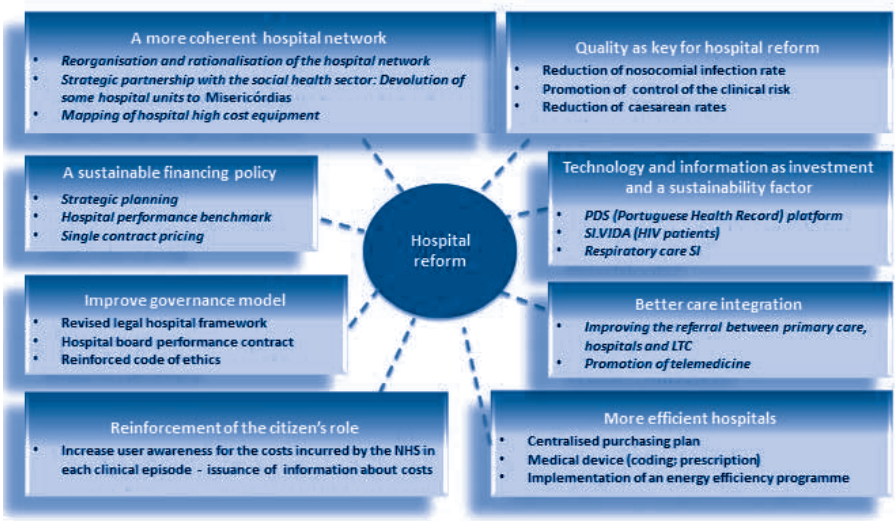
The reform around the hospital payment is impressive and has been particularly successful at exploiting both quality and efficiency. Evidence suggests that the introduction of the DRG system has led to a decrease in ALOS and in discharge rates among NHS hospitals, which are both signs of greater efficiency. In particular, more patients are being treated and in a shorter time since the introduction of the DRG payment system, the latter being found to be a key cost-control instrument (Busse et al., 2011). The introduction of quality-based payments to boost hospitals' performance regime has also brought both quality and efficiency gains in the acute sector. Incentivising day-case surgery for example led to reduction in in-patient cataract surgery of 8.2%. At present, almost 100% of Portuguese patients have their cataracts replaced as day-cases, which is internationally recognised as the best practice. In a similar vein, in 2014 more than 75% of all elective surgeries that can be performed in day-case surgery are performed in the ambulatory setting and significant progress has also been made regarding the reduction of waiting times and readmissions rates.

Introduction of structural measures to further reorganise and rationalise the hospital sector

The 2011 reform intends to further reorganise and rationalise the hospital sector through the introduction of several structural measures. As part of the National Targets for Hospitals Reorganisation, eight initiatives (gathering overall 70 initiatives) have been set-up covering for example the financing policy, the governance model, the reinforcement of the citizen´s Role, quality or greater integration of care (see Figure 3.4).

From 2011, each hospital must establish with the help of the RHA a three-years action plan for the hospital reorganisation. The reform implementation is continuously monitored by RHAs, which evaluate the degree of changes in hospital practice or improvements that have been made toward achieving specific targets. Regarding the specific target of achieving greater quality in hospital outcome of care for example, the Ministry of Health reported that changes in practice have been noted for 29% of NHS hospitals while continuous improvements have been noted for 33% of NHS hospitals.

Figure 3.4. The 2011 hospital reform measures: Eight strategic initiatives



Source: Information provided by the Portuguese authorities.

Overall, results of the ongoing reform are found to be effective and successful. The specific objectives of reducing nosocomial infection rates, caesarian rates or promoting the use of standardised quality indicators have been recently achieved (see Annex 3.A1).

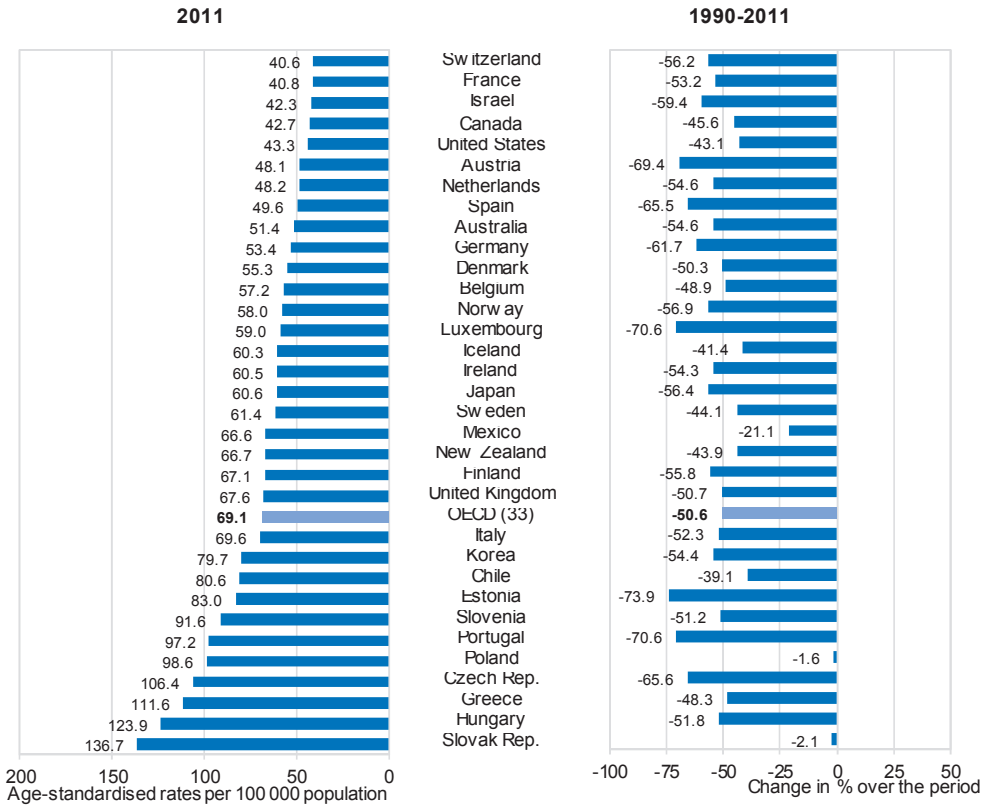
3.4. Performance of the hospital sector on indicators of quality of care

Portugal shows a mixed picture on indicators of quality of care in hospitals compared with other OECD countries. Although significant progress has been made over the past decades in reducing disease-specific mortality rates, Portugal still lags behind OECD averages on some processes and quality indicators as demonstrated by still high caesarean-section rates, in-hospital case fatality rate for ischemic stroke and other patient safety indicators. This relatively poorer performance in acute care signals that improvements can still be made.

Significant improvements have been made in reducing disease-specific mortality rates

Portugal has made good progress in reducing disease-specific mortality rates. The country reports for example a significant reduction of cerebrovascular disease mortality rates in the OECD, falling from 330.1 deaths per 100 000 population in 2000 to 97.2 in 2011. The mortality rates have been cut by nearly two-thirds over the period which is the strongest reduction after Estonia and Luxembourg (Figure 3.5).

Figure 3.5. Cerebrovascular disease mortality, 2011 and change 1990-2011 (or nearest year)



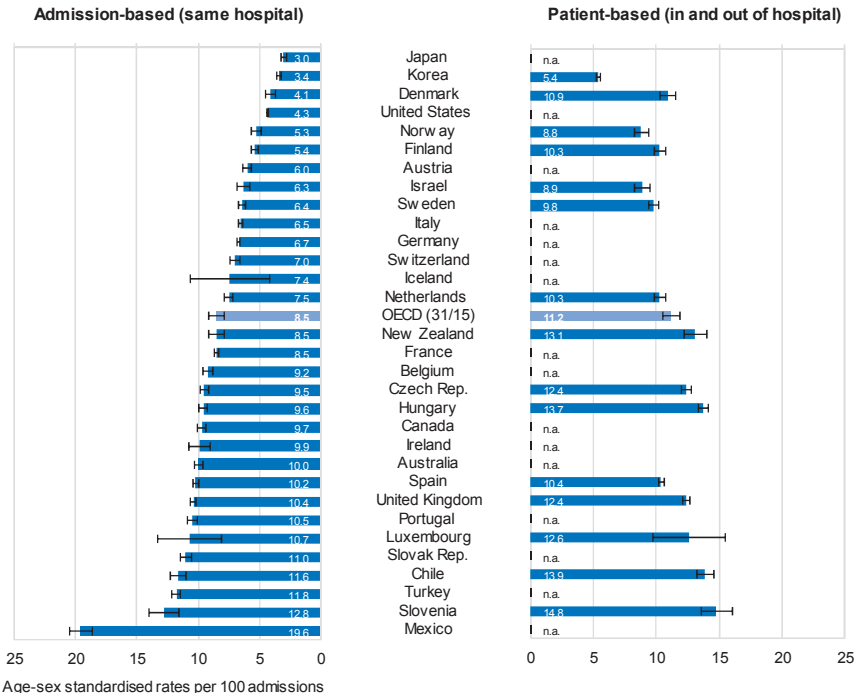
Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Mortality rates from ischemic heart disease (IHD) have also been reduced between 1990 and 2011. In 2011, IHD mortality rates in Portugal are the fourth lowest among OECD countries (after Japan, Korea and France), with 51.7 deaths per 100 000 population. Improvements in cerebrovascular and IHD mortality rates can be attributed not only to a reduction in risk factors but also in medical treatments and medical care (OECD, 2013). It is worth noting that Portugal displays a low within country variation in adherence to clinical practice guidelines for patients with chronic heart failure compared to other OECD countries such as the Czech Republic, France, Israel and Italy (OECD, forthcoming 2015a), which is an important conditioning factor improving cardiovascular mortality rates.

Portugal still lags behind OECD averages on some acute care and patient safety indicators

Although Portugal has successfully reduced disease specific mortality rates, substantial scope for further quality of acute care exists. The hospital performance after acute myocardial infraction (AMI) and ischemic stroke, as measured by in-hospital case fatality rates, falls far behind other OECD countries such as Denmark. Portugal's in hospital case fatality rates within 30 days after admission for ischemic stroke was in 2011 one of the highest among all OECD countries, with an age-sex standardised rate of 10.5 per 100 patients compared to 8.5 per 100 patients across OECD countries (see Figure 3.6). In a similar vein, the in-hospital fatality rate for AMI in Portugal ranks above the OECD average, at 8.4 per 100 patients in 2011 (OECD, 2013). Overall, relatively higher in-hospital case-fatality rates for AMI and stroke in Portugal compared with other OECD countries might indicate that patients do not systematically receive recommended care for these conditions.

Figure 3.6. Case-fatality in adults aged 45 and over within 30 days after admission for ischemic stroke, 2011 (or nearest year)

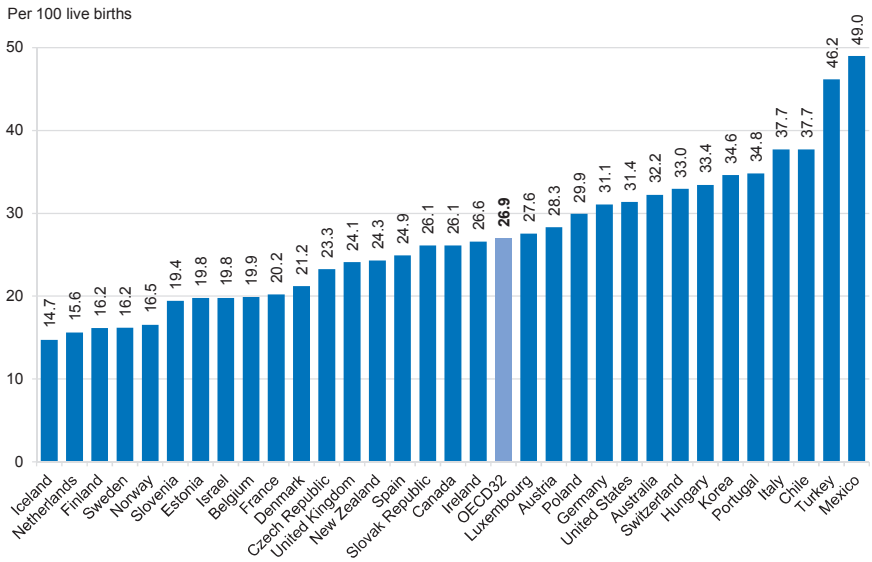


Note: 95% confidence intervals represented by H.

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Portugal also displays a poorer performance than other OECD countries with respect to caesarean-section rates or patient safety events that should never occur such as failure to remove surgical foreign bodies (Figures 3.7 and 3.8).

Figure 3.7. Caesarean-section rates, 2011 (or nearest year)



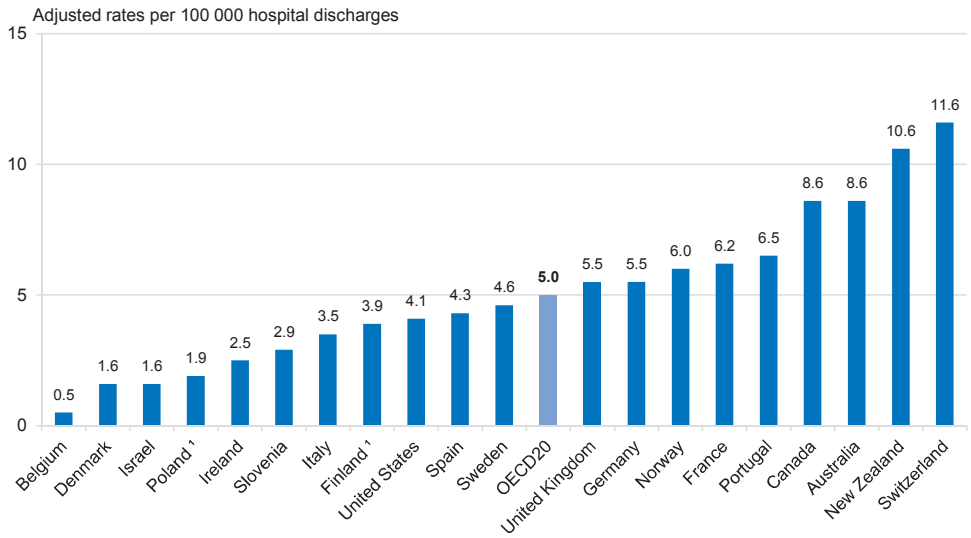
Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

While Portugal has made good progress to decrease its caesarean-section rates over recent years, it is worth noting that the country still reports the fifth highest rates of caesarean deliveries amongst OECD countries. In 2011, more than a third of live births in Portugal were delivered using this clinical procedure (Figure 3.7), while it might result in increased maternal mortality, maternal and infant morbidity and increased complications for subsequent deliveries. As a result, Portugal has set-up a specific programme to address this issue. A set of ten indicators related to caesarean sections are monitored and hospital payment is link to these quality indicators (ACSS, 2014).

