



Cartels in Healthcare in Portugal: Quantification of the Damage to the State

Study No. 1/2024 — English Edition

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Abstract

The health sector in Portugal spends €28 billion in 2024, of which about 39% is provided by the State and 54% by Private Entities. Health expenditure has been growing at a faster pace than GDP, with a strong acceleration after the Adjustment Programme, and is now about 2.5 percentage points above what would be expected for our GDP per capita. And, the efficiency of the sector has deteriorated since 2019 in a sustained path. One of the factors that has been little studied in Portugal is the impact of cartels and abuses of competition on state spending. This work quantifies the damage caused to the State between 2003 and 2023 at €1,468 million from the condemnatory proceedings of the Portuguese Competition Authority. Considering that the detection rate of these infringements is only 10%, according to several international statistical studies, it is estimated that the potential damage to the State may have amounted to around €15 billion in the same period, which corresponds to about 15% of the NHS's expenditure on the acquisition of goods and services. If these infringements are avoided or required to be compensated, the basic salaries of NHS staff could be increased by around 17%.

Chapter 1. Introduction

Total current expenditure on health in 2022 amounted to €25,418 million according to provisional statistics from INE (Statistics Portugal), equivalent to 10.6% of GDP.

Table 1.1 — Current Health Expenditure in Portugal

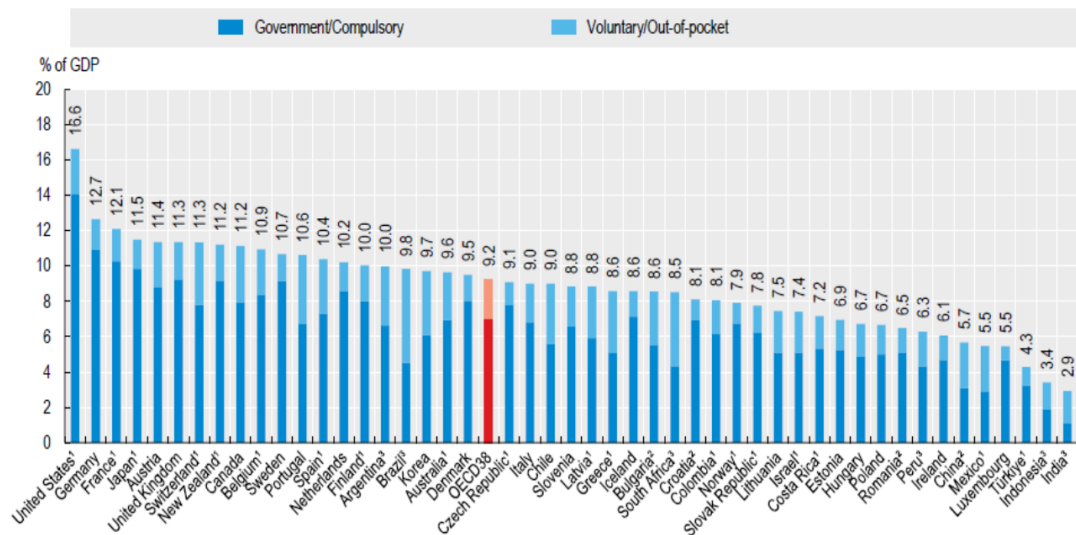
	2016	2017	2018	2019	2020	2021Po	2022Pe
Current health expenditure (€ million)	17,519.6	18,234.5	19,313.3	20,392.5	21,150.1	23,915.7	25,417.7
Nominal rate of variation (%)	4.6	4.1	5.9	5.6	3.7	13.1	6.3
GDP weight (%)	9.4	9.3	9.4	9.5	10.5	11.1	10.6
Per capita (€)	1,696.7	1,770.3	1,878.0	1,982.5	2,054.0	2,324.6	2,474.0
GDP (€ million)	186,490	195,947	205,184	214,375	200,519	214,741	239,253
Nominal GDP variation (%)	3.8	5.1	4.7	4.5	-6.5	7.1	11.4
Population (thousands)	10,326	10,300	10,284	10,286	10,297	10,288	10,274

Source: INE, Health Satellite Accounts and AMECO. Po: provisional. Pe: preliminary.

