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Challenges and Opportunities of the Portuguese Health System

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Introduction

The Portuguese health system ensures the provision of healthcare to its population through a network of public hospitals and primary care centres, complemented by private healthcare providers and a long-term care network. Overall, when compared to other countries, the health care system seems to perform relatively well in terms both of quality delivered and financial indicators.

However, significant challenges persist, particularly within the National Health Service. Still, several reforms have been implemented over the last decades to modernize the health system and contribute to its financial sustainability. In fact, Portugal has a relatively old and unhealthy population, leading to a high prevalence of chronic diseases and an increasing burden associated with ageing. It is expected that these effects will generate additional pressure in an already constrained health system. The modest economic growth recorded over the last years and the related financial constraints have limited the capacity of the health system to meet the increasing demand. Surgical waiting lists, excess demand for long-term care, and patients with unassigned GPs are some of the signs of a pressured health system. Some of these historical problems have been amplified by the Covid-19 pandemic which disrupted the provision of healthcare.

This work provides a discussion on the main challenges faced by the Portuguese Health System and provides an analysis of the main opportunities that should be pursued. In particular, chapter 1 presents a description of the Portuguese Health System, in terms of its organization, financing and outcomes. Chapter 2 provides an analysis on the financial sustainability of the health system, including a review on health spending growth. Chapter 3 summarizes key reforms that have been implemented over the last decades, while chapter 4 looks forward by providing a critical discussion on the future challenges and opportunities faced by the health system. Finally, chapter 5 concludes.

The Portuguese Health System

The Portuguese Health System is characterized by three co-existing systems. The universal National Health Service – a public network which covers the entire population; private voluntary health insurance – which allows individuals to access private health care providers; and special health insurance schemes – specific to some professions or sectors, allowing its members to access private health care providers.

Portugal has a population around 10 million, which is relatively old and unhealthy. In terms of ageing, with 34 elderly for each 100 working-age individuals the country presents one of the highest ratios in Europe (OECD/European Union, 2020). On the health status side, even though life expectancy is higher than the OCDE average (81.5 vs 80.7 years in 2017), the country displays a high prevalence of unhealthy lifestyles: 57% of the population is overweight, 20% active smokers, and 17% binge drinkers. This contributes to the high proportion of chronic diseases. For example, within the population between 25 and 74 years, 36% is hypertensive, 63% has high cholesterol, and 10% has diabetes (SNS, 2019). The prevalence of such lifestyles, coupled with the increase in chronic diseases poses significant challenges to the Portuguese Health System.

Having clear this context, below we provide an overview on the institutional features of the Portuguese Health System in terms of its organization, financing, and outcomes.

1.1 Organization of the Health System

Health Policy in Portugal is defined and coordinated centrally at the Ministry for Health. This ministry oversees a set of agencies and institutions responsible for public health promotion, health care provision, regulation, and financing.

The main pillar of the Portuguese Health System is its National Health Service (NHS). The NHS is a network which aims to provide universal, accessible and high-quality care to the Portuguese population and is structured along five different regional health authorities (North, Center, Lisbon, Alentejo, and Algarve). Additionally, both autonomous regions of Azores and Madeira have their own Regional Health Service.

The NHS provides health care directly to the population through a network of primary care and hospital care facilities, directly managed by the government. Additionally, the NHS has partnerships with private entities, in order to provide access to a network of long-term care.

The main pillar of the Portuguese Health System is its National Health Service (NHS)

Primary care provision by the NHS happens in local "Health Centres". Citizens are assigned a general practitioner, also known as family doctor, in their local Health Centre. Different centres have different organizational structures: family health units (launched in 2007, these are smaller teams of health professionals with incentive-based budgets) and personalized health units (the traditional teams for primary care provision).
The number of family health units has increased substantially from 277 in 2010 to 564 in 2019. Such increase was mostly a result from the conversion of personalized health units – which decreased from 518 in 2010 to 345 in 2019 (ACSS, 2019). Primary care centres are thought to be the point of contact between the citizen and the health system, providing routine care and non-emergent acute care to their patients.

In 2019, such primary care facilities provided over 31 million doctor appointments, and 19 million nurses appointments. About 93% of the population is assigned to a GP in their local primary care centre.
This number has increased from 82,1% in 2010 – although it has remained stable since 2016 (ACSS, 2019). Increases in GP coverage have been hampered by the old age structure of GPs, together with the difficulty on attracting and retaining doctors for the NHS in particular regions.
Citizens not assigned to a GP can still assess primary care services through non-scheduled appointments. These citizens will not be followed by a particular physician in primary care centres.

In addition to primary care, the NHS also manages a network of public hospitals, for acute and specialized care - grouped into 49 Hospital Centres covering a given geographical area, with a total of over 21 thousand beds (ACSS, 2019). Access to hospitals is restricted, with the exception of emergency department visits. Indeed, the general practitioner ("family doctor") at the primary care centre act as a gatekeeper for direct hospital access. Not all hospitals are identical.
A reference system is in place in other to regulate the complementary relations between the different hospitals. Patients are typically referred from their primary care centre to their local area hospital. However, since 2016, patients can choose a hospital outside their local one (until the end of 2019, this was the preferred choice for 11% of patients [ACSS, 2019]).

The NHS provides health care through a network of primary care and hospital care facilities

In 2019, NHS hospitals jointly provided 12 million doctor consultations, 6 million emergency department visits, 704 thousand surgeries, and almost 800 thousand patients discharged from inpatient care services. However, waiting times are still a challenge (ACSS, 2019). In fact, from 2010 to 2019, the median number of days to set a doctor appointment increased from 80,1 to 83,6. Maximum waiting times have been defined and waiting lists systems have been implemented to control for such problem.

Nonetheless, in 2019, 30% and 32% of doctor appointments and surgeries exceeded the maximum waiting time defined, respectively. Patients with surgeries exceeding the maximum waiting time are given the option to have their surgery performed in the private health sector.

The emergency department is often a bottleneck for NHS hospitals. Low-priority cases represent over 40% of emergency visits. This contributes for having 25% of patients admitted after the recommended waiting time.

Bottleneck in the NHS: low-priority cases represent over 40% of emergency visits

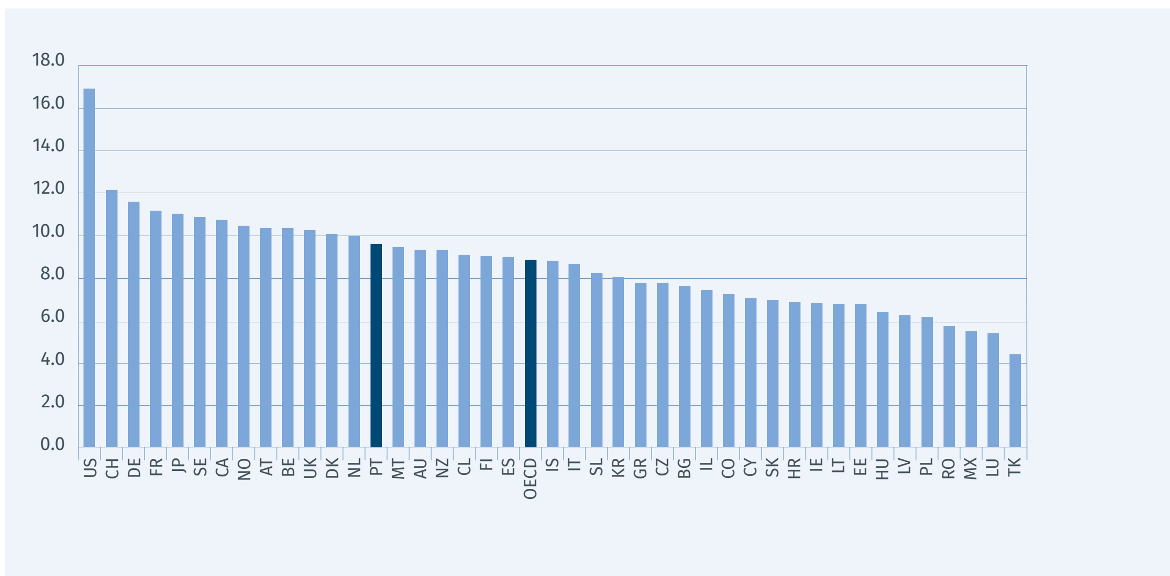
In 2006, the National Network for Long-term Care was created to the provision of long-term and palliative care. This network, financed by the NHS, is a combination of resources from public hospitals, primary care centres, as well as private providers (for profit and not-for profit).
The number of beds available in this network has increased substantially from 4.5 thousand in 2010 to over 9 thousand in 2019. However, access to this network is still very limited – particularly in the Lisbon, Alentejo, and Algarve regions (CNCP, 2017).