Regarding patient safety events, Portugal reports the fifth highest rates of foreign body left in during procedure among OECD countries, with rates of 6.5 per 100 000 hospital discharges (Figure 3.8). In an effort to address this issue, it is worth noting that Portugal has recently established several patient safety programmes (further described in Section 3.5). Research

suggests that methodical wound exploration, and effective communication among the surgical team including across hierarchies, can act as preventative measures.

Figure 3.8. Foreign body left in during procedure in adults, 2011 (or nearest year)



Note: Some of the variations across countries are due to different classification systems and recording practices.

1. The average number of secondary diagnoses is < 1.5.

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

3.5. A number of quality assurance mechanisms have been recently instituted to assure minimum standard of acute care, promote patient safety and encourage hospital benchmarking

Portugal is ahead of several OECD countries with regards to the number of quality initiatives that have been recently introduced to improve hospital outcome of care. These quality initiatives range from the introduction of a national accreditation system, a number of patient safety programme to the development of sophisticated tools for monitoring and benchmarking hospital outcome of care. Although impressive, these quality initiatives need to be maintained to further nurture a culture of quality improvement in the hospital sector.

The national accreditation system has a service-by-service approach that needs further consolidation

The introduction of the national accreditation programme (the *Agencia de Calidad Sanitaria de Andalucia* – ACSA programme) is a key strategy to promote quality in hospital outcome of care. The ACSA programme resulted from a co-operative agreement with Spain. A memorandum of co-operation was established between the Ministry of Health of Portugal and the *Consejaria de Salud* of Andaluzia, for sharing policies in terms of health care quality.

In September 2010, a specific co-operation protocol between the Directorate-General of Health (DGS) of Portugal and the Agency of Sanitary Quality of Andalusia (non-profit public entity) was established, with the goal of ensuring co-operation between both organisations to develop and share a model of health accreditation respecting the nature and organisation of each health system. The ACSA accreditation model has been approved by Ministerial Decree as the official and national model for the accreditation of public health institutions. The programme, based to some extent on the Joint Commission International, is recognised as the best fitting the Portuguese reality with respect to the demographic, epidemiologic, social and cultural context of the country.

The national accreditation programme, managed by the *Departamento da Qualidade na Saude* (DQS) at the DGS, intends to meet the key priorities contained in the National Health Programme. The programme is:

- patient-centred
- equitable and sustainable and focuses particularly on clinical management
- set-up to overcome the major quality issues that have been identified within the NHS.

The national accreditation programme focuses on Services and Health Care Units, Clinical Competencies, Continuous Training Programmes and Health Web Sites. The accreditation process for hospitals (and other health services) is supported by a computer application conceived to support all the phases of the accreditation process (@Qredita, available at http://acredita.dgs.pt/?cpp=1).

The accreditation programme covers an expanding number of hospital services but the system is voluntary and its role remains still rather minor. At present, nearly 22% of hospitals (11 hospitals from a total of 48), are implied in the ACSA accreditation programme. By September 2014, seven hospital units were accredited, an additional 13 were in such a

process, nine were about to start and an additional eight were negotiating to participate (www.dgs.pt/em-destaque/reconhecimento-da-qualidade-no-servico-nacional-de-saude.aspx).

The hospital accreditation as a whole has a "generalist" character because priority is given to accrediting hospital services or units. This is a valuable approach which recognised the fact that in large hospitals or other units of care, there might be significant divergences between departments with regard to the offered quality of care.

Discussion with important stakeholders in Portugal however points to two main challenges with respect to the implementation of the national accreditation programme: the first one is the existence of large variations in adherence rates across regions; the second one is a lack of involvement of some hospital management boards. Encouraging and supporting those regions or hospitals where outcomes of care are weaker to engage in the accreditation process might be advisable to ensure that all Portuguese citizens, regardless of their location, can access to high quality care.

To consolidate the ACSA accreditation programme and expand its coverage across the countries, Portuguese authorities and its regional agencies might thereby consider establishing greater strategies to support and guide regions or hospitals in the implementation of the standards and the accreditation scheme. As seen in Australia (see Box 3.4), support strategies can include educational training, teleconferences with health service representatives, accreditation workbooks, implementation guides for each standard, a telephone and e-mail advice centre and mediation service for health services.

There is strong commitment to develop a patient safety culture in Portuguese hospitals

In 2011, the DQS at the DGS launched a pilot study using the Hospital Survey on Patient Safety Culture that has been developed by the Agency for Healthcare Research and Quality (AHRQ) in the United States. The pilot study aims at assessing patient safety culture, evaluating changes in patient safety culture over time and at measuring the impact of patient safety interventions.

To this end, the Hospital Survey on Patient Safety Culture was translated and validated to match with the Portuguese context. The survey includes 42 items that measure 12 patient safety dimensions at hospital and department levels covering for example the staffing, the organisational learning or management support for patient safety (see Table 3.3). In 2011, Portugal was still lagging behind other OECD countries such as the

United States and the United Kingdom with respect to five dimensions (teamwork, action promoting safety, organisational learning, communication openness, number of events reported) (see Table 3.3).

Table 3.3. The Hospital Survey on Patient Safety Culture: Results from four OECD countries

Dimensions – Hospital Survey on Patient Safety Culture (AHRQ Publication No. 04-0041, September 2004)		Results (%)				
		United States (2004)	Spain (2008	United Kingdom (2010)	Portugal (2011)	Portugal (2014)
1	Teamwork	74	72	75	73	71
2	Supervisor/Manager expectations & actions promoting safety	71	62	68	62	59
3	Hospital management support for patient safety	60	25	45	48	49
4	Organisational learning	71	54	66	68	65
5	Overall perceptions of patient safety	56	48	59	59	53
6	Feedback and communication about error	52	44	56	54	52
7	Communication openness	61	48	60	52	52
8	Number of events reported	52	47	71	44	37
9	Teamwork across hospital units	53	42	41	51	48
10	Staffing	50	28	34	47	34
11	Handoffs	45	54	43	59	53
12	Non-punitive response to error	43	53	31	41	26

Source: Information provided by Portuguese authorities.

The pilot study has led to the establishment of the biannual project "Patient Safety Culture Assessment in Hospitals", which is mandatory for all hospitals since 2013. The project is under the responsibility of the Quality and Patient Safety Commissions in each hospital. It involves a continuous quality improvement cycle based on assessment, results analysis, identification of improvement areas and planning actions. All NHS hospitals were required to register to the project during the first trimester 2014; the hospital assessment started during the second trimester, following by the elaboration of national and institutional reports, by institutional evaluation, the identification of improvement areas and the planning of improvement actions. By the end of 2014, hospitals received their results and the national report is being elaborated. In 2014, the last dimension so-called "Non-punitive response to error" needs intervention (Table 3.3).

Portugal is also actively involved in the international Safe Surgery Save Lives programme. The programme, initiated by the WHO, intends to improve the safety of surgical care around the world by defining a core set of safety standards that could be applied in all WHO member states. In 2010, Portuguese authorities translated WHO recommendations to

produce guidelines on safe surgery, establish a surgical safety checklist and issue a guideline manual. According to the 2010 and 2013 guidelines:

- all NHS operating rooms must follow the WHO surgical safety checklist
- surgical Apgar score must be used in all surgeries and a registry must also be established in the operating rooms information infrastructure.

The implementation of the safe surgery programme is the responsibility of the operating room director in each hospital. On the ground, local strategies to improve communication and team work within surgical teams are expected to be adopted; local audits are recommended (with the template of audit sheet distributed) and all hospitals are expected to report the level of implementation. The evaluation of the programme is based on the following process and outcome indicators:

- Process indicators
  - rates of utilisation of the surgical safety checklist
  - rate of lists with registered faults
  - rate of non-compliance on the use of the surgical safety checklist.
- Outcome indicators
  - surgical Apgar score
  - unplanned return rate to the operating room in the next 24 hours
  - mortality rate on the day of surgery
  - post-operative in-hospital mortality rate
  - mortality rate in day by surgery procedure
  - in-hospital mortality rate after surgical procedure
  - surgical site infection rate
  - rate of surgical sentinel events.

The national campaign in Portugal called "Hand Hygiene, a Shared Responsibility" also began in October 2008. The overarching aim of the campaign is to train health professionals and improve awareness and education at the hospital level. Activities related to the campaign include leaflets, posters, press releases and a dedicated web-based portal to facilitate data collection on hand hygiene compliance.

Although evaluations of patient safety programmes are not yet available in Portugal, the Hand Hygiene and the Safe Surgery Save Lives campaigns will be key instruments to help drive improvements in hospital outcomes of care, through reducing the prevalence of patient safety events (such as failure to remove surgical foreign bodies and health care associated infection). Other projects, such as the introduction of Notification of Incidents and Adverse events or the national programme to prevent antimicrobial resistance programme also aim at improving patient safety at hospital level as further described in Chapter 1.

The Portuguese performance management system for hospital is unusually sophisticated

The information infrastructure for hospital is impressive and one of the most sophisticated among OECD countries. The system has been developed by the ACSS in 2013. The information infrastructure architecture is nationally standardised, enabling to plan and monitor quality of hospitals outcome of care on an ongoing basis for all NHS hospitals. The set of performance indicators is rich, and made publicly available through the benchmarking portal (see http://benchmarking.acss.min-saude.pt).

Four dimensions are collected to measure hospital performance: access, quality, productivity and financial indicators (see Box 3.1). Each indicator is available on a monthly basis to hospitals providers and users on the web-platform, and they can be disaggregated to hospital and region. As well as being able to identify hospitals where patients are sub-optimally treated, the system allows providers and users to benchmark hospital practice against other practices at regional and national levels.

Every three months, a benchmarking report is published, the robustness of which is augmented by clustering hospitals into comparable groups based on principal component analysis. Benchmarking results are discussed regularly between the ACSS and each hospital. The information system is therefore adequately exploited to monitor hospital activity and is a commendable quality improvement platform. It gives hospital the ability to adjust their performance during the course of the year. Providing hospitals with data around their relative performance gives hospital providers and managers with the tools to first identify areas of concern and then systematically target these areas through improvement strategies.

Box 3.1. The information system for hospitals in Portugal

The information system and benchmarking process for hospitals have the overarching aim of providing access to quality and performance information to users, providers and policy makers, as well as supporting patient choice and foster competition between NHS hospitals. It enables to better understand variation in hospital outcome of care and in financial or economic performance between hospitals and across regions. This is critical for policy makers to explore any shortcomings, and identify areas that may require specific improvement initiatives. Lastly, the performance management system promotes the diffusion of best-practice which enables to learn from the top-performing hospitals or regions.

The following indicators are collected and used for benchmarking activities:

- Access indicators
  - rate of consultations in a timely manner
  - rate of consultations performed within the maximun guaranteed time period of reply (TMRG)
- Quality indicators
  - rate of day-case surgery
  - rate of readmission within 30 days
  - rate of inpatient episodes with a length of stay longer than 30 days
  - rate of caesarean-section delivery
  - rate of hip fractures surgery performed within 48 hours
  - rate of inpatient episodes correctly coded
- Productivity indicators
  - adjusted physician-to-patient staffing ratio
  - adjusted nurse-to-patient staffing ratio
  - annual occupancy rate in hospital
  - observed vs expected length of stay
  - length of stay before surgery
- Financial indicators
  - per-patient operating costs
  - per-patient costs of health professional
  - per-patient total costs
  - per-patient costs of pharmaceutical product
  - per-patient costs of pharmaceutical medicine
  - per-patient costs of clinical material
  - per-patient costs of providing external services
  - percentage of overtime costs in the total health personnel cost
  - percentage of outsourcing costs in the total health personnel cost

Source: http://benchmarking.acss.min-saude.pt.

Together, the information infrastructure and the benchmarking activity of the ACSS, which has a high level of detail and statistical sophistication, support patient choice, quality improvement and quality assurance in the hospital sector.

It is worth noting that the ERS (further described in Chapter 1) also collect quality indicators in the hospital sector. ERS has developed a National System of Health Quality Assessment (*Sistema Nacional de Avaliação em Saúde* – SINAS) to compare hospital performance on the basis of a comprehensive set of indicators and to produce regular annual reports (Simoes, 2013). Results of hospital evaluation produced within SINAS are presented to the public in the form of ratings scale. Five quality dimensions are assessed: Clinical Excellence, Patient Safety, Adequacy and Comfort of Facilities, Patient Satisfaction, and Patient Focus. At present, 73 hospitals are voluntary involved in the SINAS programme (43 public, 20 private for-profit, and ten private not for profit).

Given the important role played by both the ACSS portal and the SINAS system to monitor and benchmark quality and performance in the hospital sector (plus the initiatives developed by the DQS at the DGS to improve hospital outcome of care), it seems advisable to improve the co-ordination and co-operation of Portuguese institutions in this area.

3.6. Challenges in the hospital sector

Although the preceding section highlights some ambitious and effective quality initiatives, there are some persisting challenges in monitoring and improving the quality of care in the hospital sector. As well as continuing its efforts toward the specialisation and the reorganisation of the hospital sector, other key challenges for Portugal relate to the heavy reliance of the health care system on hospital care, the presence of inefficiencies or weaknesses in clinical processes and also relate to the incentive structure associated with the payment system.

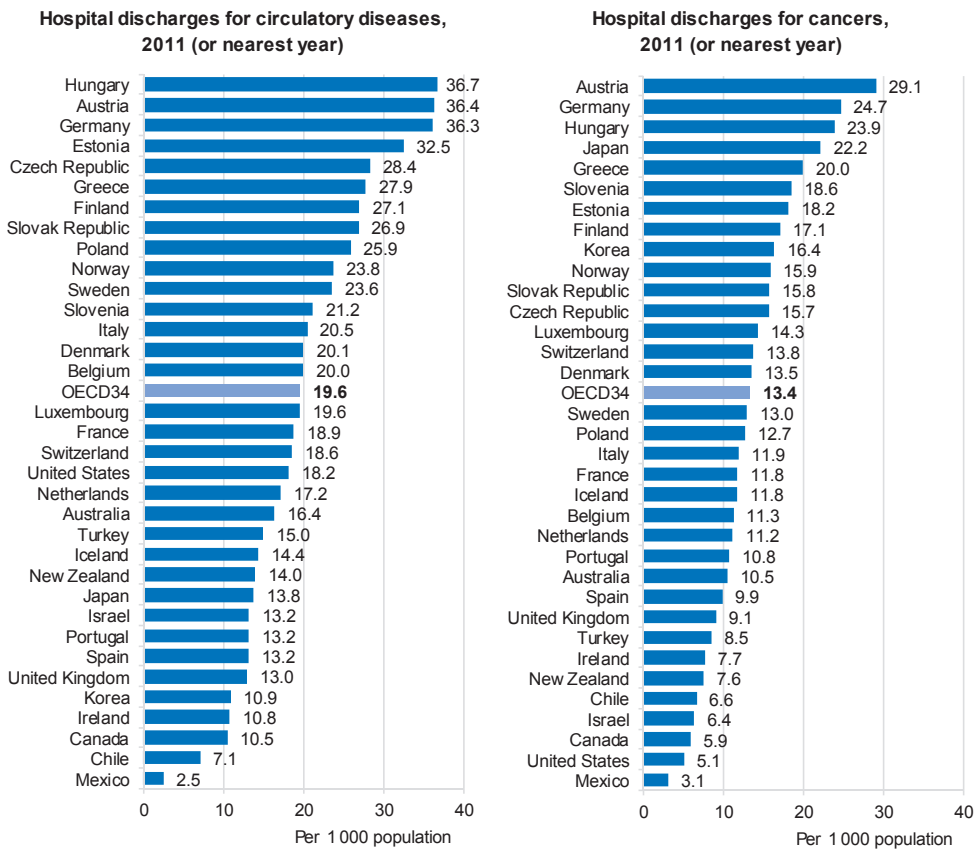
The Portuguese health care system has heavy reliance on hospital care

Despite many efforts to downsize its hospital sector (see Section 3.3), the Portuguese health care system has still heavy reliance on the hospital sector for the provision of certain medical services. This is demonstrated by several indicators including long ALOS, low discharge rates for certain medical conditions and high number of in-hospital emergency care visits.