Health expenditure growth has substantially outpaced GDP growth over the last six years, including in years not affected by Covid. According to Figure 1.1 (not reproduced here), Portuguese health expenditure as a share of GDP is substantially above the EU average in 2022. However, in 2016 (Figure 1.2) it was still below the OECD average. One of the main drivers of this evolution is the deterioration of productivity in the sector (Chapter 4.2).

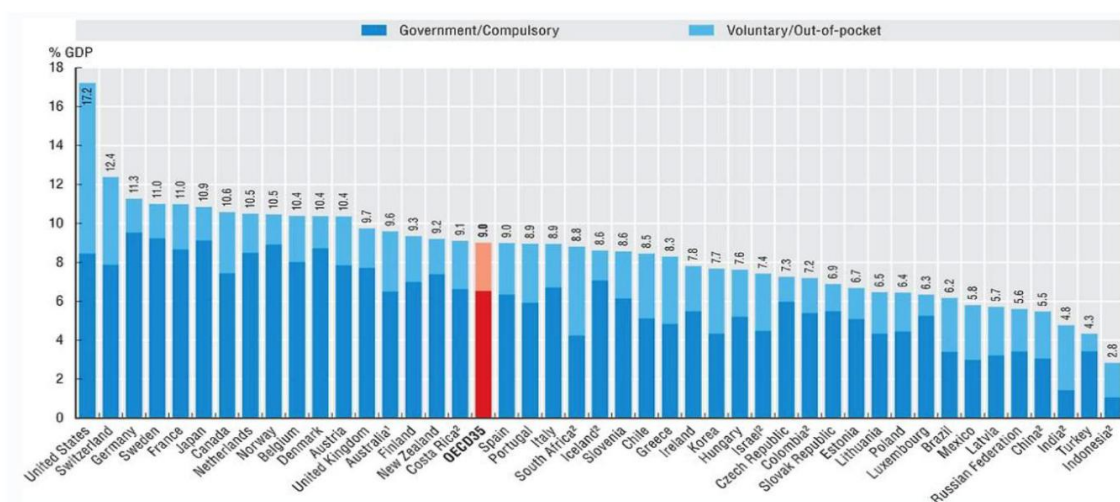
One way to benchmark the GDP weight of health expenditure is to compare it with GDP per capita across countries (Figure 1.3). The data show that Portugal (PT) stands more than 2 percentage points above what would be expected given its GDP per capita (the regression trend), and almost double the level of Romania.

Other factors could be brought into the analysis — environmental factors, behavioural factors, and the level of population ageing (see Mateus, A., *Economia e Orçamento*, FFMS, 2018, for a more detailed treatment) — but the conclusion that healthcare in Portugal is underfunded is rejected. The main problems of healthcare lie in efficiency, organisation and structure — not in underfunding.



1. OECD estimate for 2022. 2. 2021 data. 3. 2020 data.
Source: OECD Health Statistics 2023; WHO Global Health Expenditure Database.

Figure 1.1 — Health expenditure as % of GDP (2022). Source: OECD Health at a Glance / WHO Global Health Expenditure Database.



Note: Expenditure excludes investments, unless otherwise stated.

1. Australian expenditure estimates exclude all expenditure for residential aged care facilities in welfare (social) services.

2. Includes investments.

Source: OECD Health Statistics 2017, WHO Global Health Expenditure Database.

Figure 1.2 — Health expenditure as % of GDP (2016). Source: OECD Health at a Glance.