Health care is also provided by private health entities, both for profit and not for profit. Historically, these have evolved from office-based physicians to medium-size clinics and large hospitals. The footprint for private health providers is mainly focused on larger urban areas.
They provide a relatively broad range of services. Not surprisingly, they are particularly relevant in areas in which the NHS has limited capacity.
In particular, private health providers play an important role on diagnostic services, dental health, and physical and rehabilitation medicine (European Observatory on Health Systems and Policies, 2017). The relative importance of private practice has been increasing over time. Portugal has also a wide network of pharmacies – which are privately owned and managed – with significant capillarity in the Portuguese territory.

1.2 Financing of the Health System

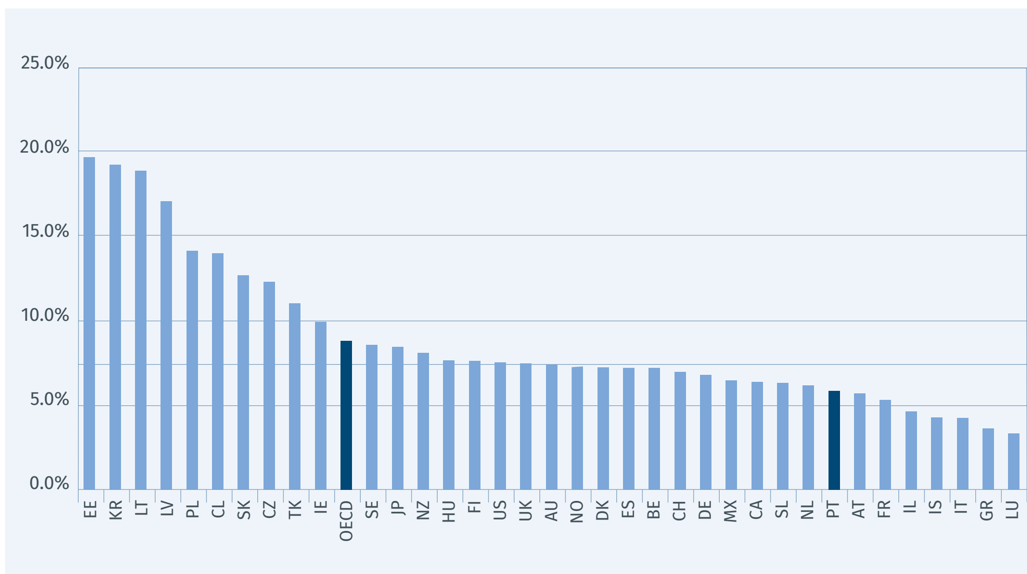
Portugal's total health care spending in 2019 reached 9.6% of GDP – above the OECD average of 8.8% *(figure 1)*. However, in *per capita* terms, this represents 3,379 USD (below the OECD average of 4,306 USD) (OECD, 2021).

Figure 1. Total health spending (% of GDP; 2019)



As in all developed economies, health spending has been increasing over the last years. Nonetheless, as displayed by *figure 2*, *per capita* health spending in Portugal has increased since 2000 at one of the lowest annual growth rates (5.9% vs the OECD average of 8.8%). Such fact is also related with the modest levels of economic growth and economic crisis that the country faced since the beginning of the century.

Figure 2. Per capita health spending annual growth rate (%; economy-wide PPP, 2000-2019)



As better described by *figure 3*, the financing of these levels of healthcare spending has multiple sources (INE, 2021). The NHS, through its regional health authorities, is responsible for financing almost 60% of overall health spending. NHS expenditure – mostly financed through taxes - is used to finance public primary care centres and hospitals. Public hospitals are financed through a combination of global budget adjusted for activities (DRG tariffs). Some pay-for-performance schemes have been introduced in hospital care both for regular care (CRI) and for recovering waiting lists (SIGIC). Funding for Family Health Units, within primary care, includes also some pay-for-performance incentives. Additionally, the NHS finances the National Long Term Care network, pharmaceutical reimbursements, and part of the activity performed by private health providers. In particular, the NHS contracts some activity with private health providers such as diagnostic exams, physiotherapy or, in a smaller scale, surgeries and dental treatments.

Despite having an universal health system, Portugal is the 8th OECD countries with higher private and voluntary expenditures (OECD, 2021). Out-of-pocket payments represent 28% of total health spending. These payments are mostly related with pharmaceutical expenditures, or private health providers co-payments (OECD/European Observatory on Health Systems and Policies, 2019; Kronenberg and Barros, 2014). Small user fees

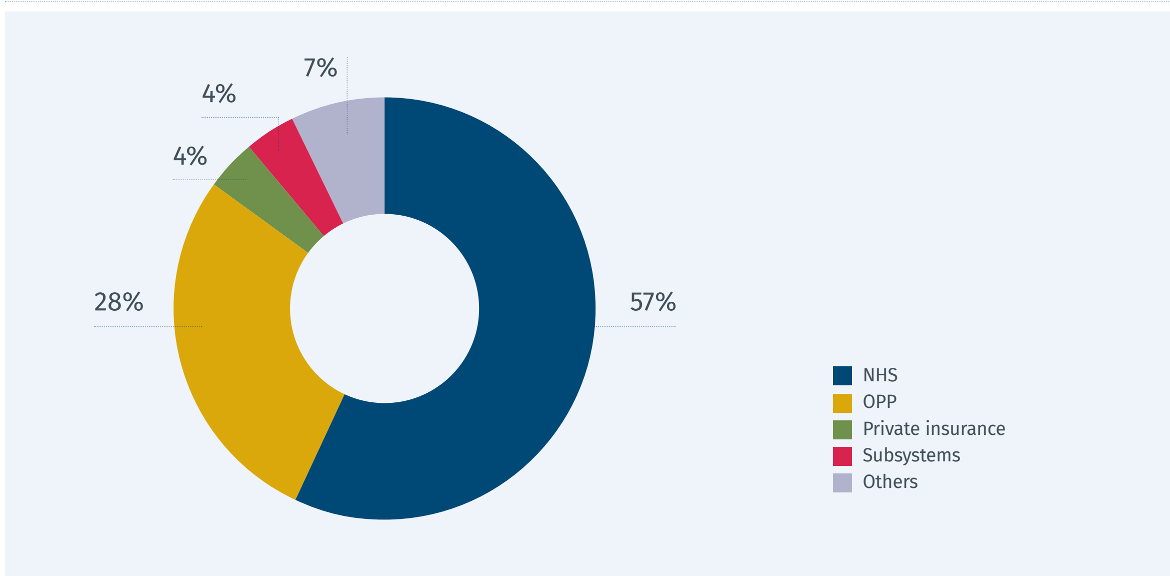
Out-of-pocket payments represent 28% of total health spending

are charged in NHS services where the contact is initiated by the patient to control for moral hazard, but most of the population is exempt from paying them.

Additionally, private insurance and health subsystems (for particular groups of the population) represent 8% of overall expenditure. Particular professions, such as civil servants, military, or financial services professionals, have access to specific health subsystems – which works as an health insurance and allows these professionals to access private health care. Moreover, individuals and firms can also subscribe to private health insurance, allowing them to access private health care as well.

Over one third of the Portuguese population is covered by at least one health insurance scheme or health subsystem. This proportion has been increasing over time – which implies that a significant share of the population has multiple health care coverages. *Box 1* provides a detailed analysis on the growth of private health insurance.

Figure 3. Health system financing agents (% of total health spending; 2019)



BOX 1

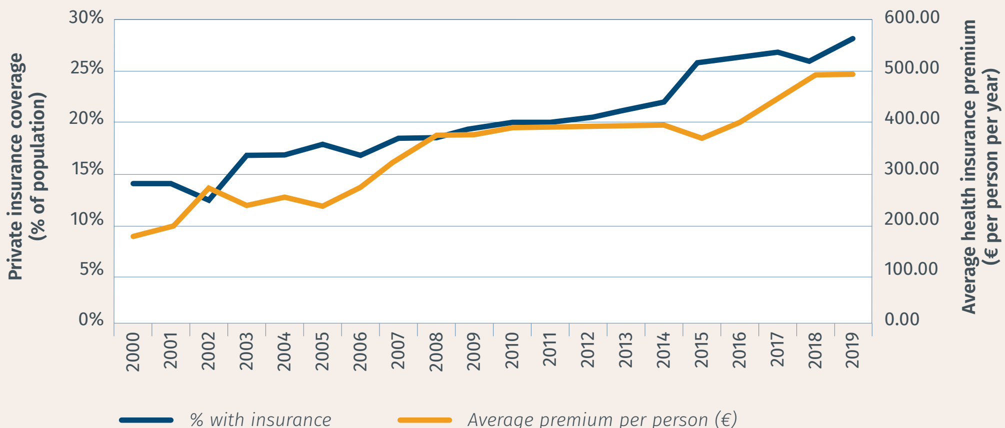
EVOLUTION OF PRIVATE HEALTH INSURANCE

The Portuguese NHS aims to provide universal access to health care. However, private health insurance has been increasing steadily since the beginning of the century (figure 4). Such increase reflects, among others, the quest for more convenient health services with lower waiting lists, and without the need to go to primary care before accessing hospital care.