As noted in Section 3.2, patients in Portugal likely face unnecessarily prolonged hospital stays. While day case surgery has been widely expanded over the past decade, ALOS in Portuguese hospital is longer than in most

other OECD countries. The ALOS for acute myocardial infarction for example is 7.9 days, while in Norway, Turkey and Denmark, the ALOS is four or below (OECD, 2013). Portugal also reports low discharge rates (see Figure 3.9): hospital discharges for circulatory diseases is 13 per 1 000 population in Portugal, compared to an OECD average of 20 per 1 000 population in 2011. In a similar vein hospital discharge rates for cancer is 11 per 1 000 population in Portugal, which is below the OECD average of 13 per 1 000 population. Long average lengths of stay, together with low discharge rates for chronic conditions or long-term affections, might indicate poor availability of services and personnel in the community to provide rehabilitative or other non-acute care services to patients after discharge.

Figure 3.9. Hospital discharge for circulatory diseases and cancers



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

At the same time, the number of visits to emergency departments (EDs) is among the highest in Portugal across OECD countries. The number of ED visits per 100 population has slightly increased over time, going from 68.4 ED visits per 100 population in 2002 to 70.5 ED visits per 100 population in 2012 (Berchet, forthcoming 2015). The increase in ED utilisation affect adversely quality of care and patient's outcome, it places further strain on health professional workload and also results in higher health care cost. Overall, it has been estimated that nearly 42% of ED visits could have been dealt in the community or primary care settings (DGS, 2014).

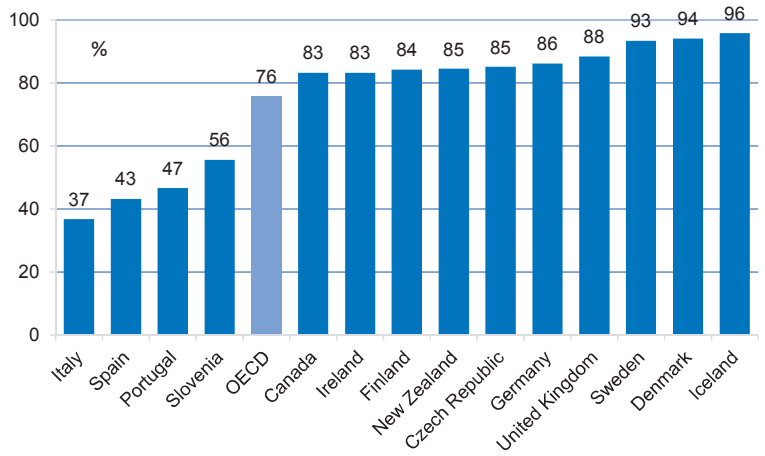
The heavy reliance of the Portuguese health care system on the hospital sector is related to both patient preferences and to the organisation of the health care system, notably the access and availability of alternative sources of care beyond the hospital setting (and especially to provide post-acute care). Despite efforts to reduce the dependency on the hospital sector through reducing the supply of hospital services, progress are still slow to shift non-acute care from inpatient to less expensive post-acute settings.

Inefficiencies in some clinical processes are sources of concern in the hospital sector

Portugal's ambitious quality initiatives are well designed and should be maintained, particularly since there are important signals of inefficiencies and weaknesses in certain clinical processes. Despite impressive progress, high rate of health care associated infection (HCAI), patient safety events, delays before surgery and high prevalence of caesarean-section rates are together sources of concern in the Portuguese hospital sector.

Portugal falls far behind other OECD countries with respect to HCAI and patient safety events. In 2012, the HCAI prevalence rate in the hospital sector is nearly 11% which is well above the EU average of 6% (ECDC, 2013). With regard to other patient's safety indicators, such as sentinel events, Portugal reports one of the highest rates of foreign body left in during procedure among OECD countries (although the indicator is subject to under-reporting) and the country also displays rather poor performance on post-operative sepsis in adult (see Chapter 1). Beyond surgical complications, Portugal lags behind OECD averages with high caesarean-section rates or delays before surgery for hip fracture. Whilst delays before surgery for hip fracture increases both morbidity and mortality, Portugal reports the third lowest share of patients aged 65 years or older having hip fracture surgery initiated within 48 hours (see Figure 3.10).

Figure 3.10. Hip fracture surgery initiated within 48 hours, population aged 65 or more, 2011



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.

Together, these international comparisons are important signals of inefficiencies or weaknesses in clinical processes, which imply additional costs and result in long term disability and excess deaths. They suggest that patients in Portugal might not systematically receive the recommended care. Clinical practice needs to be better standardised and Portugal authorities should ensure that hospital providers comply with standard of care or clinical practice guidelines. Follow-up clinical audits performed by the DGS show that the global compliance rate for hospital providers is about 58%, ranging from 21% in the region of Alentejo to 81% in the region of Algarve. Although within country variation in adherence to recommended treatment is lower in Portugal than in other OECD countries (especially for chronic heart failure), the overall variation in adherence rates across regions suggests that there is still room for improvement. To go forward, Portugal needs to ensure that more effective and efficient clinical processes are performed to deliver safe and appropriate care, and especially in areas that remain to be addressed.

The room for budget adjustments is minor for RHAs

As the Section 3.3 emphasised, the budget allocated to NHS hospitals depends upon their performance levels. Quality standards and performance level are agreed in the contracting arrangements made between the Ministry of Health (through the ACSS and the RHA) and the hospital board. Although several activities are being incentivised in the hospital sector

including for example readmission rates, discharge rates, rates of day-case surgery or rates of hip surgeries performed within 48 hours (see Table 3.2), quality-based payments only account for 5% of the total hospital revenue. The budget adjustments that can be made by the RHA according to the quality of care and the performance of hospital remain therefore limited, reducing the scope for quality improvement. Portugal needs to further increase the link between quality and hospital revenue, in particular in clinical areas of poor performance.

At the same time, the incentive structure associated with the payment system is different between SPA, EPE and PPP hospitals. SPA, EPE and PPP hospitals do not face the same financial incentives to deliver high quality of care because of a different contracting process. Whilst PPP hospitals are found to be more keen to engage in quality initiatives than SPA and EPE hospitals, the former do have clearer and more specific incentives toward improving quality of care. As already noted in Section 3.3, PPP contracts are more detailed and are more demanding with a longer list of indicators to monitor. At the same time, no performance bonuses apply to PPP hospitals but financial penalties (up to 5% of the overall contract) are applied if quality standards and performance results are not achieved.

All NHS hospitals need to be equally held to the same high standard of delivering effective and safe acute care. This will be critical to ensure that all patients staying in Portuguese hospitals, regardless of their status, can access high quality care.

3.7. Improving quality of care while conducting the current hospital reform

To improve quality of care while conducting the current hospital reform, key priorities for Portugal is to shift non-acute care from hospital to post-acute care settings by better exploiting capacity at primary and community level. To this end, Portugal might consider developing post-acute care facilities for patients upon discharge or introducing new model of emergency care, as seen in other OECD countries. Portugal needs also to nurture and embed a culture of quality improvement in the hospital sector to ensure that more effective and efficient clinical processes are being implemented. Portugal's next challenge will also to further consider reviewing the incentives system linked to hospitals performance. Better rewarding the best-performing hospitals and aligning financial incentives between hospitals are possible ways for actions. The last key priority for Portugal is to monitor and evaluate the impact of the current structural reforms in the hospital sector.

Shifting care from inpatient to non-acute care settings

As the current hospital reform occurs through the reorganisation of the hospital network, Portugal needs to strengthen its efforts towards reducing the dependency on the hospital sector. This is particularly important for the provision of certain medical services such as rehabilitative or emergency care, where the supply of alternative site of care appears rather limited.

To guaranteeing more effective, safe and patient-centered care, Portugal needs to first expand capacity at community level as it was done with the introduction of the National Network of Integrated Continuous Care (RNCCI) for long-term and palliative care (The Gulbenkian Foundation, 2014). The development of alternative facilities to shift post-acute care out of hospitals and to provide follow-up care in primary and community settings needs to be a key priority for Portugal. Such a strategy would shift opportunities for treatment towards care-delivery settings other than hospitals, thereby reducing ALOS and increasing discharge rates. The RNCCI (which has been primarily developed to deliver more co-ordinated care for the elderly in need of long-term care) could play a larger role in such a process, and should be further implemented to promote community-based facility for rehabilitative and post-acute care for all patients upon hospital discharge.

There are also key examples for learning internationally, for example from Norway that has begun to establish supplemented primary health care units at community level (also called intermediate care facilities in other OECD countries, see Box 3.2). In Norway, these facilities (so-called "Distriktsmedisinsk senter" or "Sykestue") play a key role in taking care of patients upon discharge from hospital and have been found to improve health outcomes (OECD, 2014b). At the same time, the process of developing community-based facilities should be accompanied by a move of human resources from hospital to community or primary care settings. Discussion with important stakeholders in Portugal suggests that between 70% and 80% of nurses are working in the hospital settings, which might be too many if Portugal wishes to deliver more care outside of the acute care setting (see Chapter 4).

Another key priority for Portugal is to develop new model of emergency care, especially for complaints that could be managed in primary or community care. Although Portugal has already made efforts to reduce emergency attendance through increasing the level of co-payment for ED visits for example, other key instruments are worth considering to reduce the demand for emergency care or to increase the efficiency of hospital ED. Given that nearly 42% of ED visits are for low urgency problems that could have been treated more efficiently in primary care settings, Portugal might

want to develop primary care model of emergency care as seen in England, New Zealand, Island, or Canada (Berchet, forthcoming 2015). Primary care model of emergency care, such as walk-in centres, minor injury units, or urgent care centres for example, provide primary health care services to patients without an appointment, and are therefore set-up to improve access to emergency care outside hospitals. They are designed to meet the needs of patients with minor injuries or illnesses. They can be attached – or not – to the hospital emergency department, and might also provide care outside normal office hours. Although evidence around the impact of primary model of emergency care is mixed in England (Tan and Mays, 2014), empirical evidence show that the strategy has led to significant reduction in ED visits in New Zealand, Island and Canada (Berchet, forthcoming 2015).

Box 3.2. The development of intermediate care facilities in Norway

Following the co-ordination reform, Norway has begun to establish supplemented primary health care units (also called intermediate care facilities in other OECD countries or "Distriktsmedisinsk senter" or "Sykestue" in Norwegian). According to the King Funds, these models of primary care services can be defined as any service structure or set-up, established by municipalities, "to provide short-term intervention to preserve the independence of people who might otherwise face unnecessarily prolonged hospital stays or inappropriate admission to hospital or residential care" (Stevenson and Spencer, 2002, p. 5).

In Norway, these new facilities have a key responsibility in taking care of patients upon discharge from hospital, or where there is a risk of admission to hospitals when the condition could be appropriately managed at a lower intensity care setting. These units are service models for integrated care, financed jointly by hospitals and municipalities, for patients with intermediate care needs. By providing a mix of post-acute, rehabilitation and nursing care, these supplemented primary health care units are intended to curb hospital care costs through reducing hospital admissions, lengths of hospital stay, and preventing readmissions.

Source: OECD (2014), *OECD Reviews of Health Care Quality: Norway – Raising Standards*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264208469-en.

The development of fast track system in hospital emergency department is another possible option to manage ED visits more efficiently, and particularly non-urgent or unnecessary visits. The overarching aim of the strategy is to redirect non-urgent patients to more appropriate ambulatory settings (see Box 3.3). Fast track system has been set up in several OECD countries such as France, United Kingdom, the United States or Canada. There is strong evidence showing that fast track systems are effective in managing non-urgent patients, reducing the use of hospital emergency department resources and increasing overall patient's satisfaction.

Box 3.3. Setting-up fast-track system to manage more efficiently non-urgent ED visits

Fast-track system, as seen in France, United Kingdom, the United States or Canada, aims at redirecting non-urgent patients to more appropriate ambulatory settings.

The system prevents the inappropriate use of emergency care by treating patients with non-urgent conditions in a dedicated area where professionals have the competence to make discharge decision. Medical attention is only undertaken by one person for low-urgency patients, while some patients in no need of emergency care are discharged to appropriate clinics. Acute and ambulatory patients are assessed and treated by less expensive health care providers such as residents, nurse practitioners, and physician assistants that are specifically dedicated to fast-track patients. These programmes apply for stable patients for whom medical workload is weak and do not require medical imaging or biology.

Empirical evidence shows that the introduction of fast track system in France, United Kingdom, the United states and Canada, has led to a reduction in lengths of stay and waiting times, as well as a decrease in ED costs per capita. Such a system enables to freed-up expensive emergency care resources to concentrate on patient with high level of acuity or injury.

Source: Berchet, C. (forthcoming 2015), "Emergency Care Services across OECD Countries: Trends, Drivers and Interventions to Manage the Demand", *OECD Health Working Paper*.

Ensure more effective and efficient clinical processes to deliver safe and appropriate acute care

To overcome inefficiencies and weaknesses in clinical processes that are highlighted in Section 3.6, Portugal needs to embed and nurture a culture of quality improvement in the hospital sector. At present, the use of clinical processes do not appear systematically effective and efficient as demonstrated by the significant prevalence rate of health care associated infections, the high rate of caesarean-section delivery or the delay before hip fracture surgery. Clinical processes must be better targeted to deliver safe, patient-centered and appropriate care in the Portuguese hospital sector.