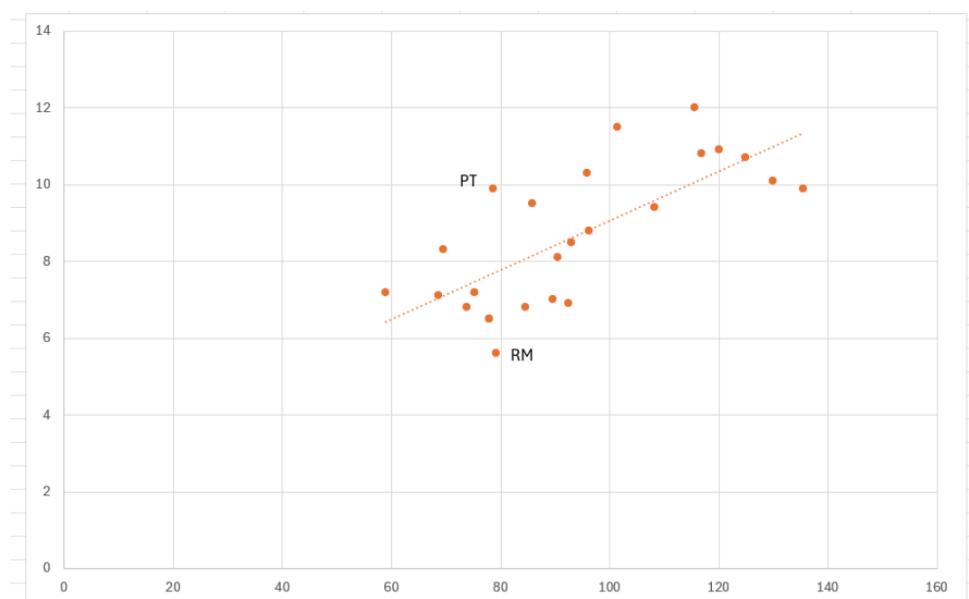


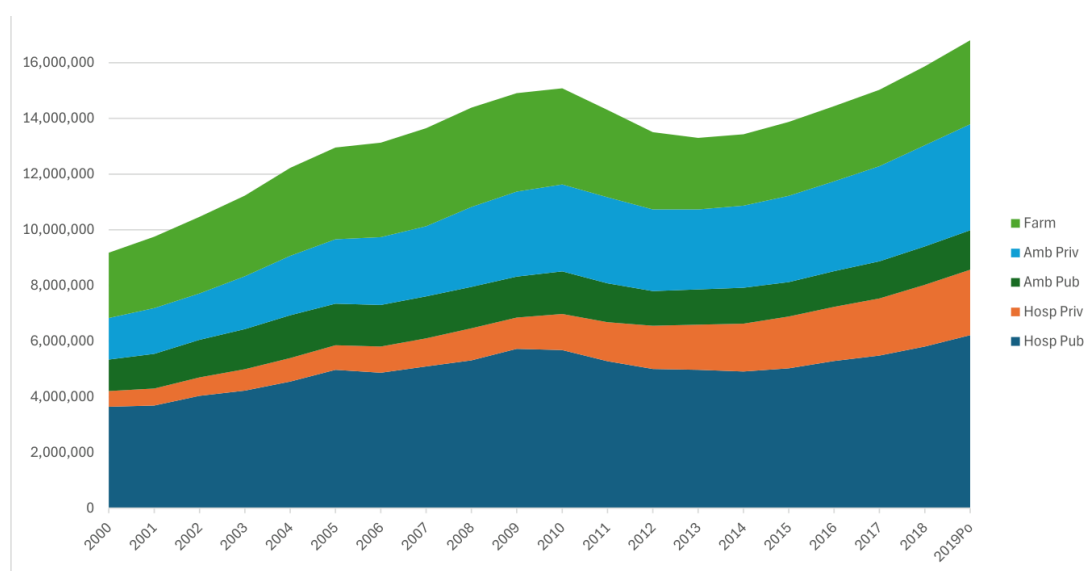
Figure 1.3 — Health expenditure share (vertical axis, % of GDP) vs GDP per capita in PPP relative to the EU-27 average (horizontal axis), EU countries. Source: AMECO and OECD.

Chapter 2. Health Expenditure by Provider Entity

Analysing health expenditure by provider entity (Figure 2.1) shows that the fastest-growing components over the last ten years have been private hospitals and private outpatient care. According to Table A.2 of the Annex, the share of public hospitals in total current expenditure fell from 33% to 30.8% between 2000 and 2012, and then held at this level. By contrast, private hospitals raised their share from 5.1% in 2000 to 9.5% in 2012 and 11.5% in 2019, where it has remained in recent years. Public outpatient care fell from 10.2% in 2000 to 7.7% in 2012, then held there (7% in 2019). Private outpatient care grew from 13.5% in 2000 to 18.1% in 2012 and 18.7% in 2019.