In 2019, almost three million of citizens were covered by private health insurance – in addition to the NHS coverage and subsystems coverage for particular professions. The share of the population covered by private health insurance has doubled since 2000[1]. More than half of these individuals are covered by health systems paid by their employer.

The average premium paid by person has also increased substantially since 2000 to almost 500€ per year and per person covered. This suggests both increasing health care costs and increasing coverages offered by health insurance (ASF, 2020).

Figure 4. Private health insurance coverage (left axis; % of population) and average health insurance premium (rigth axis; euros per person per year)



The increasing trend in private health insurance has also fuelled the development of the private health care sector. Over the last years, private providers have increased their geographic footprint, as well as their portfolio of services – providing more complex and specialized care (Banco de Portugal, 2019). Nonetheless, in hospital care, the NHS still ensures over 80% of emergency visits, and close to 80% and 70% of inpatient care and surgeries, respectively.

(1) Data refers to the number of persons with private health insurance coverage. Because an individual may be covered by more than one health insurance (for instance, if an individual subscribes a private insurance in addition to the health insurance provided by the employer), the overall number of citizens covered by private insurance may be lower.

1.3 Health System Outcomes

The Portuguese population achieves relatively high life expectancies when compared to other countries. However, life quality in elderly people remains one of the main challenges of the Portuguese society. Coupled with unhealthy lifestyles, health inequalities and mental health issues, this creates additional pressure to the health system.

When compared to other countries, the Portuguese health system ranks relatively well – mostly in terms of its efficiency. In an early study published in 2000, the World Health Organization places the Portuguese Health System as the 12th best health system out of 190 different countries (Evans et al., 2000). More recently, a study published in 2017 (Healthcare Access and Quality Collaborators, 2017) ranks Portugal among one of the countries which achieve higher efficiency scores than what theoretical models would predict. Such result is reinforced by the Eurohealth consumer index, published in 2018, which places the Portuguese Health System in the 13th position among 35 countries *(more details on Box 2)* (Bjornberg, 2018). Despite achieving relatively good health outcomes – such as in life expectancy or infant mortality – unmet needs have still some importance. In 2017 the European Commission has estimated the existence of unmet needs for 5.5% of the population, below the European average (Nuti et al, 2018).

The Portuguese Health System ranks relatively well when compared to other countries

Different rankings have different results, as they compare a diverse set of indicators. Thus, results should be interpreted with caution. However, overall, these studies suggest that health systems performance and quality have been improving across Europe. Moreover, the Portuguese Health System ranks relatively well when compared to other countries. Nonetheless, there are still significant hurdles and challenges, as better discussed in the next sections.

BOX 2

PORTUGAL AND THE EUROHEALTH CONSUMER INDEX

According to the Eurohealth Consumer Index (2018), the Portuguese Health System was ranked 13th among 35 health systems (figure 5). Its position in the rankings has evolved over the last years from the 26th place in the 2008 edition (figure 6). In particular, Portugal is a top performer in the Bang-for-the-Buck analysis. This suggests that the Portuguese health spending is relatively efficient and delivers high value for money.

Figure 5. 2018 Ranking of Health Systems (Eurohealth Consumer Index; 2018)

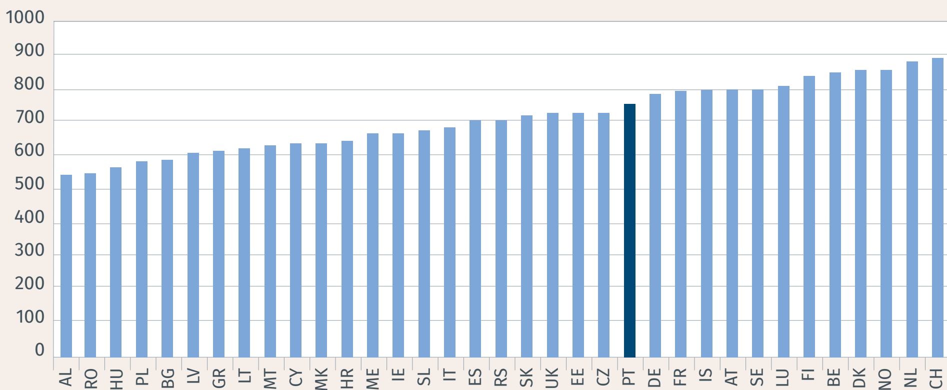
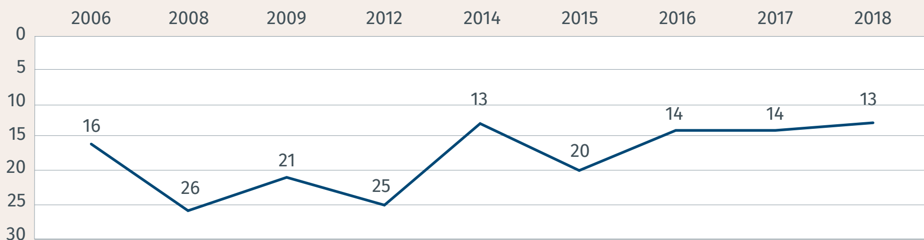


Figure 6. Portuguese position in the Eurohealth Consumer Index Ranking (position out of 35 countries; 2006-2018)



However, the report also identifies different areas for improvement. Top concerns to be addressed are: lack of equity in the health system, high rate of caesarean sections, high rate of MRSA infections, high prevalence of alcohol consumption, car accidents and suicide rates. There are also other areas for improvement related to: access to health care (waiting lists and direct access to specialists); patient rights (access to medical records and benchmarking of providers quality); pharmaceutical policy (innovation, co-payments and high prescription of antibiotics); health outcomes (related with high blood pressure and tobacco consumption prevalence).

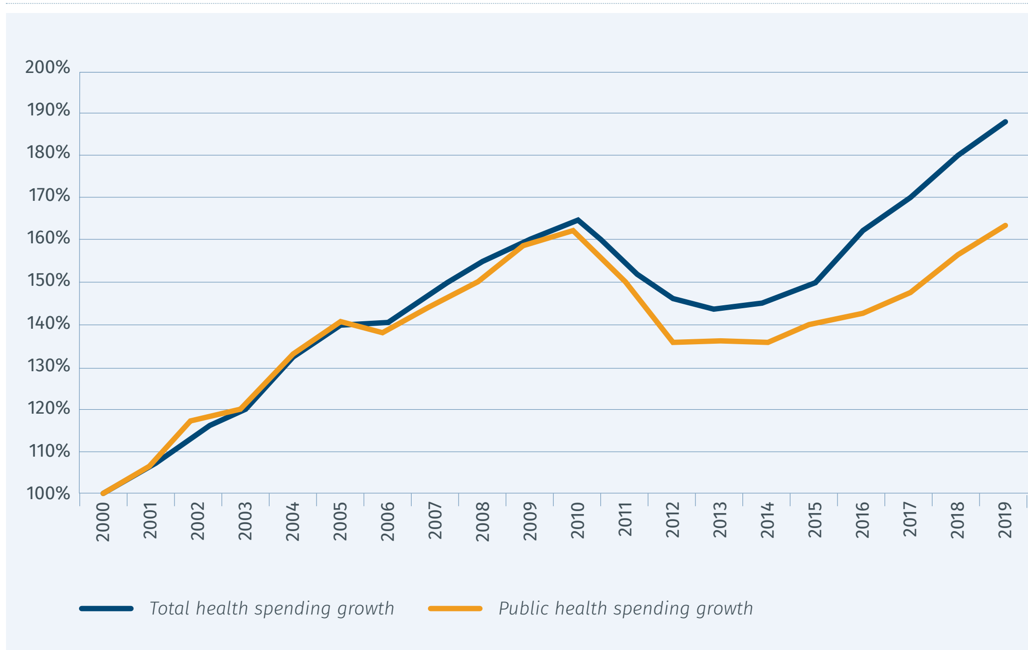
Financial Sustainability of the Portuguese NHS

2.1 Mapping the increase in the Portuguese Health Spending

As described above, all OCDE countries increased their healthcare expenditures since the beginning of the century (OECD, 2021). Portugal total healthcare spending is slightly higher than the OECD average, although its average growth rate is substantially lower. As in many other countries, such increase in healthcare expenditures is expected to persist. The Portuguese NHS faces significant challenges, pressing healthcare spending upwards.