Implementing uniformly clinical processes across the country would constitute a key instrument to optimise clinical outcome and resource use, and to further reduce variability in clinical practice (variability in clinical practice are further described in Chapter 4). Although the DGS has recently introduced a national accreditation programme and developed a set of clinical guidelines for hospital providers, further steps need to be done to consolidate these quality initiatives and achieve a greater standardisation of the practice.

The Australian implementation of national safety and quality standard is a good example for Portugal to follow. Australia has recently set-up a

comprehensive set of safety and quality standard in the hospital sector (see Box 3.4). Among the ten agreed standards, the last eight standards deal with patient safety issues in the hospital sector, which are of particular relevance for Portugal given its relative poor performance in this area. The establishment of minimum standards for all hospital providers as seen in Australia will drive more uniform care across settings and across regions. It is worth noting that the Australian Commission on Safety and Quality in Health Care (ACSQHC) provided strong support to hospitals to comply with these standards. As seen in Australia, Portuguese Authorities and its regional agencies might consider providing greater support for those regions or hospitals where outcomes are weaker to engage in the accreditation process. Setting formal educational programmes including learning sessions on disease knowledge and treatment, and practical session to prove the utility of the guidelines are specific avenues for consideration. The development of workbooks and implementation guidelines for each standard might also be key instruments.

Lastly, audits conducted by the DGS should be backed up with individualised feedback to clinicians and managers, matched with appropriate incentives and sanctions. This will push forward the implementation and adherence to agreed standard of care and recommended clinical guidelines in the hospital system. Progresses in this direction are encouragingly underway: the DGS plans to introduce in the coming year economic incentives and sanctions for good or poor adherence to clinical guideline (see Chapter 1). At the same time, the development of a network of Quality and Safety Commissions in each hospital or hospital centre (as well as in groups of primary health centres) will also help to ensure that more effective and efficient clinical processes are being implemented.

Box 3.4. The implementation of national safety and quality health service standards in Australia

Australia has recently endorsed new standards of care and developed the national accreditation scheme. The nature and level of input afforded stakeholders in the development process appears to be one of the key factors for the broad acceptance of the new national standards and accreditation scheme in the health system.

The agreed standards are:

1. *Governance for safety and quality in health service organisations* which describes the quality framework required for health service organisations to implement safe systems.

2. *Partnering with consumers* which describes the systems and strategies to create a consumer-centred health system by including consumers in the development and design of quality health care.

Box 3.4. The implementation of national safety and quality health service standards in Australia *(cont.)*

3. *Preventing and controlling health care associated infections* which describes the systems and strategies to prevent infection of patients within the health care system and to manage infections effectively when they occur to minimise the consequences.

4. Medication safety which describes the systems and strategies to ensure clinicians safely prescribe, dispense and administer appropriate medicines to informed patients.

5. *Patient identification and procedure matching* which describes the systems and strategies to identify patients and correctly match their identity with the correct treatment.

6. *Clinical handover* which describes the systems and strategies for effective clinical communication whenever accountability and responsibility for a patient's care is transferred.

7. *Blood and blood products* which describes the systems and strategies for the safe, effective and appropriate management of blood and blood products so the patients receiving blood are safe.

8. Preventing and managing pressure injuries which describes the systems and strategies to prevent patients developing pressure injuries and best practice management when pressure injuries occur.

9. *Recognising and responding to clinical deterioration in acute health care* which describes the systems and processes to be implemented by health service organisations to respond effectively to patients when their clinical condition deteriorates.

10. Preventing falls and harm from falls which describes the systems and strategies to reduce the incidence of patient falls in health service organisations and best practice management when falls do occur.

The last eight standards deal with long-standing priority issues in patient safety, particularly in the hospital sector.

Of particular importance is the fact that the ACSQHC has provided strong to support to health services in the implementation of the standards and the accreditation scheme. Support strategies include teleconferences with health service representatives, accreditation workbooks, implementation guides for each standard, a telephone and e-mail advice centre and mediation service for health services and accreditation agencies.

Overall, the new national safety and quality standards and accreditation scheme represent important elements of the overall quality improvement architecture of the health system. The new national standards (see Box 3.2) address well established safety issues for health services. There is broad agreement from stakeholders that the new standards are a positive move forward, promoting greater clinical involvement and more directly addressing specific safety issues (e.g. safe handover, identifying and responding to clinical handover) than other standards.

Source: OECD (forthcoming 2015), *OECD Reviews of Health Care Quality: Australia – Raising Standards*, OECD Publishing, Paris.

Review the incentive system linked to hospitals performance

While the country has a rich data on hospital activities around hospital outcome of care, the room for budget adjustments for RHAs remains rather minor in Portugal. Increasing incentives linked to quality indicators should be considered to better rewarding the best-performing and the most-efficient hospitals. As mentioned in Section 3.3, NHS hospitals are paid according to a DRG scheme based on last year's activity. It is an adapted DRG-based payment accounting for nearly 50% of hospitals financing, while the remaining hospital payment comes from bundle payment, out-patient activity and depends upon hospitals performance.

Nearly 5% of the hospital revenue is related to hospital quality or performance indicators such as readmission rate, discharge rate, use of day-case surgery or rate of hip surgeries performed within 48 hours. While this arrangement is one of the most impressive policies that have been implemented in the Portuguese hospital sector to increase accountability and to drive improvement in the quality of care, there is room to better link payment to desired hospital outcomes of care and particularly around areas that require improvement. Portuguese authorities might consider increasing the proportion of hospital revenue that is linked to performance and quality (by increasing it beyond the 5% level), as well as extending the number of incentivised activities to some areas of poor performance (such as in-hospital care for AMI, surgical complications as well as care co-ordination between hospital and community for patients upon discharge). The experience of other OECD countries including Japan, Korea and the United States could guide Portuguese authorities in their efforts to improve these three areas.

If Portugal wishes to deliver more care outside of the acute care setting (for patients upon discharge for example), it seems advisable to introduce financial incentives to encourage care co-ordination between hospital and primary or community-based facility. These types of financial incentives have been recently developed in Japan. From 2008, Japanese hospitals admitting stroke victims or patients with hip fractures are offered an incentive to use post-discharge protocols and to contract with primary care physicians to provide follow-up care upon discharge (Inoue et al., 2011). The 2014 fee-schedule further introduces financial incentives to foster co-operation between hospitals, clinics and community care, which might serves as a model for Portugal (OECD, forthcoming 2015c).

The Value Incentive Programme implemented in Korea can be also informative for Portugal to improve the quality of care for AMI. Korea has made a lot of progress in the quality of care for AMI following the implementation of the programme (OECD, 2012). As part of the pay-for-performance programme, the collected indicators include AMI 30-day case

fatality, thrombolytic drug administration rate within 60 minutes of hospital arrival or percutaneous coronary intervention (PCI) performance rate within 120 minutes of hospital arrival. Evidence shows that the Korean balance of modest financial incentives and the focus on data collection and reporting is found to be the virtue of the Value Incentive Programme. Overall between 2007 and 2009, improvement in the quality score for AMI has been estimated around 5.28 points.

Another key successful story is the Maryland Hospital Acquired Conditions Programme (MHAC) in the Unites States which links payments to hospital performance on a set of 49 potentially avoidable hospital acquired complications (Cashin et al., 2014). The programme implemented in 2009 (and further revised in 2014) aims at promoting the use of evidence-based process measures and reducing hospital acquired complications. The programme has noted improvements in patient outcomes and costs through reducing complication rates by nearly 15% of the first two years of the programme. In Portugal, such initiative might have the potential to reduce weaknesses or inefficiencies in clinical possesses. As already emphasised in the previous section, the use of financial incentive to comply with clinical standard or guidelines might also have favourable effect on hospital physician's adherence.

Besides increasing the link between hospital's revenue and its quality and performance, another key priority will be to better align financial incentives in the hospital sector as a whole (irrespective of the hospital status). This would equally hold EPE, SPA and PPP hospitals to the same high standard of delivering effective, safe and patient centered care.

Monitor the impact of the hospital reform on the quality of acute care

While Portugal has undergone a series of structural changes in the supply of hospital services, no study has been carry out to evaluate the effect of the specialisation reform and the impact of the new models of hospitals management on hospital outcome of care. Having now established a comprehensive and standardised information infrastructure for hospitals, Central and regional governments should now ensure that the ongoing reform is monitored and evaluated across all facilities. Portugal needs to support evaluation project to assess whether the quality of care is improving in the context of the hospital reorganisation.

Evaluation of hospital reform would be of paramount importance at central and local levels to drive improvement in quality of care. At local level, monitoring and evaluating hospital reforms would inform future decision regarding the establishment of the detailed strategic three-year plans for each hospital; while at central level evaluation would provide valuable information to revise clinical processes or models of care. To this end, the information infrastructure for the hospital sector needs to be fully

exploited to better understand variation in outcome of acute care and in clinical processes between hospitals or across regions. This is necessary for policy makers to explore factors associated with inefficient clinical processes, and to identify areas that may require specific improvement initiatives.

3.8. Conclusion

Portugal has introduced a number of policy initiatives to rationalise its hospital sector. Beginning in 1990, the concentration and specialisation of hospital services, the new models of hospital management and the introduction of innovative payment systems have brought quality and efficiency gains. Overall, Portugal has improved some hospital outcomes of care and has also reduced hospital spending. Portugal is now ahead of several OECD countries with regards to the number of quality initiatives that have been recently introduced to drive for continuous improvement in the hospital system. These quality initiatives ranges from the introduction of a national accreditation system, a suite of patient safety programme to the development of sophisticated tools for monitoring and benchmarking hospital outcome of care. Although impressive, these quality initiatives need to be maintained and consolidated to further nurture a culture of quality improvement in the hospital sector.

Despite this positive story, there are persisting challenges in the hospital sector that will need continuous attention to deliver more effective, safe and patient-centered acute care. First, to improve quality of care while conducting the current hospital reform, the key priority for Portugal is to shift care from hospital to community-based settings for the provision of certain medical services such as rehabilitative or emergency care (where the supply of services remains rather limited). To this end, Portugal might consider developing post-acute care facilities for patients upon discharge (as seen in Norway) as well as introducing primary care model of emergency care (as seen in England, New Zealand, Island, or Canada) or developing fast track systems in hospital ED to manage more efficiently non-urgent ED visits. Portugal needs also to nurture and embed a culture of quality improvement in the hospital sector to ensure that more effective and efficient clinical processes are being implemented at micro level. The Australian implementation of national safety and quality standard is a key example for Portugal, notably for providing greater support to hospitals, providers or managers to comply with clinical standards in the patient safety area. Portugal might further consider reviewing the incentives system linked to hospitals performance. First, the proportion of hospital revenue linked to clinical quality of acute care might be increased beyond the 5% level. Second, there might be scope to extend the number of incentivised activities

to clinical areas of poor performance (such as in-hospital care for AMI, surgical complications or care co-ordination between hospital and community-based facility). The last but not the least priority for Portugal's hospital sector will be to monitor and evaluate the impact of the current structural reforms in hospital outcome of care.

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Annex 3.A1

Hospital reform implementation towards the eight strategic initiatives

Achieve a more coherent hospital network	
Preparation of the hospital referral network	In progress
Structure of the hospital network	In progress
Medical capital equipment plan	Done
Further strategic partnership with social sector	Done
Definition and development of reference centres	In progress
Hospital Oriental de Lisboa building and resizing of hospital network in the LVT region	In progress
IPO reorganisation	Done
A new model for hospitals and medical schools cooperation	About to start
Creation of the national centre for clinical simulation	In progress
A sustainable Financing policy	
Strategic planning for hospitals	Done
Hospital benchmarking and strategic framework with performance indicators	Done
Unification of the hospital pricing table	Done
Development of a costing system for accounting and uniform costs	Done
Improvement in the process of collecting funds	Done
Development of contracting framework multiannual (3 years)	Done
Matching commissioning of medical appointments and surgeries with demand (SIGIC)	In progress
Linking quality indicators to providers payment	Done
Returning patient satisfaction assessment programme	In progress
Monitoring comfort levels in hospitals	In progress
Changing all hospitals into public enterprises	About to start
Including patient satisfaction level into hospitals performance evaluation	In progress
Submit agreements of medicines assessment to contracting framework	In progress
Better Integration of care	
Definition of referral criteria between primary care and hospital care	In progress
To improve patients referral to RNCCI- National network of integrated long term care	In progress
Develop clinical trials in Portugal	In progress
Promote specialty consultations in primary care facilities	In progress
Promote consultation with IT in particular circunstances	In progress
Assist patients screened as "not urgent" outside hospital emergency	In progress
Promote protocols between ACES and hospitals	In progress
More efficient hospitals	
Increase ambulatory surgery	Done
Rationalize examination prescription	Done
Promote mixed contracts with payment related to performance	In progress
Develop guidelines suported by IT (including medical devices)	Done
System to monitor medicines for inpatient and ambulatory care	Done
Sharing services between hospital pharmacies	In progress
Sharing support services	Done
Implement energy efficiency programme	Done
Standardise preoperative protocols	In progress
Adjust workforce in hospitals and promote mobility	Done
Give new activities to nurses	Done
Redraft the process of buying medicines and medical devices	Done
Review of the legal framework for outpatient medicines dispensing	In progress
Implement a system for previous cost-benefit evaluation of the main medical devices	Done
Implement a programme for reprocessing reusable medical devices	Done
Quality as a key for hospital reform	
Improve quality and patient safety	In progress
Decrease nosocomial infections rate	Done
Decrease caesarean rate	Done
Promote clinical risk control	In progress
Promote use of standardised quality indicators	Done

Source: Information provided by Portuguese authorities.

Chapter 4

Quality and efficiency in Portuguese health care

Following the 2008 global economic crisis, Portugal introduced numerous policy initiatives to cut costs whilst maintain efforts to continuously improve quality. Reforms around the purchasing and use of pharmaceuticals and medical devices have been particularly successful. Portugal has also innovated extensively in how it uses public funds to pay providers, increasingly basing payments on the quality and efficiency of the care provided.

Implementation of these initiatives across the Portuguese health system has not, however, been as successful as may have been hoped. Generic prescribing still lags behind some OECD countries, and lengths of stay in hospital after some procedures is longer than seen elsewhere. Despite improvements in the co-ordination of services, not enough care has been transferred out of hospitals into the community sector. Significant variation in medical practice across regions is another persistent challenge. All these represent areas where Portugal could be doing more to meet the twin aims of improved efficiency and better care.

It will be important to maintain and go further on the performance regimes in both acute and community care. Further structural reform to where and how care is delivered is needed, with an emphasis on shifting care out of hospitals into less-expensive community settings that are generally preferred by patients. Achieving more efficient use of the workforce will be particularly critical. The challenge should not be underestimated – changing practices and behaviours at the bedside may well prove more difficult than earlier structural reforms.