Pharmacies reduced their share from 21.2% in 2000 to 17.1% in 2012, owing to the imposed reduction in medicine prices by successive governments and the Troika, falling further to 14.8% in 2019.

Health administration costs have remained at around 2% of total current expenditure.



Fonte: INE: Contas Satélite da Saúde

Figure 2.1 — Health expenditure by provider (thousand euros). Components: Public hospitals (Hosp Pub), Private hospitals (Hosp Priv), Public ambulatory (Amb Pub), Private ambulatory (Amb Priv), Pharmacies (Farm). Source: INE, Health Satellite Accounts.

Chapter 3. Health Expenditure by Source of Financing

One of the features most often noted by international organisations on the Portuguese health system is the high share of households in financing the sector (direct contributions), despite our high tax burden and low per-capita income by EU standards. Figure 3.1 shows that this share is 29% — close only to Greece and Bulgaria — whereas in countries such as France and the Netherlands it represents only 9%.

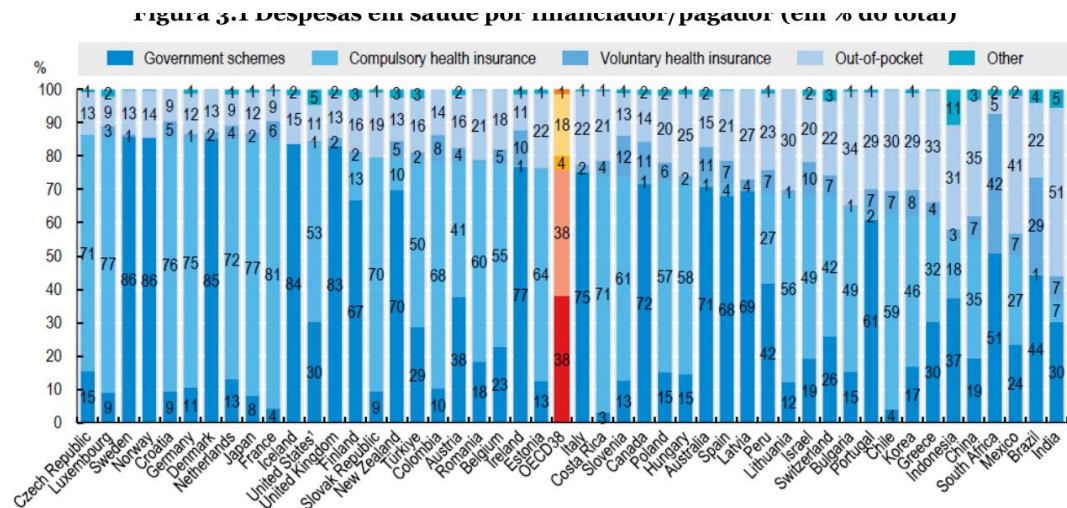
Figure 3.2 clearly shows the gradual and steady growth of private financing in constant prices, while public financing grew strongly from 2000 to the 2011-2013 financial crisis, then went

through a sharp squeeze, but since 2015 has resumed its strong pre-crisis growth and already exceeded the 2010 record on the eve of the pandemic.

Covid produces a new jump in expenditure, in particular in 2021, but at constant prices there is no contraction after the pandemic — that level has stabilised, in large part because of the inertia of the system and the rigidity of public expenditure programmes.