Figure 7 shows that, in nominal terms, total healthcare spending in Portugal increased by almost 90% since 2000. The growth trend is consistent across time, with the exception of the decline felt during the sovereign debt crisis of 2009-2011. Nonetheless, since such event, total health spending growth was mostly driven by increases in private health spending. In fact, since 2000 public health spending increased only by 64%, well below the 89% increase of total health spending.

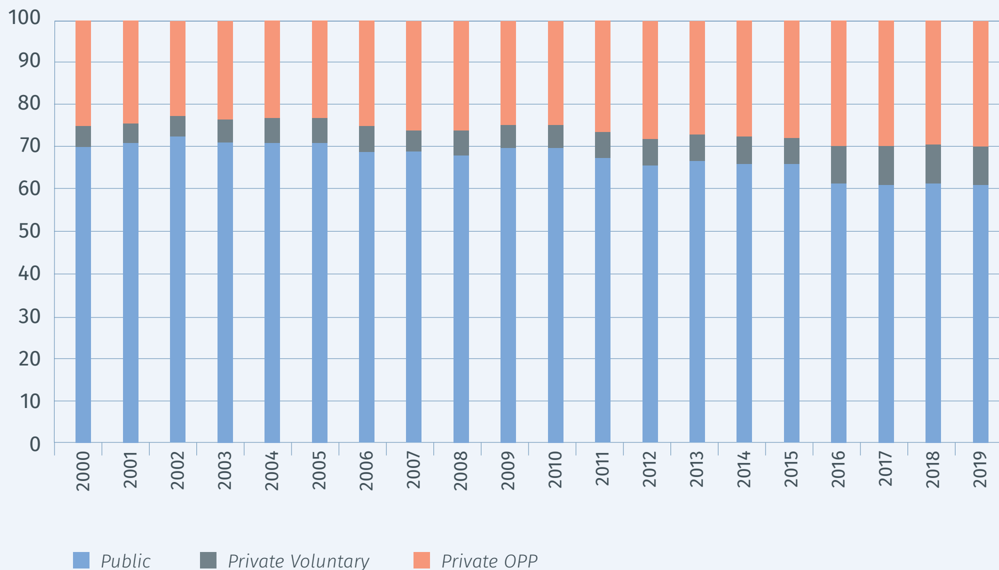
Figure 7. Total and Public health spending growth relative to 2000 levels (Portugal; 2000-2019)



The lower increase in public health spending is partially explained by tight public finances constraints. As shown in figure 8, the consequence of this lower growth is reflected in a substitution effect with an increasing share of private health spending on total health spending. In 2000, compulsory health expenditures (which can be thought as public health spending) represented over 70% of total health spending. This has decreased to around 60% in 2019. In an opposite direction, out-of-pocket payments and voluntary expenditures (such as new health insurances subscriptions – described above) have been increasing (INE, 2020).

Out-of-pocket payments and voluntary expenditures have been increasing

Figure 8. Decomposition of Health expenditures in Public (compulsory) and Private (Voluntary and Out-of-pocket payments) (Portugal; 2000 – 2019)



The historical increase in the Portuguese healthcare spending, similar to the historical increase observed in most developed economies, has several drivers. Most of these factors are likely to persist in the long-run. Thus, healthcare spending in Portugal is expected to keep growing.

Several studies have tried to explain the observed growth of health spending as a function of key variables, as described in Costa et al (2021). The seminal contribution from Newhouse (1992) decomposes the US health spending growth into several effects: population aging, increased insurance coverage, increased income, supplier-induced demand and lower productivity growth in the health care sector. The remaining fraction of growth not explained by these factors is attributed to technology. In his study, technology seems responsible for accounting for at least half of the observed growth. Other studies, with different approaches, have confirmed technology as the main driver for health spending growth (Cutler, 1995; Smith et al., 2000, 2009).

Health spending in Portugal is expected to keep on increasing in the next decades

Focusing on the Portuguese reality, similar trends can be identified. On one hand, the Portuguese population is getting older, with a higher prevalence of chronic diseases and more comorbidities. Even, if such effects are not directly translated into higher costs, they will at least require an adaptation of the response provided by the NHS. In Portugal, health spending data shows that an elderly person spends, on average, 2.5 times more in health than a younger person. Also, in 2015 the proportion of elderly population was 21%, which is projected to reach 37% by 2080.

On the other hand, health spending is expected to increase with economic growth, which drives consumers to spend part of their additional income in more goods and services. Studies show that consumption in healthcare services will increase at least proportionally to the income.

An additional concern regarding healthcare spending is the rate at which productivity in the health sector grows relative to the rest of the economy. This problem was framed by Baumol (1986), which argued that if productivity gains are lower in the medical care industry than in the rest of the economy, then health expenditures would increase – given the same demand for health services.

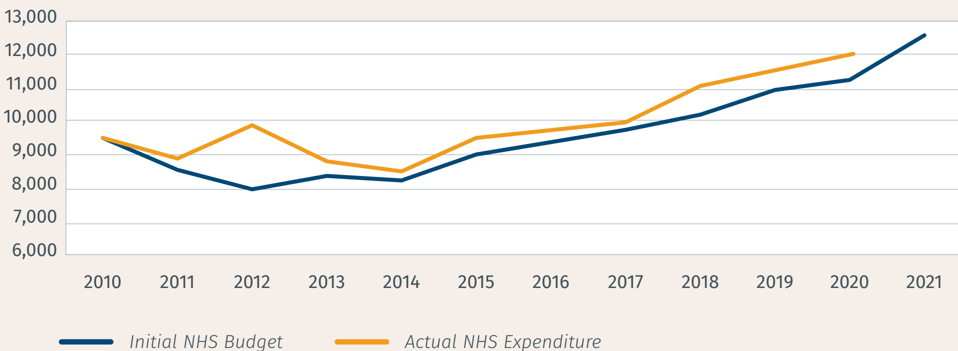
Moreover, technology costs are a key driver for health spending increase. New drugs, medical devices and other innovations are increasingly more expensive. All these effects are expected to place additional pressure on public health spending (and on total healthcare spending).

BOX 3

IS THE PORTUGUESE NHS UNDERFINANCED?

The Portuguese NHS budget has increased uninterruptedly since 2014, following the end of the adjustment program. Compared with 2010 levels, the NHS budget projected for 2021 has increased by 30% (figure 9). Nonetheless, despite such growth, the actual NHS expenditure registered in the end of each year has always surpassed the initial budget (Pereira and Vicente, 2020).

Figure 9. Portuguese NHS Budget and execution (2010-2021, M€)

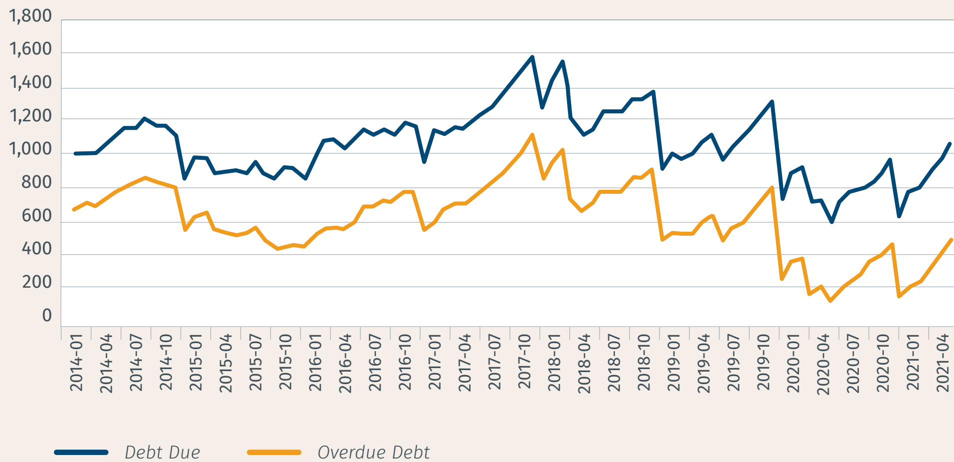


Source: Budget Watch 2021

Such trend can be explained by two main factors. On one hand, such gap suggests that the NHS might be underfinanced given their actual needs. The budget for 2020, presented in 2019, included additional funding to correct the historical NHS deficit. However, it was not possible to assess whether the impact of such funding was enough to solve the chronic deficit problem given the Covid-19 pandemic (which turned the budget for 2020 into an obsolete estimate).

On the other hand, this may also signal a difficulty in aligning incentives with managers. In fact, hospitals budgets are not seen as binding instruments and hospitals often surpass them. The Ministry for Health, close to the end of the year, often releases additional funding to compensate for budget overruns. The consequence of such pattern is the accumulation of short-term debt to suppliers – and in particular, to pharmaceutical companies (figure 10).