4.1. Introduction

Two of the most important aims of any health system are to deliver better quality care whilst keeping costs down. The challenge and urgency of doing so looms particularly large given Portugal's recent experience. The country saw GDP per capita fall from USD PPP 23 860 in 2008 to USD PPP 20 188 in 2012. Reflecting this fiscal contraction, the resources available for health care also fell, by 6.7% in 2011 alone. Although new funding was made available between 2012 and 2015, much of this was ear-marked to pay for arrears.

There are numerous policy options to contain health system spending, both on the demand and the supply side. Possible quality trade-offs, however, have been less studied. One of the most striking features of the Portuguese health system's response to the crisis, however, has been a commitment to quality, and to preserving a universal publically funded system. The fact that Portugal's health care quality indicators and health indicators appear not to have worsened, as described in earlier chapters, points to broad success of the Portuguese health system's response to the crisis that unfolded after 2008.

Reforms around the purchasing and use of pharmaceuticals and medical devices have been particularly successful. Portugal has also innovated extensively in how it uses public funds to pay providers, increasingly basing payments on the quality and efficiency of the care provided. In contrast to many other OECD countries, Portugal also can point to real progress in delivering more co-ordinated care. This chapter aims to assess the reforms that have been implemented, and give recommendations for the next phase. The lessons drawn out from Portugal's experiences are likely to be of great interest to other OECD health systems, all of which are continuously seeking control spending whilst maximising quality.

The chapter is configured as follows. Section 4.2 describes spending and revenue raising in the Portuguese health system, and notes how the health system has sharply reduced spending on pharmaceuticals and raised spending on preventive health care. Section 4.3 briefly surveys the policy options when seeking to cut spending and maintain (or improve) health care quality, and examines Portugal's approach to pharmaceutical spending, hospital reform and promotion of community and integrated care in more detail. Section 4.4 sets out some of the persistent quality and efficiency challenges that Portugal is facing, particularly around shifting care out of the hospital sector and reducing medical practice

variation. Section 4.5 closes by identifying the opportunities to strengthen both quality and efficiency yet further in the Portuguese health system.

4.2. Spending and revenue raising in the Portuguese health system

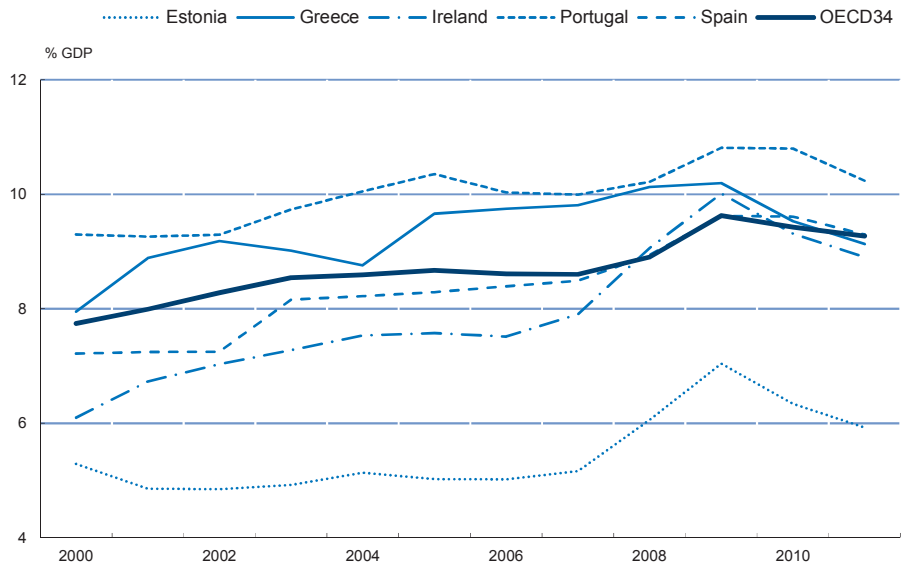
This section paints the broad fiscal picture of the health system in Portugal. In recent years, Portugal has seen a reduction in the resources regularly available for health care, both as a share of GDP and in per capita terms. The share of revenue coming from private sources has also increased.

After steep rises in the early 2000s, national spending on health has fallen since the 2008 crisis

Recent trends in Portuguese health expenditure closely reflect those seen across the OECD more broadly (Figure 4.1). Total expenditure, measured as a share of GDP, increased in real terms by 2.3% per year on average between 2000 and 2009, before slowing down to 1.8% in 2010. In 2011, spending fell sharply by 6.7%. Currently, total health spending accounts for an estimated 9.5% of GDP in Portugal (2012), close to the OECD average of around 9.3%. Despite comparable spend as a share of GDP, Portugal spends much less in per capita terms than other OECD countries. Portugal spent USD 2 457 on health in 2012 (adjusted for purchasing power parity), considerably lower than the OECD average of around USD 3 300, and less than its 2010 peak of USD 2 626.

Analysis of total health expenditure by function finds that a relatively modest proportion of Portugal's health budget (27% in 2011) is spent on in-patient care. This is less than the OECD average (29%) and markedly less than countries such as Austria, France and Greece that spend over 35% of the health budget on in-patient care. Most OECD countries are pursuing policies to reduce in-patient activity and shift care into out-patient and community settings. Portugal's relatively low spend on in-patient care may therefore signal, to some extent, success in this regard. The possibility that it may, alternatively, signal difficulties in accessing hospital care should be borne in mind however. Of note, Portugal has relatively long waiting times for elective surgery (over 120 days for hip replacement, for example, compared to fewer than 100 in England and Canada and less than 50 in the Netherlands) and these have been increasing over recent years (Siciliani et al., 2013).

Figure 4.1. Health expenditure as a share of GDP in selected OECD countries



Source: OECD Health Statistics, 2013, www.oecd.org/health/healthdata.

Other analyses of health expenditure by function show that Portugal spends a markedly greater proportion of the health budget on primary care and out-patient care (45% vs. 33%) and less on administration and other collective services than elsewhere (4% vs. 6%). These figures may both signal system efficiency. Spending on pharmaceuticals and medical goods, however, is greater than elsewhere (23% vs 20%), which may represent an opportunity for reducing costs. The topic of pharmaceutical spending is discussed in more depth in Section 4.2.

Substantial savings were made on pharmaceutical spend, in the hospital sector and on workforce

An overall spending framework for the health system is set each year by the Ministry of Finance, based on plans submitted by the *Administração Central do Sistema de Saúde* (ACSS) in the Ministry of Health. Hospitals receive allocations directly from the Regional Health Authorities, based on historical activity and projected increases. Budgetary practices are reported to be weak, with hospital overspends routinely met by additional funds in subsequent years (Barros et al., 2011). Primary care budgets are devolved to regional health authorities

and are determined largely through capitation, with subsequent adjustment on the basis of regional age and gender profiles, and prevalence of selected health conditions such as diabetes.

As a result of the 2008 fiscal contraction, the Portuguese health system was forced to find substantial savings and efficiency gains. Its experience, as well as that of other countries, has been extensively described elsewhere (see, for example, Mladovsky et al., 2012). Key areas of saving included pharmaceutical spend (representing 35% of total savings made between 2010 and 2014), spending on contracts with hospitals under the state-owned enterprise regime (33%), salaries and workforce (17%) and diagnostics (9%). The reforms implemented in the first two of these areas are described in Section 4.2.

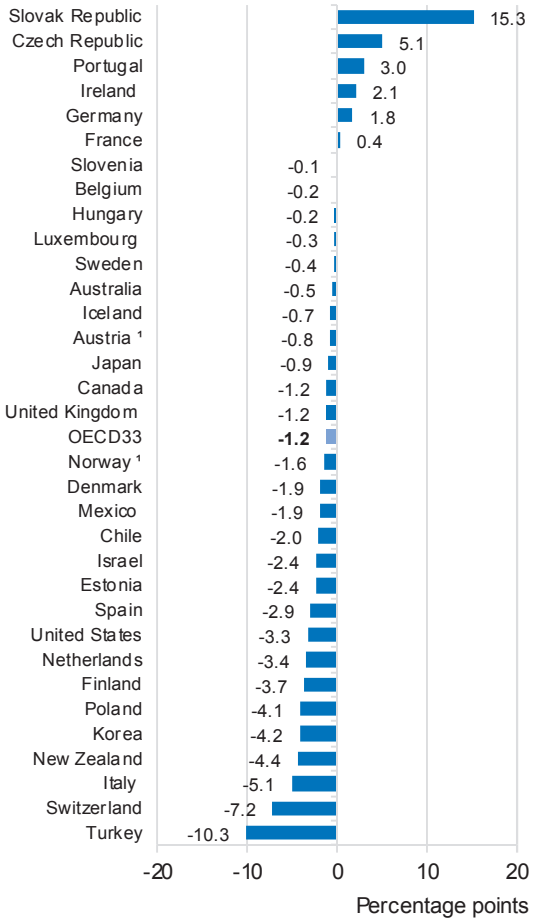
An especially notable feature of Portugal's response to the tightening fiscal situation has been its decision to increase spending on health promotion and disease prevention. In contrast to most other OECD countries, which have been cutting investment in these areas, Portugal increased investment by 10% between 2013 and 2014. Key areas included HIV/AIDS and tuberculosis (with spending increasing from EUR 4.6 million in 2013 to EUR 7.7 million in 2014) and mental health (increasing from EUR 1.9 million to 3.4 million).

The share of health system revenue raised from private sources has increased over recent years

Most of the Portuguese health budget is financed through general taxation. A significant proportion, however, is paid for directly by individuals. Private spending constituted 29% of total health expenditure in Portugal in 2011, considerably higher than the OECD average of 20%. Most (around 85%) of this private expenditure is accounted for by out-of-pocket spending in the form of co-payments and direct payments made by individuals for pharmaceuticals and consultations.

Out-of-pocket spending is an increasingly important source of revenue in the Portuguese health system. As a share of total expenditure, it has increased by around 3% as over the past decade (Figure 4.2). This stands in marked contrast to most other OECD countries, which have seen out-of-pocket spending fall by 1.2% on average between 2000 and 2011.

Figure 4.2. Change in out-of-pocket expenditure as share of total expenditure on health in OECD countries, 2000-11 (or nearest year)



1. Data refer to current expenditure.

Source: OECD Health Statistics, 2013, www.oecd.org/health/healthdata.

Efforts have been made to tailor co-payments in ways that promote health system efficiency. Patients face lower costs, for example, if they use primary care centres rather than hospital emergency departments and generic drug formulations rather than brand-name medications. Furthermore, over half of the population is exempt, including children, pregnant women, pensioners with low income and the economically

disadvantaged. Hence, although co-payments apply across a wide range of health care services and goods, their use is not regressive and has not affected access (ERS, 2013; Universidade Nova de Lisboa, 2013). In particular, it is noted that the increase in co-payments, equivalent to EUR 105 million across the health system, is more than off-set by the EUR 250 million savings achieved by pharmaceutical price reduction.

In addition to out-of-pocket expenditure, extensive voluntary health insurance (VHI) also accounts for about 15% of the revenues coming from private sources. Around 20% of the population purchase VHI (either as individuals or in group schemes via their employer), which offers supplementary benefits to those covered by national insurance. One important step to make health system financing more progressive was the recent abolition of the tax rebate applicable to co-payments and voluntary health insurance. Although the effects of this policy manifest as an increase in out-of-pocket expenditure in OECD health accounts, it may in fact represent a more progressive model of raising revenue. These savings have translated through to the prices paid by consumers as well.

4.3. Mechanisms to control spending in a fiscally constrained environment

There are numerous policy options to contain health system spending, both on the demand and the supply side. Possible quality trade-offs, however, have been less studied. One of the most striking features of the Portuguese health system's response to the crisis, however, has been a commitment to quality, and to preserving a universal publically funded system. In particular, reforms around the purchasing and use of pharmaceuticals and medical devices have been particularly successful. Portugal has also innovated extensively in how it uses public funds to pay providers, increasingly basing payments on the quality and efficiency of the care provided. In contrast to many other OECD countries, Portugal also can point to real progress in delivering more co-ordinated care.

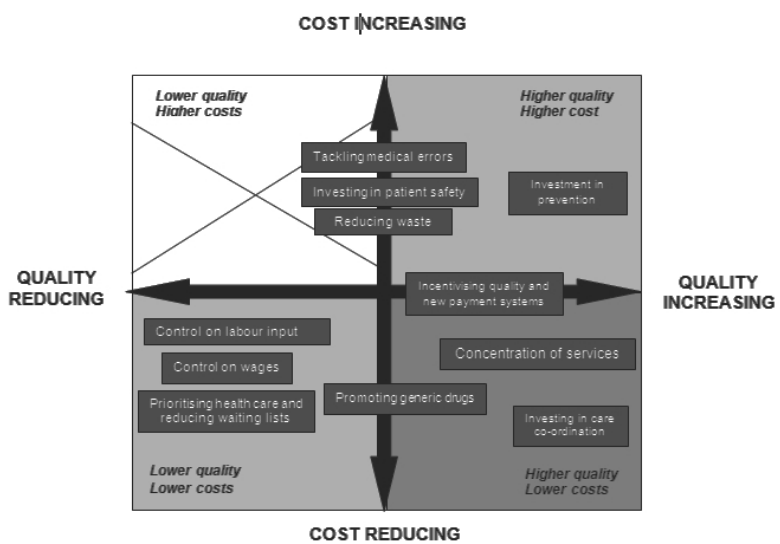
There is a well characterised menu of options available to policy makers to respond to fiscal contraction

Analyses undertaken by the OECD estimates that most growth in health care spending is due to by the combined effect of technology, relative prices and exogenous factors such as institutions and policies. Contrary to what is often stated, pure demographics and income are projected to play only a minor role in the increase of public health and

long-term care expenditures (De La Maisonneuve and Oliveira Martins, 2013). Policy options to control spending are numerous and include supply-side options such as reforms to provider and supplier payment methods, provider competition, budget caps and cuts. Demand-side policies include cost-sharing (including encouraging uptake of private health insurance) and restricting access to certain treatment options through gatekeeping, formularies and health technology assessment (Moreno-Serra, 2013).

Work looking at the quality impact of cost-containment policies is less extensive. A paper prepared for the OECD Health Committee in 2011 surveyed the available evidence on potential quality-efficiency trade-offs, distributing policy options within a matrix relating cost to quality (Figure 4.3). The paper sounded a note of caution, remarking that apparently promising policy options are not always win-wins. Regarding patient safety, for example, it was noted that whilst focused programmes in this area can improve quality, evidence suggests that costs match any likely savings. Nevertheless, policies where the evidence suggested a higher quality/lower costs outcome included investing in care co-ordination; concentration of services; promoting generic drugs; and, rewarding quality through incentives and payment systems.