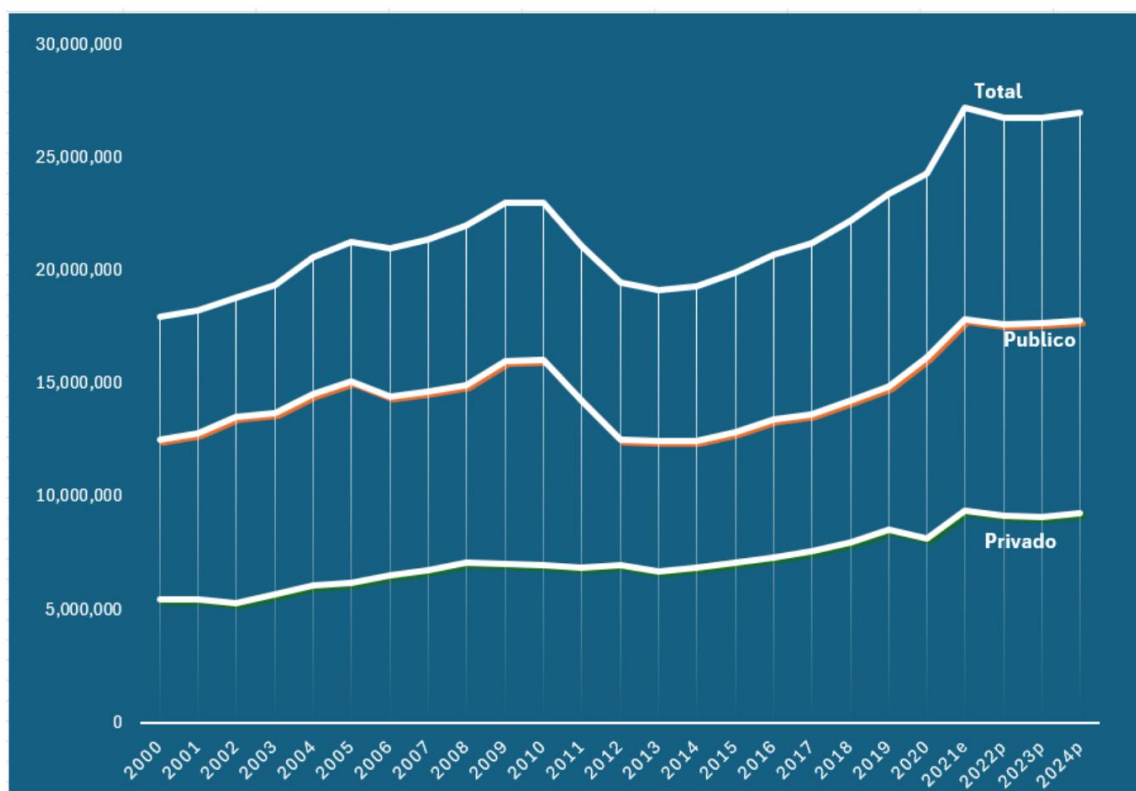
Annex Table A.4 shows the percentage composition of health expenditure by type of financier. General government — through our taxes — financed 69.8% of the total in 2000, falling to 64.4% in 2012, and recovering slightly to 65.8% in 2022. The majority of this financing came through the National Health Service (SNS), which moved from 57.4% in 2000 to 56.1% in 2022.

Against this, the private sector has substantially increased its share of financing — around 4 percentage points between 2000 and 2022 — driven in part by private insurance but principally by households' direct payments, whose share grew from 25.7% in 2000 to 29.6% during the crisis (2012) and still represented 28.5% in 2022.



Note: Category "Other" refers to financing by NGOs, employers, non-resident schemes and unknown schemes. 1. All spending by private health insurance companies reported under compulsory health insurance.
Source: OECD Health Statistics 2023.

Figure 3.1 — Health expenditure by financier/payer (% of total). Source: OECD Health at a Glance.



Fonte: INE, Contas Satélite de Saúde

Figure 3.2 — Health expenditure by financing source (thousand euros). Source: INE, Health Satellite Accounts.

Chapter 4. Health Expenditure by Type of Service

1. Structure of expenditure by type of service

A variety of factors — from disease burden and system priorities to organisational aspects and costs — determine the allocation of resources across types of health service. For all OECD countries, curative and rehabilitative care services constitute the bulk of health expenditure, and are delivered principally through inpatient and outpatient services — representing 60% of all health expenditure in 2021 (Figures 4.1 and 4.2).

Medical goods (mostly pharmaceuticals) represented a further 18%, followed by long-term care services, which in 2021 represented on average around 13% of health expenditure.