Figure 10. Portuguese NHS Debt to suppliers (01-2014 to 05-2021, M€)



Source: Portal da Transparência

Figure 10 shows that the accumulation of debt has decreased substantially since the maximum levels registered in 2017. It also shows the sharp decrease close to year-end following the additional funding releases. Suppliers debt tends to increase and resume the previous trend following these releases. Nonetheless, in the first months of 2021, debt to NHS suppliers was close to its historical minimums. To some extent, this suggests that the NHS budget is more aligned with actual needs.

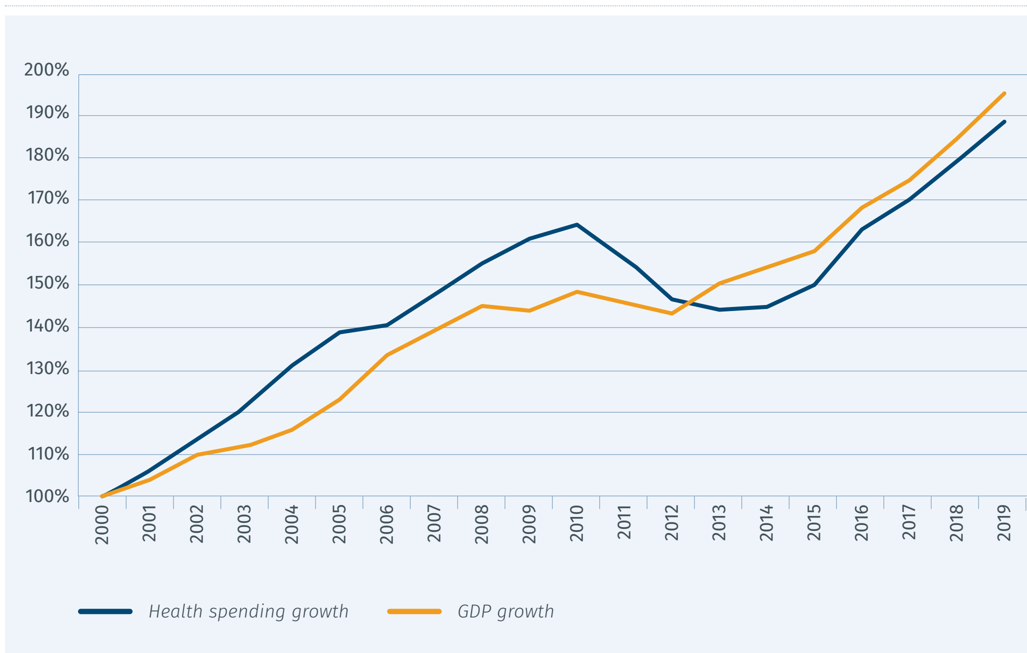
2.2 Is there a Financial Sustainability problem?

The concern with the financial sustainability of the healthcare systems often steams from the fact that economic growth is typically surpassed by health spending growth. The key conclusion is that if the healthcare sector grows at a faster pace, then its share in the overall economy will keep on increasing over time.

However, in the Portuguese context, such distinction is not that clear. Until 2012, health spending has increased at a faster pace than GDP. However, since then, GDP has surpassed health spending growth. In fact, up until 2019 – and relative to 2000 levels – GDP has increased by 95%, while health spending has increased by 89%. For this reason, and despite the fact that health spending is projected to keep on increasing, the share of health spending in the GDP has not increased dramatically over the last years.

Relative to 2000 levels, GDP has increased by 95%, while health spending by 89%

Figure 11. Health spending growth and GDP growth relative to 2000 levels (2000 – 2019)



Source: OECD; own computations

Nonetheless, the issue with sustainability and affordability arises when the government has some degree of responsibility for health spending. The World Economic Forum (Kibasi et al, 2012) recognizes that a significant share of health expenditures is paid through public funding. This has created a fiscal challenge, with health care being one of the largest public sectors and with significant underlying momentum towards higher costs.

In the absence of significant economic growth, and without increasing taxes, a large public health spending growth can induce the crowding out of other public expenditures. The OECD (2015) argues that the problem of sustainable health spending can be framed by comparing the benefits gained from health spending against other sectors of public expenditure. Citizens, may strongly prioritise health spending relative to other sectors, as suggested by a survey conducted by OECD (1998). However, it is unlikely that citizens are willing to accept continuous reductions in other public expenditures to finance higher levels of health spending.

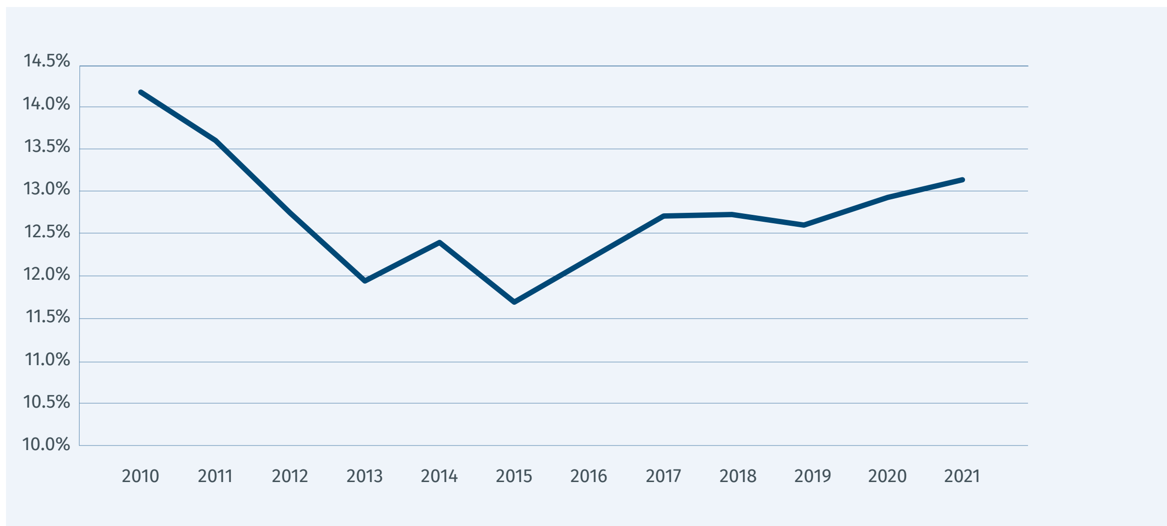
In such setting, public healthcare spending growth could trigger an unsustainable trajectory: either by posing a risk to public finances stability, or by reducing significantly other forms of public expenditures (such as social security, education, among others).

In Portugal, the NHS budget is one of the key components of overall public spending. However, the share of the NHS on overall public spending has been relatively stable over time *(see figure 12)*. To some extent, this suggests that public health spending growth did not result in substantial reductions on other forms of public health spending. Additionally, in recent years – and before the Covid-19 pandemic – the Portuguese public finances have improved into a balanced budget. Thus, increases in public health spending did not pose a threat to public finances stability.

Nonetheless, in the long-run, health spending is expected to increase substantially. The extent to which such increase will be easily accommodated by public finances will depend on the increase in the fiscal space – determined by economic growth; and on the expected trajectory for non-health public spending *(see Box 4)*.

The share of the NHS on public spending has been stable over time

Figure 12. NHS Budget as % of primary public spending (2010 – 2021)



Source: State Budget; DGO; own computations

BOX 4

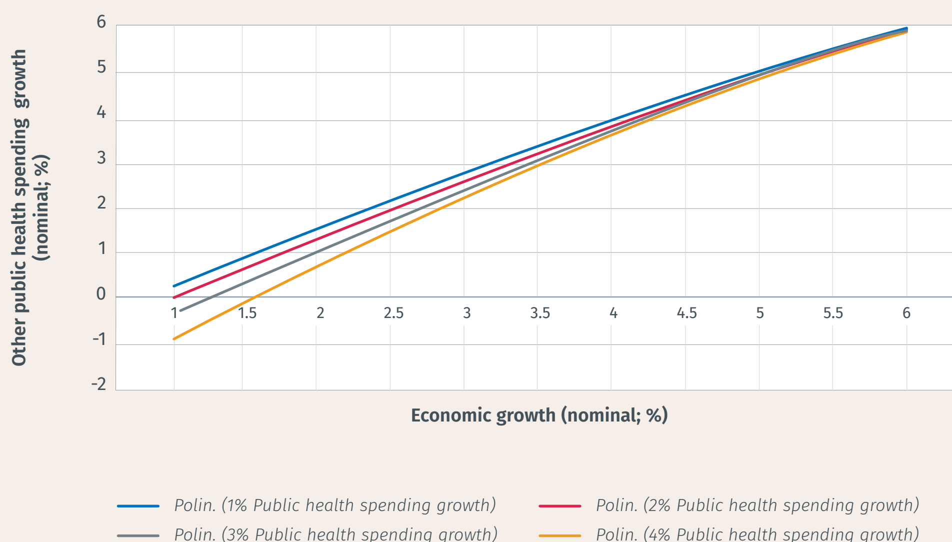
THE FINANCIAL SUSTAINABILITY FRONTIER

A recent analysis by Costa et al (2021) analysed the financial sustainability of the Portuguese NHS in the long-run. Their work was based on updating a model proposed in 2006 by a commission appointed to draft proposals to enhance the financial sustainability of the NHS. Their definition of sustainability was closely linked with the existence of stable public finances. Specifically, public health spending growth was considered sustainable, if such growth would be compatible with achieving a balanced government budget in the long-run.