Figure 4.3. Optimising the quality-efficiency trade-off in health systems



Investing in better co-ordinating patients' care, particularly the care of patients with long-term conditions or other complex needs, is believed to offer a quality/efficiency win-win through the avoidance of duplicated, delayed or incompatible treatments and investigations. Reorganising services to increase the rate of day-case surgery, for example, saves the health system substantial hotel-costs and is a quality gain, since most patients prefer not to be admitted overnight and clinical outcomes are no different.

Regarding the concentration of services, there is an extensive academic literature on the relationship between volume and quality in hospital services. A review of some 135 studies undertaken since 1985 by Halm et al. (2002) found that 70% of studies demonstrated in broad terms that patients have lower mortality rates if a hospital or physician does large numbers of procedures. Likewise, a major study that drew on US Medicare data found that admission to hospitals with high volumes was associated with a reduction in AMI, heart failure and pneumonia (Ross et al., 2010; Gandjour et al., 2003). In parallel, there are obvious efficiency gains from concentrating services into fewer centres seeing larger numbers of cases.

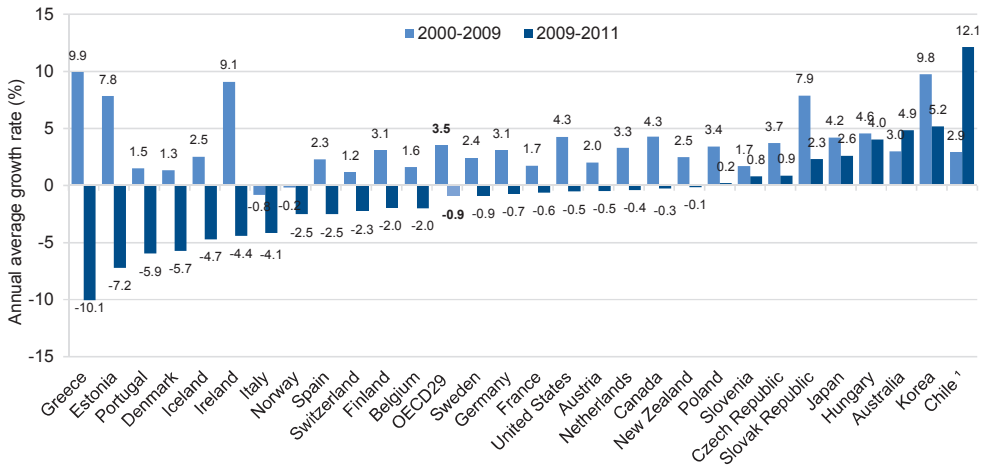
Promoting generic drugs is a good example of a win-draw, offering substantial cost reductions with no impact on quality. Quality gains may be built in, however, if generic substitution is one element of a wider initiative to promote evidence-based prescribing and management.

Reforms around the purchasing and use of pharmaceuticals and medical devices have been particularly successful

Portugal has recently implemented, and continues to develop, initiatives in all of the policy areas identified in Figure 4.3. A particularly successful area of reform has been the reduction in spending on pharmaceuticals for instance through the promotion of generic drugs as generic prescribing became mandatory in 2012. Also the Ministry of Health already exercises its monopsony powers by setting an annual limit on total pharmaceutical spend (as a percentage of GDP), and uses countries with the lowest purchase prices for each drug (such as Spain, France or the Slovak Republic) as the reference point from which to begin negotiations. In addition, the Ministry settled several agreements with the pharmaceutical industry in order to contain public expenditure on medicines and is currently negotiating a new tax on pharmaceutical sales – in effect, a fiscal claw-back. Initiatives have also been directed toward pharmacists. Not only did they see their profit margins redefined

(achieving public savings of EUR 50 million) but also are now obliged to new dispense rules as they are required to have available three of the five cheapest formulations for each drug and be able to sell the cheapest of those. If not, they are heavily fined. This comprehensive and sophisticated set of measures has led to Portugal exhibiting one of the sharpest declines in pharmaceutical expenditure over the past decade, as exhibited in Figure 4.4. This figure includes private spend by patients, as well as public spending.

Figure 4.4. Average annual growth in pharmaceutical expenditure per capita in OECD countries in real terms, 2000-11 (or nearest year)



1. CPI used as deflator.

Source: OECD Health Statistics, 2013, www.oecd.org/health/healthdata.

It is important to note that this reduction in pharmaceutical spend was not achieved simply through imposition of budget cuts, product withdrawals and sanctions. Initiatives to encourage higher quality prescribing were also introduced. A shift to electronic prescribing has allowed better monitoring of individuals' medication history, compliance and potentially unsafe drug interactions. Since 2013, effectively 100% of medications used in public hospitals and primary care are electronically prescribed. This has also allowed better control of fraud related to prescribing and dispensing. Introduction of a raft of clinical guidelines that cover prescribing and other aspects of management for around 80% of health care contacts have led to more rational prescribing. In parallel, a new

national formulary, due for publication in early 2015, will steer doctors toward a limited number of generics within each drug class. Ministry of Health data show that the share of generics prescribed in primary care increased from 31% to 47% between 2010 and November 2014.

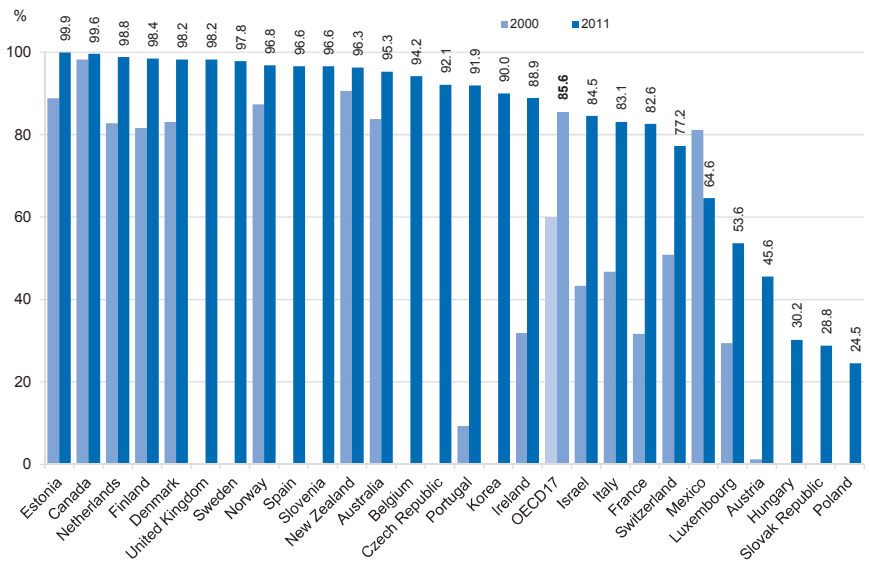
A key advance has been to integrate these initiatives together – guidelines and the formulary are now embedded in the electronic prescribing system, allowing the issue of alerts if doctors prescribe beyond these guidelines. Doctors also receive monthly feedback on their prescribing patterns, alerting them, for example, to the extent to which they prescribe outside the national formulary. Further integration with patients' health records is planned, to achieve a complete read-across of information from personal health records, e-prescribing, e-dispensing, national patient and physician registers, the national drug information database and reimbursement database. The resulting *Prescrição Electrónica Médica* (PEM) system will be amongst the most advanced in the OECD. Consolidation of prescribing patterns through guidelines and the national formulary is expected to lead to gains in scale and underpin more effective purchasing from suppliers, an illustration of how quality and efficiency gains can mutually reinforce each other.

Similar reforms have improved the purchasing of medical devices, such as cardiac defibrillators, joint prostheses or diagnostic kits. Previously, hospitals purchased devices on an individual basis. Systematic documentation of the range of products being purchased revealed that hospitals were paying different prices for the same device. Further inefficiencies were demonstrated in the breadth of unimportant variations (in the product's colour, for example), that the Portuguese health system was collectively purchasing. Now, a rationalised national list of devices (covering 70% of devices, in terms of spending) guides purchasing. As for mediations, centralised negotiation also establishes a maximum price and a guaranteed supply; hospitals may then negotiate an even lower price. Devices are also prescribed electronically, yielding information on volumes and duration of use which can be used to better negotiate prices in subsequent years. Substantial price reductions, including a 20% reduction in the price of HIV detection tests, 23% reduction in the price paid for some pacemakers and 12% reduction in the price paid for dressings, have been achieved via these initiatives. In total, the *Serviços Partilhados* (shared services) Unit of the Ministry of Health estimates that over EUR 22 million (USD 29 million) were saved in the first six months of 2014 through more efficient purchasing of medications and devices.

Reforms to the hospital sector have focused on gaining efficiency and improving quality

Reforms around payment systems, performance management and differentiation of functions have also been introduced in the hospital sector. These are detailed more fully in Chapter 3. One line of reform that has been particularly successful at exploiting both quality and efficiency concerns the way hospitals are paid. Portugal was one of the first countries in Europe to apply a DRG-type payment system, which determines 55% of a hospital's revenue. Incentivising day-case surgery through the payment system led to a reduction in in-patient cataract surgery and 55% annual growth in day-cases between 2000 and 2011, the steepest rise in the OECD. Now almost 100% of Portuguese patients have their cataracts replaced as day-cases.

Figure 4.5. Share of cataract surgeries carried out as day cases, 2000 and 2011 (or nearest year)



Source: OECD Health Statistics, 2013, www.oecd.org/health/healthdata.

Linked to payment systems, 5% of a hospital's income is linked to its quality and performance. As described in Chapter 3, a rich set of performance metrics is available through the benchmarking.acss.min-saude.pt portal, covering access, quality, productivity and financial indicators. These are published every month, disaggregated to hospital

and to region, on a web-platform that is attractive and easy to navigate. Some indicators are particularly sophisticated and policy-relevant, such as readmission rate or the share of potential day-case surgeries that are performed as day-cases. Every three months, a benchmarking report is published, the robustness of which is augmented by clustering hospitals into comparable groups based on principal component analysis. In addition, the *Administração Central do Sistema de Saúde* (ACSS) discusses benchmarking results (particularly those around productivity) with each hospital. The *Entidade Reguladora da Saúde* (the health system's principal regulatory body) also uses quality indicators in its assessment, using a star rating system. Few other OECD countries have performance management systems with this level of detail, timeliness, statistical sophistication and feedback to service providers.

Another reform bringing both quality and efficiency gains concerns the concentration and rationalisation of hospital services and, in particular, closing units which see relatively few patients a year. Portugal has reduced its number of hospitals from 650 hospitals in 1970 to a tenth of that number today, and now has a per capita bed-density and bed-occupancy rate below OECD averages. Hospitals with fewer than 200 beds were required to close their emergency departments. This further reduced the number of acute hospitals, as described in Chapter 3, which are also grouped in to 25 clusters across Portugal, enabling additional efficiency gains. Maternity, psychiatric and emergency services in particular have been concentrated into fewer, larger units.

Other reforms have encouraged hospitals to contract with the Ministry as independent, but still state-owned enterprises (SOE) to instil greater cost awareness and financial responsibility. Another innovation has been to move to prospective payments for packages of care for patients with complex needs (such as HIV or cancer) to encourage hospitals to take a patient-centered approach, rather than focus on sets of activities.

Primary and community care have also seen the introduction of ambitious performance management programmes

As described in detail in Chapter 2, Portuguese primary care has seen a wave of reforms designed to improve performance and efficiency. In particular, the creation of Family Health Units (FHU) sought to encourage group practice, multidisciplinary teams and extended opening hours. In the "model B" FHU, remuneration is linked to performance (both at unit and practitioner level) across an extensive array of quality and outcome indicators. Although more extensive evaluation of the

FHU models is needed, there is evidence of improved productivity and accessibility (da Silva Fialho et al., 2011). Indicators also suggest better quality of care compared to the traditional practice model, although self-selection bias of FHU pioneers is difficult to discount.

Reforms are also planned to the long-term care sector. The Portuguese regions are testing a number of indicators for the validity, feasibility and utility for performance management in this sector, with work in the Alentejo Region particularly advanced.

In contrast to many other OECD countries, Portugal can point to real progress in delivering more co-ordinated care

Although better co-ordinating patients' care is a focus of policy makers' attention across OECD health systems, it is not often that policy makers can point to real progress in this regard. A typical pattern is for promising local approaches to fail to scale-up to system-wide initiatives that have the potential to transform patients' experience of care. In contrast, Portugal has made real progress, at system-level, in changing the way complex pathways of care are managed.

The introduction of the *Rede Nacional de Cuidados Continuados Integrados* (RNCCI – National Network of Integrated Continuous Care) in 2007 is an example of this. Joint responsibility of the Ministries of Health and of Solidarity, Labour and Social Security, the network sought to better integrate health and social services for the elderly in need of long-term care. Notable features include portability of service users' information across settings (including public and private providers), use of an on-line web-based system allowing the continuous needs assessment and ongoing monitoring of care recipients conditions, and an online data management system (GestCare CCI) that records referrals, admissions, transitions, waiting times for admission, as well as outcomes of needs assessments, with benchmarking of results at national, regional, local and unit level.

More recently, regional adjustment targets have been established to reduce acute hospital care and expand access to long-term care through the RNCCI network. Work has also promoted access to hospital speciality consultations within primary care, agreed local protocols for sharing patients' care between health centres (ACES) and hospitals, and expanded access to teleconsultations, telescreening and telemonitoring to reduce waiting times and offer a more patient-centered service. A particularly noteworthy innovation will be introduction of a unified

national referral system. The new system will allow secondary care to book primary care follow-ups upon discharge, for example. Crucially, a episode of care will only be closed and reimbursed once another level of care intervenes to assure continuity of care.

A number of initiatives to better co-ordinate care have also focused on particular patient groups, particularly those with complex long-term conditions. A national programme of integrated disease management was set up in 2009 to improve the quality of care for patients with morbid obesity, pulmonary hypertension, multiple sclerosis and chronic renal failure (chosen because of their prevalence and high cost to the health system). A multifaceted strategy including development of national patient registers with risk stratification, and development of quality indicators with linked pay-for-performance against these was implemented. A database of clinical information and metrics was also developed, and specifically designed to be used equally by patients and clinicians, to encourage self-management. Evaluations of these programmes suggest control of global costs, without compromising quality (Coelho et al., 2014).