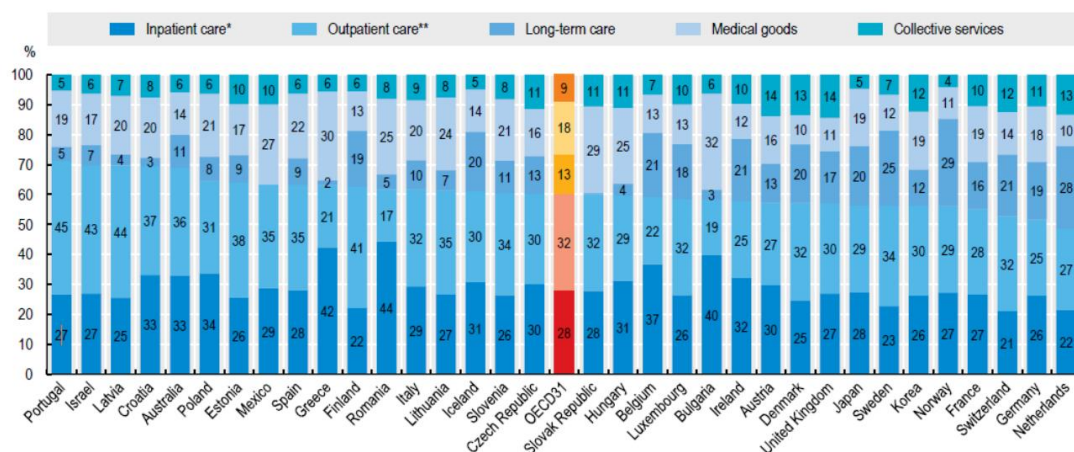
Administration and overall governance of the health system, together with preventive care, represent the remaining 9% of health expenditure.

If we add inpatient services to outpatient treatment, Portugal holds the record for the share of total health expenditure devoted to these services, with 72% in 2021 — while at the opposite end the Netherlands has only 49% (Figure 4.1). One might wonder whether this situation was driven by Covid. However, the 2016 data are even more extreme. Inpatient services and outpatient treatment (curative-rehabilitative treatment) represented 75% in that year. This is one of the major deficiencies of our health system: heavily centred on hospitals and curative actions, and very little on prevention and maintenance.

In 2021, Romania and Greece recorded the highest share of total health expenditure attributed to inpatient services, at around 40%. At the other end of the scale, many of the Nordic countries, along with Switzerland and the Netherlands, recorded a much smaller share of inpatient expenditure — around 20% of total health expenditure.

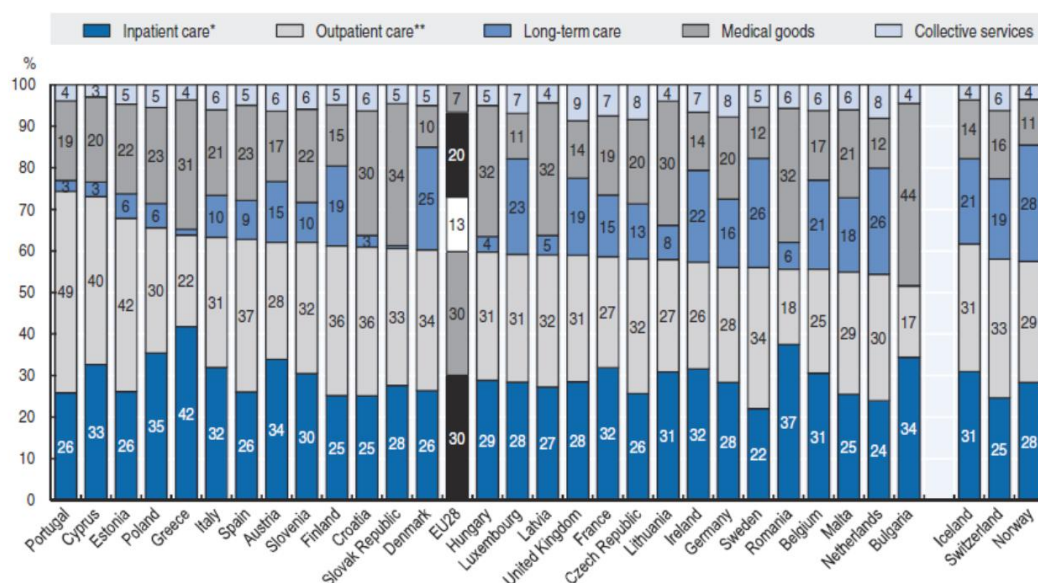
Outpatient care encompasses a broad category including general and specialised outpatient services, dental care, but also home care and ancillary services. Taking all of these together, outpatient-care expenditure represented around 45% of all health expenditure in Portugal, Latvia and Israel, compared with an OECD average of 32%. Given the relative importance of inpatient care, Greece and Belgium devoted a comparatively low share to outpatient services, at less than a quarter of all health expenditure.