Among other conclusions, the authors highlighted the role of two main macroeconomic determinants of public health financial sustainability: 1) Higher levels of economic growth increase fiscal revenues, which can be used to finance higher levels of public health spending. 2) Similarly, if non-health public expenditures grow at a fast pace, then the room to increase public health spending becomes more limited.

The following figure illustrates the concept of financially sustainable public health spending. The lines in the graph represent the possible combinations of economic and other public spending growth, compatible with four different nominal health spending growth rates. Any allocation below those lines, will be financially sustainable. Allocations above those lines imply that such health spending growth is not sustainable given the macroeconomic context. Thus, sustainability depends not only on health system related issues, but also on more broad macroeconomic features.

Figure 13. Public healthcare spending growth sustainability frontier (for nominal growth rates of 1%, 2%, 3% and 4%; balanced budget sustainability definition)



Source: Costa et al. 2021

Reforming the NHS

The Portuguese National Health System was established following the 1974 revolution and has been subject to changes over time. Over the last decades multiple debates, proposals and reforms have been announced to transform the NHS. Such reforms are related with changes to the scope of the NHS, mediating its relationship with other health care providers, facilitating access to health care, and promoting the financial sustainability of the system. This chapter provides a brief overview of the main reforms implemented over the last decades.

Primary Care

A major reform of primary care was launched in 2005. Such reform was based on promoting decentralization, autonomy, and results-oriented mechanisms. A cornerstone of this reform was the launch of the new "family health units". Such units are a new organization structure for primary care delivery. They are responsible for coordinating and delivering primary care for a pre-defined patient list, with higher degrees of autonomy. This new model funding scheme includes a significant share of pay-for-performance incentives.

Family Health Units introduced P4P and incentives in primary care

The introduction of these units – not yet covering all population – had a positive impact in patient outcomes. However, it is not yet consensual whether such improvements compensate the additional costs arising from the pay-for-performance schemes. In 2018, Portugal had 532 family health units covering 60% of the population (ACSS, 2019). The government intends to generalize and adapt this model to fully cover the whole of the population although no specific deadline has yet been defined (Portuguese Government, 2019).

Primary care units have also been expanding their roles with the provision of additional services. Recently, the provision of dental care or mental health care has been implemented in some units. Plans have been made to provide additional services in primary care such as obstetrics, paediatrics, ophthalmology, nutrition, and physical rehabilitation. The current European Recovery and Resilience Plan for COVID-19 has 463 million euros for primary care reform. The main measures planned include expanding the range of services provided, facilitate access, and equip units with diagnostic equipment (Portuguese Government, 2021). The ultimate goal of these reforms is to prevent patients from going to hospitals, while providing them with a convenient and high-quality services.

Nonetheless, primary care still faces significant challenges. As discussed before, there is still a considerable share of patients with no GP assigned, and there are currently different organization structures operating simultaneously (family health units are not yet generalized to the entire country). Finally, the scope expansion of primary care units is still relatively limited.

Hospital Care

Management quality and hospitals efficiency are long-lasting concerns of policy makers. Funding schemes and organization structures have been evolving towards more sophisticated models which are able to provide adequate incentives for cost-containment measures. Nonetheless, significant challenges remain with respect to management teams autonomy, budget compliance, and quality-oriented funding mechanisms.

NHS hospitals management still operate with significant constraints to their autonomy

Hospitals are funded with global budgets defined by the Ministry of Health. These budgets were typically based on previous year's funding, updated for inflation. Since 1997, a growing proportion of funding is also based on DRG information and outpatient volume. Currently, most of NHS hospitals' budget is based on DRGs and case-mix adjustments. These are used to define a global budget to the hospital – not to define a payment episode by episode. Additionally, funding depends also on a benchmark with similar NHS hospitals, to provide cost-containment incentives. Nonetheless, as described in *Box 3*, hospitals budgets are usually exceeded each year, and complemented with supplementary funding.

In 2003, an attempt was launched to provide hospitals with a new management model ("Hospitais EPE"). Under this new organizational model, hospital management teams were able to have additional decision-making powers with relation to capital, staff, and input prices. This was a significant increase in hospital autonomy levels relative to the previous situation. However, NHS hospitals still operate with significant restrictions relative to a privately-owned firm.

At the beginning of the century, an attempt to outsource hospital management of NHS hospitals to private health providers was made with five NHS hospitals ("Parcerias Público-Privadas"). However, currently only three hospitals are managed that way (and that number is expected to be reduced to two, once current contracts end).

Additionally, an attempt was made at vertical integration of health care, grouping regional hospitals and primary care centres in Local Health Units. There are currently eight Local Health Units in Portugal, covering around 10% of the population. However, the benefits of such model remain yet to be proven.

In addition to reforms on hospitals' funding mechanisms, new policies were introduced to decrease waiting times. In 2004, a new national IT system was implemented to manage waiting lists, alongside the definition of maximum waits for different types of procedures. This system allowed for explicit transfers of patients between institutions when needed to meet target times for maximum waits. Moreover, from 2013 onwards, a

new policy was implemented, allowing patients who exceed their waiting time for surgeries to be referred to private sector institutions (OECD, 2013).

In 2012, a team of experts was created to propose a reform on hospital care. Almost 40 different initiatives were proposed, although many of those have not yet been implemented. In particular, they proposed enhanced articulation between hospitals and primary care units (for instance, through the provision of unplanned GP appointments in primary care to avoid unnecessary emergency visits to the hospital), a revision of the hospital network (promoting specialization of hospitals, concentration on large hospital centres, and closing smaller units), changes in the patient pathways, and improved management systems.

Over the last decades, there were changes to the hospital network. Hospitals were organized in different layers and referencing schemes were established within the network. The creation of Reference Centres in 2014 allowed hospitals to specialize in particular services – with focus on quality and cost-effectiveness. This also contributed to the definition of clear patient pathways depending on their pathologies.

More recently, in 2017, the Integrated Responsibility Centres were also launched. These centres are structures within the hospital to provide integrated care for specific pathologies with pay-for-performance and activity-based incentives. So far, the number of existing centres is still very low. This new operating model in hospital care is somewhat similar to its family health units counterpart in primary care.

Recently, a Home Hospitalization program was also launched aiming on treating inpatient care patients at their homes. In 2020, 32 different hospitals had a Home Hospitalization service which provide services to more than 4000 patients. Between January and September of 2020, the number of home hospitalized patients increased almost 800% relative to the previous year. Preliminary estimates suggest that these patients can be treated with costs up to 45% lower.

A Home Hospitalization program was launched to treat inpatient care patients at their homes

Long-term Care

The NHS has historically faced a chronic problem in terms of long-term care (LTC). The relation between the health and the social security system is troublesome and there is lack of structures able to provide long-term care solutions (OECD, 2016). The consequence of these is the high numbers of discharge patients who remain in hospitals because they have no other place to go. Recent studies suggest that such “social cases” can account to almost 10% of inpatient care beds (APAH, 2020). Additionally, lack of post-discharge care and follow up may result in higher readmissions and lower recovery.

In order to tackle this problem, a national network for long-term care has been launched in 2006, as a partnership between the public and the private sector (CNCP, 2017). The number of beds in the network has increased over time. However, it is still insufficient for the current and projected population needs. Over 200 million euros have been allocated in the Covid-19 Recovery and Resilience plan to increase the capacity of this network. In particular, the plan expects to increase the number of LTC beds by 5500, while creating 20 new palliative care units, 50 home-care teams, and 1000 slots for mental health LTC.

Pharmaceutical expenditures

In 2011, Portugal was affected by the international crisis. Fragile public finances and an adverse macroeconomic environment led to an agreement on a set of reforms and austerity measures in exchange for a loan granted by three international institutions. During the following years a set of reforms were implemented across all sectors in society – including health care. These measures included cuts in public pharmaceutical expenditure, a new regulatory framework for generics usage, and price reviews on private institutions with contracts with the NHS, among other measures.