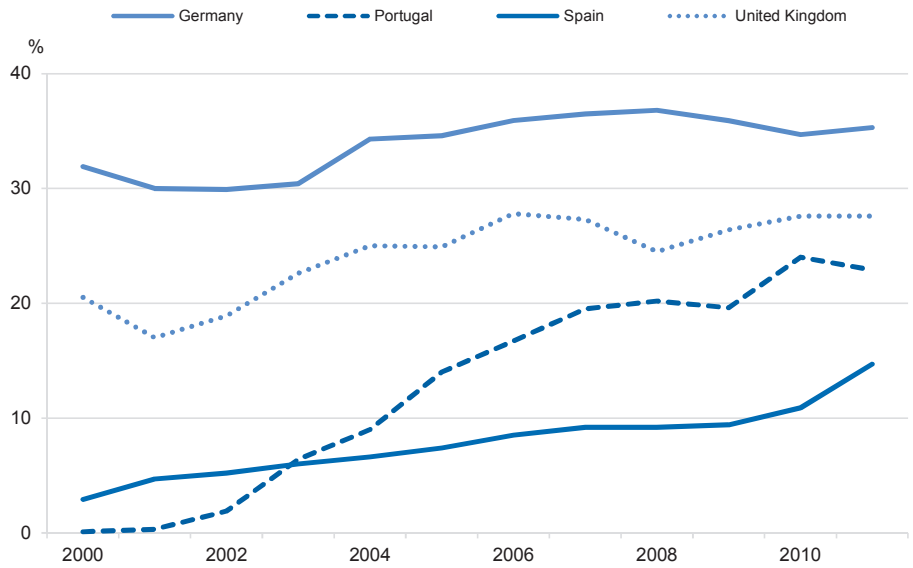
4.4. Persistent challenges in delivering quality and efficiency

Although the preceding section highlights some ambitious and effective quality and efficiency initiatives, their implementation across the Portuguese health system has not been as successful as may have been hoped. Generic prescribing still lags behind some OECD countries (although is improving), and lengths of stay in hospital after some procedures is longer than seen elsewhere. Despite improvements in the co-ordination of care, not enough care has been transferred out of hospitals into the community sector. Significant variation in medical practice across regions is another persistent issue. All these represent areas where Portugal could be doing more to meet the twin aims of improved efficiency and better care.

Portugal still lags behind OECD averages on some quality and efficiency indicators

Although, as demonstrated, Portugal has very successfully contained spending on pharmaceuticals, substantial scope for further efficiency gains exists. Portugal still falls behind other OECD countries such as Germany or the United Kingdom with respect to the share of generics in the pharmaceutical market (Figure 4.6), although is catching up.

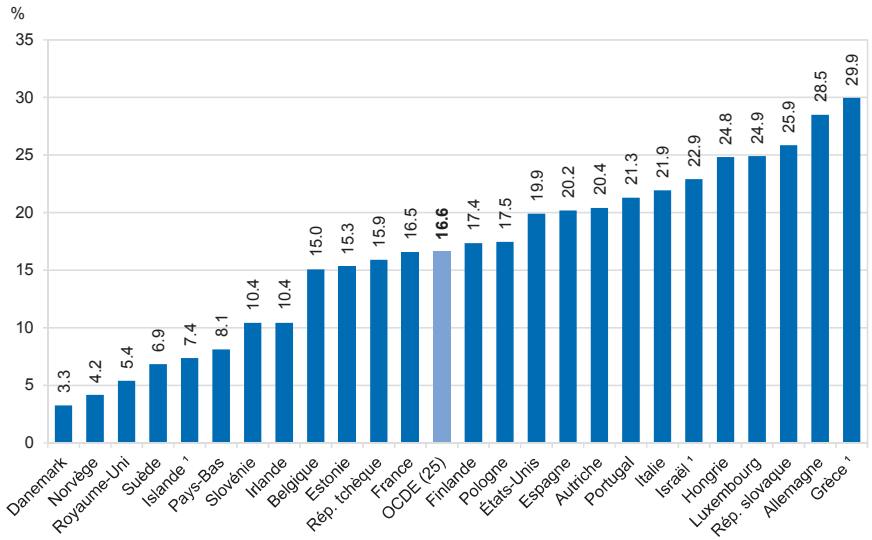
Figure 4.6. Trend in share of generics in the pharmaceutical market, selected countries, 2000 to 2013



Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

Prescribing is not always rational either, as exhibited by the volume of cephalosporins and quinolones prescribed as a proportion of all antibiotics. Cephalosporins and quinolones and are considered second-line antibiotics in most prescribing guidelines. Their use should be restricted to ensure availability of effective second-line therapy should first-line antibiotics fail. Although an optimal level of prescribing of these antibiotics is difficult to establish, there is widespread evidence that these antibiotics are prescribed unnecessarily where no, or a more standard, antibiotic would suffice. Their volume as a proportion of the total volume of antibiotics prescribed has been validated as a marker of quality in the primary care setting. In Portugal, a 21% share of prescribed antibiotics is made up of these second-line drugs; in Denmark and Norway it is less than 5% (Figure 4.7).

Figure 4.7. Cephalosporins and quinolones as a proportion of all antibiotics prescribed, 2010 (or nearest year)



1. Data refer to all sectors (not only primary care).

Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

In an effort to address this issue, Portugal has recently established a national antimicrobial stewardship programme. It aims to retrain doctors and pharmacists to target antibiotic therapy more effectively, using a combination of restrictive as well as persuasive strategies. One technique has been to find individual "champions" of rational antibiotic use, such as a surgeon, to speak to his or her colleagues about changing practice. Detailed guidelines on antibiotic use have also been produced and these have been accompanied by public education programmes.

Care does not always take place in the right setting

Similarly, although Portugal displays some impressive figures in terms of expanded day case surgery, average length of stay (ALOS) in other clinical areas is longer than in most other OECD countries. ALOS is often used as an indicator of efficiency. All other things being equal, a shorter stay will reduce the cost per discharge and shift care from in-patient to less expensive post-acute settings. In Portugal, it is estimated that hospital care costs ~EUR 300 a day,[1] and equivalent care

delivered in community settings ~EUR 100 per day.[2] Patients also often prefer to be at home, making shorter ALOS a potential quality/efficiency win-win. In Portugal, ALOS after a heart attack is 7.3 days; in Denmark it is 3.9 days. ALOS after a hip fracture is 14.0 days in Portugal (2013 data); in Denmark, Sweden and Norway equivalent figures were less than ten days. Overall, it has been estimated that 30% of hospital activity in Portugal could be done in the community, and around EUR 20 million save a year by transferring more nursing care out of hospitals.

Many factors (including patient preference) determine where care occurs. An important determinant, however, is the availability of services and personnel in the community to continue a patient's care after discharge. In Portugal, such availability appears poor. Nurses are the bedrock of community and home-based care, yet there are relatively few of them in Portugal and they are overwhelmingly concentrated in hospitals. Although the number of nurses per capita has more than doubled over the past two decades, from 2.8 nurses per 1 000 population in 1990 to 5.8 in 2012, Portugal still lags behind the OECD average of 8.8 (*OECD Health Statistics 2014*). 75% Portuguese nurses work in hospitals. This bias toward hospital-based nursing may be holding back the development of more community-based services.

Development is also held back, however, by restrictive rules around the extent of care that nurses can provide. One concerns the payment system. Currently, for example, even though it is legally permitted for all of a woman's antenatal care to be provided by a midwife, there is no financial mechanism to pay for this. A woman wanting midwife-led care would therefore have to pay for this privately. Likewise in the post-acute setting, nurses are legally permitted by prescribe bandages, dressings and certain other aids and products, but reimbursement is only occurs if prescribed by a doctor. Nurses' roles in Portugal's innovative Family Health Units (described in Chapter 2) are continuing to evolve, however, and are beginning to address this limitation.

Significant variation in medical practice across regions persists

Work undertaken for the OECD's work on variations in medical practice finds that in Portugal, as elsewhere, there are significant variations in the use of certain medical procedures that cannot be explained by population characteristics. Portugal has had notable successes in reducing medical practice variation in some clinical areas. Efforts to standardise practices around safe childbirth, for example, was

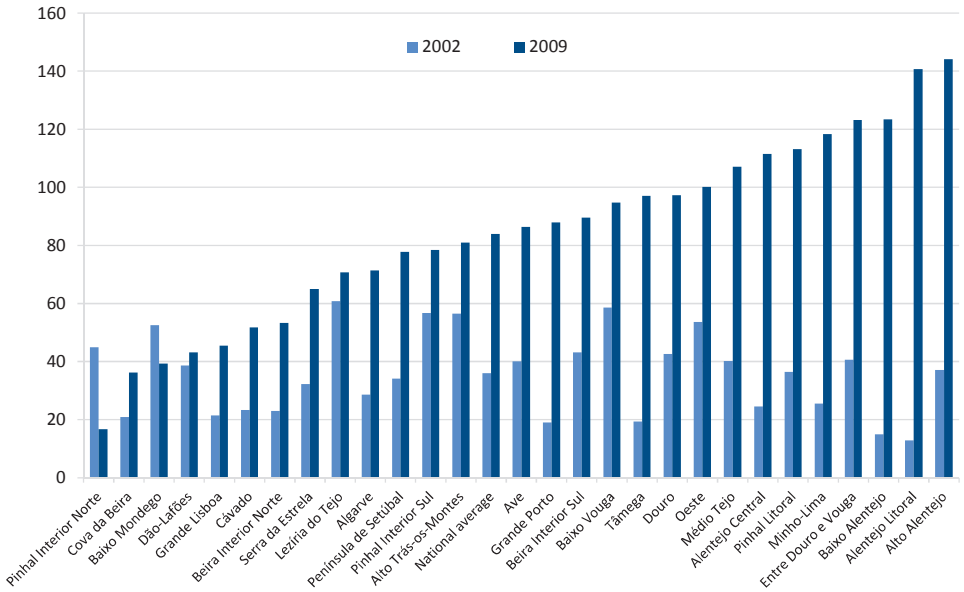
associated with a reduction in the geographical coefficient of variation in rates of caesarian section, from 23.1% in 2002 to 12.6% in 2009. Average rates remain high, however, and a comprehensive programme to discourage medically unnecessary surgical births has been launched, comprising training and guidelines for professionals, health education initiatives for expectant mothers, better monitoring systems and new payment schemes.

Efforts to standardise medical practice have not been as successful, however, in other areas. An illustrative case concerns knee arthroscopies and knee replacements. Rates of both procedures increased significantly 2002 and 2009 driven, to some extent, by population ageing. The European Collaboration on Healthcare Optimization (ECHO, www.echo-health.eu) project has identified knee replacement as a potentially "lower-value" procedure.[3] Yet, whilst geographic variation in the rate of knee arthroscopy decreased to a certain extent between 2002 and 2009, there was little reduction in the large geographic variations in knee replacement (Figure 4.8). The unweighted average knee replacement rate grew from 36 per 100 000 population in 2002 to 84 in 2009, whilst the coefficient of variation decreased only marginally, from 39.6% to 38.6% Of note, knee replacement is not a highly specialist procedure that would benefit from concentration into fewer centres, which may explain significant geographic variation. Significant volumes do, however, take place in the private sector which may partly explain the geographic variation observed.

One aim of the ECHO project is to estimate the opportunity cost national variation in a set of "lower-value" procedures. Excess cases were identified by applying to all areas the smallest rates observed in the country (at the 25th or 5th centile) and calculating their cost. This work is on-going but estimations for Portugal include savings of up to EUR 10 million per year per procedure group, if 5th or 25th centile rates applied nationally.

Work has also been undertaken to audit adherence to guidelines for the management of long-term conditions such as diabetes or hypertension. Large variability in adherence was noted, up to two-fold in primary care and up to four-fold in hospitals. Although some of the observed variation in practice may be statistical artefact due to low numbers, these figures still point to the potential for greater standardisation of practice.

Figure 4.8. Knee replacement per 100 000 population (standardised rates), by geographic regions, Portugal, 2002 and 2009



Source: National DRG Database.

4.5. Opportunities to strengthen quality and efficiency in the Portuguese health system

Portugal's current suite of initiatives to lead quality and efficiency gains is well designed and should be maintained, particularly since certain areas have been slower to deliver results than others. It will be important to maintain and go further on the performance regimes in both acute and community care. Further structural reform to where and how care is delivered is needed, with an emphasis on shifting care out of hospitals into less-expensive community settings that are generally preferred by patients. Whilst keeping these structural reforms in play, however, Portugal's next challenge will be to shift lens and simultaneously focus on clinical processes and pathways. Achieving more efficient use of the workforce will be particularly critical, since this is where the biggest spend is. The challenge should not be underestimated – changing practices and behaviours at the bedside may well prove more difficult than earlier structural reforms.

Performance regimes in both acute and community care should evolve further

Opportunities exist to make hospitals' performance regime tougher. Deepening the links between quality and income by increasing the incentives linked to quality indicators, say from 5% to 10%, should be considered. Extending the reach of quality-based payments in primary and community care services should also be considered. Portugal will shortly have very rich data on activities and outcomes in this sector (including long-term care), with clustering of similar practices and benchmarking amongst them. Although international evidence on pay-for-performance in primary care is perhaps somewhat equivocal to date (see Box 4.1) it makes sense to pay for quality and outcomes, rather than activity. Progress in this area should be judicious, using a few carefully chosen indicators for contracting and payments, selected in association with physicians and patients. Changes in patient outcomes should be closely monitored – few OECD countries have the richness of primary care data that Portugal has, meaning it could make a significant contribution to the academic literature on pay-for-performance in primary care.

Box 4.1. International experience with pay-for-performance schemes in primary care

Since their inception in the United States, United Kingdom and Australia in the late 1990s and early 2000s, pay-for-performance schemes have become increasingly popular payment mechanisms for primary care across the OECD. Pay-for-performance is, in fact, more widely used in primary care than in secondary care. Primary care schemes operate in around half of countries, focusing mainly on preventive care and care for chronic disease. Design varies widely, ranging from relatively simple schemes in New Zealand (ten indicators) or France (16 indicators) to the complexity of the United Kingdom's Quality and Outcomes Framework (QOF) – the largest scheme currently in operation. QOF covers over 100 indicators in 22 clinical areas and is implemented across the whole country.

Given its scale, and the fact that it was a system-wide reform, much research has focused on the impacts of QOF. Gillam et al. (2012), in a systematic review covering 124 published studies, note that evaluation is complicated by lack of a control group and the difficulty of ascribing changes in clinical practice or outcomes (each with manifold determinants) to a complex intervention such as the QOF. Nevertheless, against a background of improving care generally, they report that quality of care for incentivised conditions during the first year of implementation improved at a faster rate than prior to QOF, although subsequently returned to prior rates of improvement. Given the cost of QOF (an extra GBP 1 billion per year), much debate has focused on its cost-effectiveness. Gillam et al. reported evidence of modest cost-effective reductions in mortality and hospital admissions in some areas, such as epilepsy. Of note, however, work by Walker et al. finds no relationship between the size of payments in a clinical domain (ranging from GBP 0.63 to GBP 40.61 per patient), suggesting substantial efficiency gains by reducing the upper spread of these figures.