The cuts in public pharmaceutical expenditures and the regulation for generic usage implied a decrease on public pharmaceutical expenditures during the crisis (from 2.371 million euros in 2011 to 2.130 million in 2014). However, since 2014, nominal public pharmaceutical expenditures have increased 16%, reaching a total of 2.461 million euros in 2018 (Infarmed, 2019). This increase was driven by strong growth in hospital pharmaceutical spending (26%), relative to a modest increase in ambulatory pharmaceutical spending (7%).

Access to health care

The scope of services provided by the NHS as remained relatively stable over time. One of the main changes to this scope was introduced in 2008 with the launch of the “dental check”. Such program, targeted to specific population groups, would allow them to access private dental care providers – which would be publicly financed.

Since 2016, patients are now able to choose the NHS treatment hospital, i.e., patients can choose with their GP the NHS hospital in which they want to go for specialty appointments (instead of being automatically enrolled in the local area hospital). This policy is expected to contribute to the decrease of waiting time. Still freedom of choice in the NHS remains relatively low based on the existing patient pathways.

Freedom of choice in the NHS remains relatively low

In 2007, a phone line was created to provide medical advice and coordinate patients access to the health system. Since then, the "SNS 24" line has become popular, with a broad range of services provided. Such line was particularly relevant during the peak of the Covid-19 pandemic.

Future developments

The Covid-19 pandemic has enhanced some of the challenges and bottlenecks that the health system faces. In particular, during the peak of the pandemic challenges were observed in terms of intensive care units capacity, follow-up of non-Covid patients, management of elderly individuals in the health system and in the social security system, among others.

The Recovery and Resilience plan launched by the European Commission will inject almost 17 billions euros in the Portuguese economy (Portuguese Government, 2021). From these investment, 1.3 billion will be used to strengthen the national health service and overcome some of those challenges. The Recovery and Resilience plan aims on expanding the long-term care network, provide new mental health services, and reinforce the primary health care centres with the investment on new equipment.

The post-Covid Recovery and Resilience plan will invest 1.3 billion to strengthen the NHS

Table 1. Detail on key health initiatives planned in the National Recovery and Resilience Plan

Reinforce of primary care structures and equipment	466,392,680 €
Digital transition	300,000,000 €
Expansion of the long-term care network	205,000,000 €
Equipment for the new hospitals	179,510,000 €
Mental health reform and national strategy for dementia	88,080,088 €
Universal system to support active life	10 020,000 €
Health system reforms in the autonomous regions	134,000,000 €
Total	**1,383,002,768 €**

Overall, over the last decades different reforms have been implemented to improve access to healthcare, while promoting the financial sustainability of the health system. Despite improvements in waiting lists management or hospitals' autonomy, significant challenges persist. Some of the prototypes tested, such as the local health units, did not lead to substantial improvements in management practices. Also, other changes – such as the introduction of family health units – has allowed to a more flexible approach in primary care. However, the spread of such concepts throughout the country remains slow and incomplete.

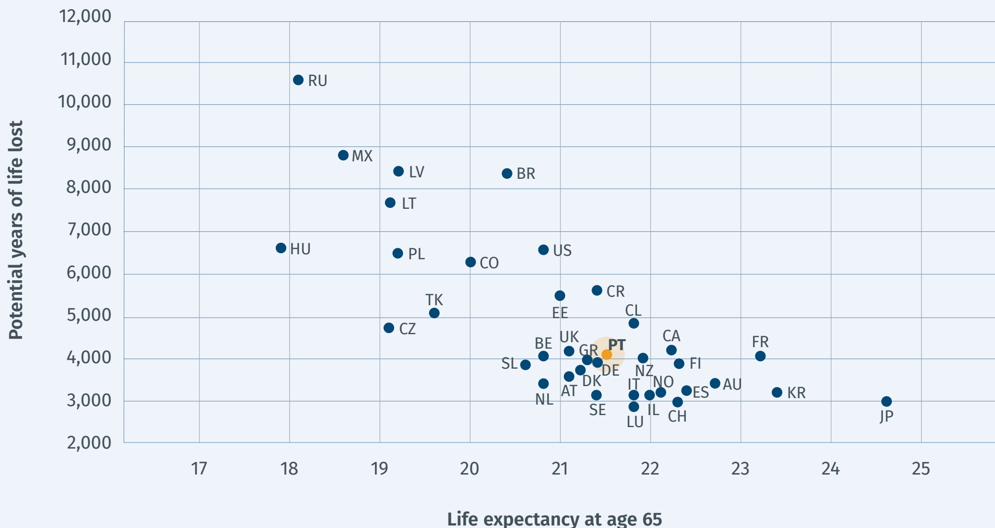
Challenges for the future

The Portuguese NHS has evolved over the last few decades with the goal of providing better and comprehensive care to the population. However, looking forward, the NHS faces significant challenges considering the expected evolution of the Portuguese society. This section describes some of those main challenges and opportunities.

Ageing and Long-term care
The Portuguese health system achieves relatively good indicators in terms of health outcomes. *Figure 14* displays life expectancies at age 65, as well as potential years of life lost. While the first indicator is typically more related with health systems' performance than life expectancy at birth, the second indicator reflects levels of premature mortality. Portugal performs relatively well on both indicators when compared with other OECD countries (OECD, 2020).

Ageing requires new answers to be provided by the long term care network and primary care centers

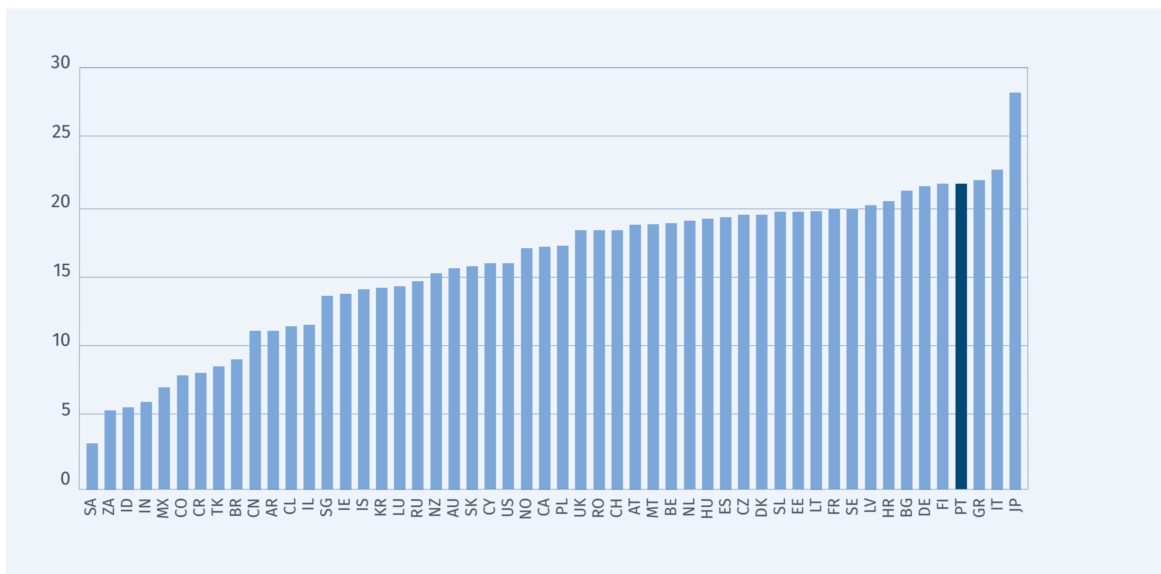
Figure 14. Life expectancy at age 65 for women and potential years of life lost (per 100 000 inhabitants age 0 to 69)



Source: OECD; 2019 or latest available year

The relative success of the Portuguese health system in contributing towards longer life expectancies, was contemporaneously followed by a sharp reduction in fertility rates. The combination of these effects has contributed to speed up population ageing. Such ageing effect is substantial and has diverse implications in the way the health system is designed and how society is organized. In fact, Portugal is one of the world countries with a higher prevalence of older individuals. *Figure 15* places Portugal as the 4th OECD country with a higher proportion of elderly in the population.

Figure 15. Proportion of elderly individuals in the population (%)

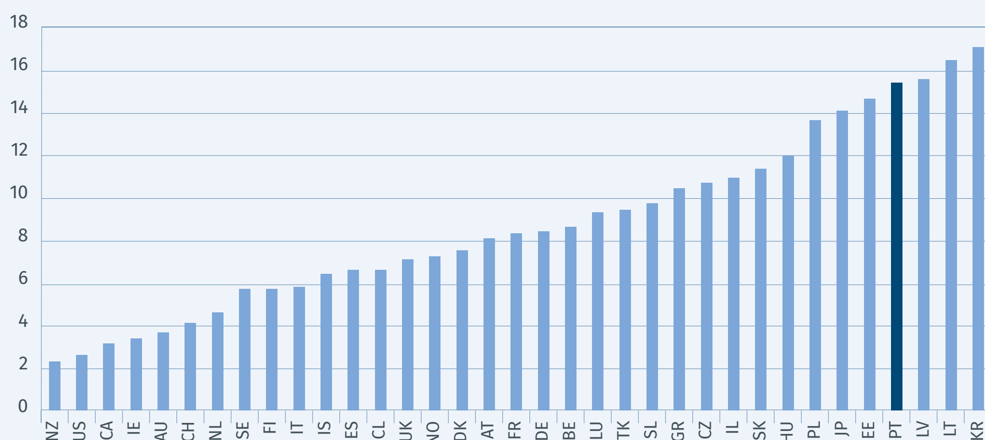


Source: OECD; 2018 or latest available year

Aging creates additional pressure on health systems. In Portugal, estimates suggest that older individuals have 2.5 times higher health expenditures than non-elderly individuals (Gouveia, 2013). Current demographic projections point towards an increase of the proportion of elderly individuals to 37% in 2080 (INE, 2020). If expenditures would remain constant, this ageing effect would imply *per capita* health spending to increase by 19% until 2080. Still, such predicted aging increase is relatively small when compared to other health spending growth drivers (for instance, technology and innovations).

More important that the financial burden associated with aging, elderly individuals require the provision of new and integrated services by the health system. In fact, despite enjoying longer life expectancies, elderly individuals in Portugal display high levels of dependence. This suggests that the quantity of life increase is not followed by quality-of-life improvements. As *figure 16* suggests, Portugal is among the countries where the population self-reported health status is worse.

Figure 16. Self-assessed health among adults as bad or very bad (% of the population)



Source: OECD; 2018 or latest available year

Dealing with ageing requires a more flexible approach and new answers provided by the health system. The Portuguese NHS has a long-term care network to provide some solutions to these individuals. However, the network remains as a bottleneck for the health system – unable to meet all the demand generated by hospitals. Future and planned investment should allow to the expansion of these facilities, while reducing waiting lists for patients. However, further improvements need to be made. The long-term care network needs to be reinforced to meet future demand. Moreover, the relation between the Health System and Social Security schemes needs to be improved, to deal with flows between the hospitals, the long-term care network and nursing homes. Finally, primary care centres might play a more active role on monitoring individuals health status and helping the patient journey throughout the health system.

The extensive geographic footprint and trust on primary care centres are some of the advantages that can be explored by primary care centres. These should claim a key role on monitoring the patient health status and managing their chronic diseases, as discussed below.

Chronic diseases and prevention

The Portuguese population is relatively unhealthy. For instance, Portugal displays relatively high levels of tobacco and alcohol consumption (20% of active smokers and 17% binge drinkers). Moreover, physical activity levels are well below OECD average, while there is also a high prevalence of obesity (57% of the population is overweight) (SNS, 2019).

Unhealthy lifestyles, coupled with the ageing effect described above, leads to high prevalence of chronic diseases and patients with multiple comorbidities. Such burden associated with chronic diseases is not expected to decrease. Instead, it will place additional pressure in the health system. For example, within the population between 25 and 74 years, 36% is hypertensive, 63% has high cholesterol, and 10% has diabetes (SNS, 2018).

The Portuguese health system needs to further enhance chronic diseases management procedures in order to deal with their increasing prevalence. This implies rethinking how health care is provided to these patients, ensuring the provision of integrated care at primary care centres. Active task-shifting policies between health professionals might help the design of more effective and efficient ways to deal with the increasing workload. Additionally, technology can play an active role on monitoring remotely chronic patients. Proper monitoring is essential as it can prevent unnecessary hospital admissions. Primary care centres should evolve towards the provision of integrated care to these patients.

Enhance chronic diseases management through technology, task-shifting and active monitoring

Technology

The uptake of new technologies brings new opportunities, but it might also contribute to an increase in health costs. In the National Health Service, technology is expected to bring significant improvements in health care provision. The automated and regular collection of patient level data will allow the development of big data algorithms. Such systems will allow to monitor and anticipate patients' demand. The roll-out of new IT systems – both software and infrastructures – might allow the development of new technologies to enhance health care provision outside traditional health systems' facilities.

The Covid-19 pandemic has also accelerated this trend, with the quick widespread of remote appointments. This digitalization of healthcare trend is expected to continue and provide health gains to patients. Moreover,

such technologies allow for further participation from the patient in her treatment process – contributing to place her at “the centre of the health system”.

New medical innovations must be followed by a reinforcement of health technology assessment mechanisms

In addition to these technologies, new medical innovations are expected to disrupt how health care is provided. Medical advances in areas such as innovative cancer therapies, precision medicine, among others might bring substantial health gains. However, innovations often bring health gains alongside with increasing costs for the health system. Moreover, the quality-adjusted price for these new innovations is, on average, increasing. This creates an additional fiscal challenge to the health system: in a context of a limited budget, the available space to finance more expensive innovations is very constrained. For these reasons, the diffusion of new medical innovations must be followed by a reinforcement of health technology assessment mechanisms. These analyses should play a key role on informing policy makers on the costs and benefits of the innovations. The proper implementation of these mechanisms depends also on supra-national coordination efforts, as most innovations need to obey to European level regulations.

Patient pathways and NHS coverage

The current design of the Portuguese health system implies the co-existence of private and public healthcare providers. However, the access to both providers is limited. On one hand, patients without private health insurance or financially constrained are likely to experience difficulties on accessing private health care providers. On the other hand, patients accessing the public health system experience low freedom of choice, as well as potentially higher waiting times – relative to private providers.

The degree to which these two systems interact is relatively limited. This is reflected, for instance in relatively low levels of patient mobility within the health system. Moreover, there are significant access gaps in the health system both in regional terms, as well as in particular activities. Mental health, dental health or rehabilitation services have significant gaps in the National Health System. The quest for a “Patient Centred approach” would require a transformation on how these two systems relate with one another and on how patients travel throughout the health system.

Conclusion

According to international standards, the Portuguese Health System provides adequate care to its population. When compared to other countries, the health system performs relatively well in terms of contributing for higher life expectancies with relatively controlled expenditures. Overall, the construction of the National Health System, following the 1974 revolution, can be seen as a success story.

However, reforms implemented in the last decades were not enough to properly address some of the challenges felt, particularly by the National Health System. Despite significant efforts over the last decades, access to healthcare is still a major reason for concern in Portugal.

In the public healthcare system, there is still a significant share of patients with no GP assigned. Moreover, waiting lists for appointments or surgeries remain as an important bottleneck – partially, exacerbated by the Covid-19 pandemic. The long-term care network is also not enough to meet current demand. On the other hand, access to private care providers, typically with sparse capacity and lower waiting times, is conditional on patients having private health insurance or a comfortable financial situation. Overall, patient mobility within the health systems is limited and timely access to healthcare is below optimal.

Some of these problems might be related with the overall capacity of the health system, which is partially determined the existence of constraints in the current level of funding, investments, and existing workforce. In fact, the need to invest in new equipment and modernize infrastructures is widely recognized. In addition to this problem, the health workforce is not evenly distributed across the territory. The NHS has typically some difficulties in attracting and retaining health professionals for particular regions or specialties. These situations pose a limitation to the current capacity offered by the NHS.

However, some of the current challenges also reflect management problems which have persisted over time. On one hand, hospitals often report lack of autonomy with consequences in retaining and attracting health professionals. On the other hand, challenges persist regarding managing external suppliers' debt. Coordination between health system institutions is also sub-optimal, with consequences in terms of the patient journey, excess emergency visits to hospitals, or inadequate post-discharge care.

To cope with the current bottlenecks and address future challenges, the NHS will need to implement modern management practices, and rethink the relation between the public and private health sectors.

New integrated care methods with proactive monitoring will be required to manage the increasing disease burden induced by chronic conditions and avoid unnecessary hospital visits. Moreover, the NHS should unlock the full potential of medical technology to redesign its processes, while controlling its financial impact through innovative health technology assessment methods as already partially done in some other advanced countries. Finally, a strong focus on prevention is required to improve the overall population health status and reduce demand for health care. Indeed, any efficiency gains will be undermined in the long-run if we fail to reduce the disease burden in the population.

The Covid-19 pandemic has stressed the importance of resilient health systems. The upcoming Recovery and Resilience plan and the European Union structural funds should be seen as key opportunities to intensify the transformation of the health system and prepare it to meet both current and future challenges.

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