Box 4.1. International experience with pay-for-performance schemes in primary care *(cont.)*

In a review of 22 systematic reviews looking at pay-for-performance schemes internationally (not confined to primary care), Eijkenaar et al. (2013) find that P4P seems to have led to a 5% improvement in performance of incentivised aspects of care. Effects were generally stronger in primary care than in secondary care although, given the extent of variation in findings and the paucity of rigorous study designs, the authors conclude that there is insufficient evidence to support or not support the use of pay-for-performance in the quality of preventive and chronic care in primary care.

Beyond clinical effectiveness and efficiency measures, pay-for-performance schemes have been associated with improvements such as narrowing of the quality-gap between deprived and non-deprived areas (Doran et al., 2008); systems strengthening by expanding use of practice-based IT, patient registers, call-recall procedures and audit; and expansion of nursing roles and competencies, including better team working. They may also support better dialogue between purchasers and providers, promote broader public debate and thereby clarify the objectives of primary care services (Cashin et al., 2014). Some evidence of negative effects, such as deprioritisation of non-incentivised activities or a fragmentation of the continuity of care, have also been noted.

Pay-for-performance in primary care should not be seen as the ideal or only payment system, but a potentially useful tool in a blended payment system, particularly where it might spur other activities such as development of quality indicators and better monitoring. As stated in a recent editorial cautioning against overenthusiastic adoption of the schemes, "the choice should not be P4P or no P4P, but rather which type of P4P should be used and with which other quality improvement interventions" (Roland, 2012). Fundamentally, pay-for-performance should be seen as part of the means to move toward better purchasing (including, in this case, GPs' time), in which quality plays a more prominent role.

Further structural reform to where and how care is delivered is needed

Portugal has the opportunity to use the community and long-term care sector differently, relieving pressure on hospital sector. Apart from efforts to reduce emergency attendances at hospital emergency departments (particularly for complaints that could be managed in primary care), there has been a lack of discussion on how to shift care from hospitals into more community based settings in Portugal. This may be because recent reforms to the hospital sector have focused on concentrating specialist services into fewer centres. Stakeholders may be less ready for the next stage of the debate – a shift away from dependence on the hospital sector more globally.

Steps have been taken in this direction, however. The *Rede Nacional de Cuidados Continuados Integrados* (RNCCI, or National Network of Continuous Integrated Care) was set up in 2007. It seeks to expand

capacity in the community and long-term care sectors and enable care at the right time, at the right place and by the right provider. Development of the network is still on-going. Portuguese hospitals have also discharge planning teams and there are financial penalties for once hospital stays go over a certain threshold.

Several other OECD countries have embarked on detailed and comprehensive plans to deliver better co-ordinated care. The co-ordination reform in Norway is a good example (OECD, 2014). The Reform introduced substantial economic and organisational changes within the health care system, including establishment of supplemented primary health care units (also called "Distriktsmedisinsk senter" or "Sykestue" in Norwegian). These are expected to play a key role in taking care of patients upon discharge from hospital, or where there is a risk of admission to hospitals when the condition could be appropriately managed at a lower intensity care setting. These units are service models for integrated care, financed jointly by hospitals and municipalities, for patients with intermediate care needs. By providing a mix of post-acute, rehabilitation and nursing care, supplemented primary health care units are intended to curb hospital care costs through reducing hospital admission, length of hospital stay, and preventing readmission.

In Portugal, closer co-ordination between the acute and non-acute sectors is required, particularly across acute and long-term care services could be achieved. The recommendations recently published by the national commission on co-ordinated care, described earlier, address this issue directly and offer an ambitious and sensible way forward. Work should proceed to prioritise and cost these recommendations and implement the most immediately feasible. One promising line of activity early on would be to support early discharge after hip fracture or stroke, given possibly long lengths of stay for these episodes of care. Sweden has pioneered the early discharge model of care which is associated with improved recovery, reduced odds of death or dependency and increased patient satisfaction (OECD, 2013b).

Reforms to the governance and regulation of care would also offer efficiency gains

There are also opportunities to introduce new reforms around the macro-configuration and governance of health care in Portugal. A clear opportunity exists to use the Portuguese regions more effectively. They currently have few functions, which are centered on the certification and accreditation of local services. These functions, however, are to some

extent replicated centrally and, in a small country such as Portugal, could be managed entirely from the centre. Instead, the regions should devote their energies to "hands-on" quality improvement activities that central authorities might find difficult to perform. These would include identifying and spreading excellence, as well as supporting underperforming units to do better. In particular, regions could play a valuable role in learning from complaints. Portugal has a good national system for reporting and learning from major adverse events, but gathering learning from near misses and complaints is less robust. Regions could help improve reporting and learning here, in a bottom-up approach.

The approach taken in Italy is instructive. There, a National Observatory on Good Practices for Patient Safety was set up in 2008. Its aim is to encourage a continuous improvement of quality and safety of care by sharing learning from adverse events in hospitals and clinics and promote transfer of good practices. A bottom-up approach is implemented, through regional and inter-regional workshops in which all Italian Regions and Autonomous Provinces (R&AP) participate. Learning from these workshops is consolidated, and emerges as national recommendations applicable across the country and made publicly available on the Observatory portal. The next step, regional implementation of these recommendations, is supported by AGENAS, the national authority tasked with supporting R&AP to improve health care quality. Using a questionnaire, AGENAS monitors compliance with the recommendations and seeks to understand the barriers that R&AP have encountered in implementation.

Attempts to influence clinical processes have had uneven results and need to go further

Portugal's current suite of initiatives to lead quality and efficiency gains is well designed and should be maintained, particularly since certain areas have been slower to deliver results than others. Above average lengths of stay for some episodes of care (such as after a heart attack) and high volumes of non-generic and inappropriate prescribing (such as second line antibiotics) are good examples of areas that remain to be addressed. In some cases, such as reducing length of stay, the policy debate on necessary structural reforms (in this case, shifting care from hospitals into the community) is at an earlier stage as discussed above. In other cases, appropriate policies such as the national antimicrobial stewardship programme are already in place. Their impact

should be closely evaluated and new policy targets around better prescribing identified.

Portugal should ensure that the gains realised through centralised purchasing are not lost at the point of prescribing by backing up guidelines with regular audits of adherence. Use of antibiotics in ambulatory care would be one example of an area to target, given that Portugal exhibits high overall prescribing volumes – and high relative volumes of second-line antibiotics – compared to other OECD countries. Audits should be backed up with individualised feedback to clinicians and managers, matched with appropriate incentives and sanctions. Guidelines also need to be accompanied by clinical information and decision aids oriented toward patients. Currently, there are few decision aids for patients, and patient empowerment is still in its infancy in Portugal, as described in Chapter 1. A promising initiative to help patients better understanding evidence-based recommendations, and support them in demanding high-quality and good value care, is the Choosing Wisely initiative (Box 4.2).

Box 4.2. The Choosing Wisely initiative

Choosing Wisely is an interesting campaign to reduce waste, overuse and harm that Portugal should consider. The campaign, led by physicians, started in the US and distills complex clinical guidelines into "nuggets of evidence-based don't do's". These are intended to be shared and discussed with patients, avoiding alarm about rationing. An example would be MRI scan of the lower back in the first six weeks of uncomplicated back pain. *Choosing Wisely* is potentially a very promising avenue to improve health system efficiency at the bed-side. It has triggered programmes in several European countries, including Switzerland, England and the Netherlands.

Portugal could also extend the progress it has made with centralised purchasing and contracting to other areas. Recently, contracting for energy supplies and for estate management has been consolidated, and further similar opportunities should be identified. Close attention to the behavior of suppliers will be needed to ensure that the gains to the public purse realised in recent rounds of negotiation are not lost in subsequent cycles.

There is also potential to further differentiate and concentrate hospital services. There is, for example, no up-to-date national cardiology network at present. Addressing this will reduce slack around technically demanding and expensive procedures such as CABG. The large geographic variation across Portugal in rates of CABG underlines

the importance of rationalising activity in this area. Comprehensive consolidation plan covering all hospital specialties and procedures should be pursued, along the lines of reforms in Denmark (OECD, 2013a). Some initiatives are underway in this area, such as updating clinical service networks. It will be important to ensure initiatives to concentrate services should be led by the relevant professional groups – with full public consultation – to allay concerns of worse access. In Denmark, clinicians' leadership was felt to be critical to the success of plans to concentrate services into fewer centres.

Portugal's health care workforce could be used in a more efficient manner, and deliver better care

Key to shifting care, and indeed to securing quality and efficiency gains more widely, will be to use the Portuguese health care workforce more effectively. In the first instance, nurses will also have to move to work in the community if more care is to be delivered outside of the acute care setting. As mentioned earlier, 75% of Portugal's nurses work in hospitals. This may be too many if the broader system ambition is to reduce dependence on the hospital sector. Germany's AGnES programme is a successful illustration of supporting nurses to take on a wider range of roles in the community. There, nurses have been given additional training to visit patients with reduced mobility at home and carry out checks and other aspects of chronic disease management. A key feature is that video-conferences with a supervising doctor are enabled for more complex cases.

In all settings, however, there is potential to use the workforce more efficiently. Extensive international evidence is available to support the sharing or transfer of roles traditionally performed by doctors to nurses. Within the Portuguese system, an expanded nursing and midwifery role could be expected to lead to gains in reduced rates of caesarian section or health care associated infections, two quality and efficiency issues that were identified earlier. Nurses may also be in a better position to co-ordinate the early discharge of patients (after stroke, heart attack or falls, for example) and thereby reduce length of hospital stay. To use nurses' skills more fully, Portugal will have to take steps to resolve the obstacles to nurses providing care, as described in Section 4.3. Work is underway to look at this issue and this work should be supported.

A particularly interesting recommendation from the national commission on integrated care concerns definition and assignment of the role of the case manager. He or she would carry primary responsibility

for ensuring the co-ordination of care for patients with complex needs, and be a first point of contact for such patients and their families. The need for such a role and, in particular, clear definition of the competencies and responsibilities associated with it, has been recognised by an increasing number of OECD health systems as an important part of the solution to providing better quality health and social care. In Japan a new profession of long-term care managers was created, to co-ordinate provision of health and social services care needs for elderly individuals. The profession is now highly systematised, with clear qualification criteria. Care managers in Japan come from a mix of professional backgrounds, (including nurses, dentists or social workers) and their professional association, which counts around 25 000 members, offers training, seminars and publications (OECD, forthcoming 2015).

Portugal should look to define a similar role within its health system. Rigid definition of the professional to fill that role is less important, as long as they have, or can be trained in, the appropriate knowledge and skills. In several OECD countries, nurses take on this role and case-manage patients with dementia, COPD, diabetes or other complex long-term conditions in close liaison with the patient's medical team. Portugal already has operates a similar model which could be replicated more widely – most patients with diabetes have a named primary care nurse who is responsible for annual checks, patient education and other aspects of case management. It would make sense, then, to start exploring the potential of case-managers with this group of patients, particularly given the complexity and burden of diabetes in Portugal.

A better understanding of the impact of recent reforms is needed

Although Portugal's health information infrastructure is extensive and detailed compared to most other OECD countries, there are nevertheless opportunities to develop it further. This is necessary to ensure that the systemic and clinical reforms outlined above can be monitored and evaluated, as well as enabled. As outlined in other chapters, there is still a need to deepen understanding of impact of hospital and primary care reforms by conducting proper evaluations. The impact of local health networks, of hospital concentration and of the integrated disease management pathways are just three examples of where Portugal's ambitious set of reforms over recent years have been poorly studied. It some cases, it remains unknown whether these programmes achieved their primary aims, such as reducing hospital admission and improving clinical outcomes.

There are also opportunities to achieve a better understanding of regional variation in clinical processes and outcomes, such as health care associated infection (HCAI) rates, or fatality after heart attack or timeliness to hip fracture surgery. It would be instructive to identify service and contextual characteristics that are associated with variation, in order to identify where targeted quality improvement initiatives are needed. Portugal has undertaken this type of analysis to explore determinants of geographic variation in caesarian-section rates, but it could be done more extensively across a wider range of clinical areas. Analysis is also needed on extent to which observed variation reflects lapses of quality. In particular, the costs associated with these potential lapses in quality have not been estimated. These figures need to be estimated more precisely, ideally at local level. That would give health service managers the information they need to plan and manage local services, building a business case for more infection control staff, for example.

Finally, as a cross-cutting recommendation, Portugal should ensure that data are made accessible to patients so that they have the quality-related information they need to be able to exercise choice.

4.6. Conclusion

Following the 2008 global economic crisis, Portugal experienced reductions in the resources regularly available for health care, both as a share of GDP and in per capita terms (although recent years have seen more resources become available). The country introduced numerous policy initiatives to cope with this tough fiscal climate. In particular, reforms around the purchasing and use of pharmaceuticals and medical devices have been particularly successful. Portugal has also innovated extensively in how it uses public funds to pay providers, increasingly basing payments on the quality and efficiency of the care provided. One of the most striking features of the Portuguese health system's response to the crisis, however, has been a commitment to quality, and to preserving a universal publically funded system.

Nevertheless, implementation of these initiatives across the Portuguese health system has not been uniformly successful. Generic prescribing still lags behind some OECD countries, and lengths of stay in hospital after some procedures is longer than seen elsewhere. Despite improvements in the co-ordination of care, not enough care has been transferred out of hospitals into the community sector. Significant

variation in medical practice across regions is another persistent issue. All these represent areas where Portugal could be doing more to meet the twin aims of improved efficiency and better care.

Portugal's current suite of initiatives to lead quality and efficiency gains is well designed and should be maintained, particularly since certain areas have been slower to deliver results than others. It will be important to maintain and go further on the performance regimes in both acute and community care. Further structural reform to where and how care is delivered is needed, with an emphasis on shifting care out of hospitals into less-expensive community settings that are generally preferred by patients. Whilst keeping these structural reforms in play, however, Portugal's next challenge will be to shift lens and simultaneously focus on clinical processes and pathways. Achieving more efficient use of the workforce will be particularly critical, since this is where the biggest spend is. The challenge should not be underestimated – changing practices and behaviours at the bedside may well prove more difficult than earlier structural reforms.

Notes

1. www.acss.min-saude.pt/Portals/0/Metodologia_HH_ULS_2015.pdf.
2. www.acss.min-saude.pt/Portals/0/Portaria%20nº%20360_2013.pdf.
3. The ECHO project identified "lower-value" procedures as those which i) may be effective, but have been superseded by more cost-effective alternatives; ii) where there are defined types of patients for whom evidence of value is unclear; iii) relatively ineffective procedures where there is a tendency towards over-use. The procedures used in the opportunity cost estimation are: adenoidectomy, caesarian section in low risk deliveries, knee replacement and revision, hysterectomy in non-oncologic conditions, inguinal hernia repair, non-conservative surgery in breast cancer, prostatectomy in benign hyperplasia, proctologic surgery and spinal fusion. See www.echo-health.eu (accessed 8 September 2014).

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