The third-largest category of health expenditure is medical goods. International price differences for tradeable goods such as pharmaceuticals tend to display less cross-country variation than locally produced services. As a result, expenditure on medical goods (including pharmaceuticals) in lower-income countries frequently represents a higher share of health expenditure relative to services. For example, in 2021 medical goods accounted for around 30% of all health expenditure in Mexico, the Slovak Republic and Greece. Conversely, representing only one-tenth of overall health expenditure, these shares were much lower in Denmark, Norway, the Netherlands and the United Kingdom. Portugal stands out for a low share of medicines, owing to the low prices negotiated since the 2010-2012 crisis.



Note: Countries are ranked by curative-rehabilitative care as a share of current expenditure on health. * Refers to curative-rehabilitative care in inpatient and day care settings. ** Includes home care and ancillary services.
Source: OECD Health Statistics 2023.

Figure 4.1 — Health expenditure by type of service (2021). Source: OECD Health at a Glance.



* Refers to curative-rehabilitative care in inpatient and day care settings.

** Includes home care and ancillary services.

Note: Countries are ranked by the sum of inpatient and outpatient care as a share of current health expenditure.

Source: OECD Health Statistics 2018, <https://doi.org/10.1787/health-data-en>; Eurostat Database.

StatLink  <http://dx.doi.org/10.1787/888933835440>

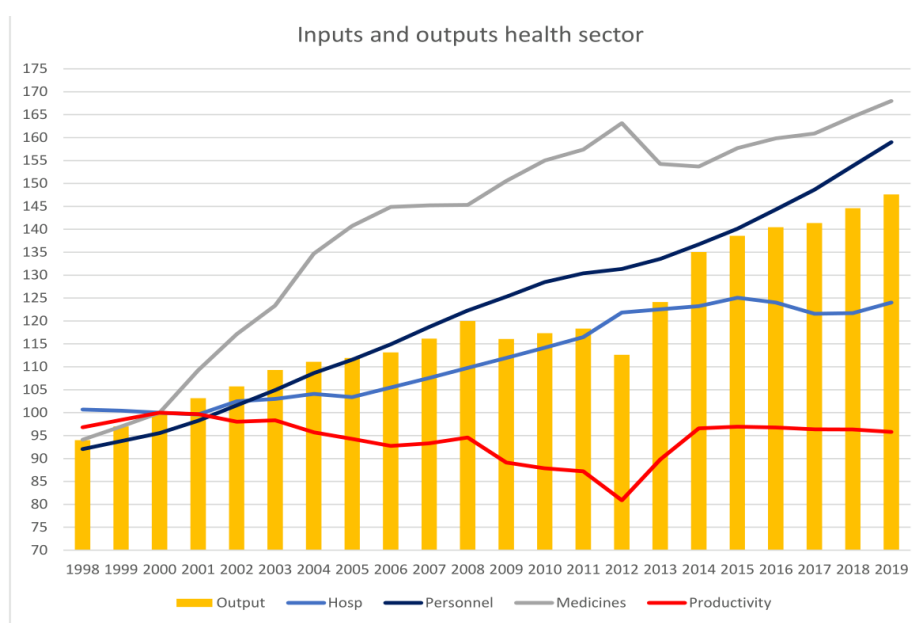
Figure 4.2 — Health expenditure by type of service (2016). Source: OECD Health at a Glance.

2. Efficiency of the National Health Service

All components of the health system are important — without any ideological bias — and what is required is to optimise the resources and the articulation between them, on a pragmatic basis, in order to obtain the best results in the services delivered. The main problems lie in the SNS's inability to provide a family doctor to all who request one, in long waiting lists, in low efficiency, in bureaucratic complexity and in deficient management — which translate into chronic underfunding of the SNS, manifested in the recurrent multi-billion-euro debts of the SNS.

More worryingly, the high share of out-of-pocket expenditure that the Portuguese have to bear — beyond their taxes — to satisfy their health needs is itself a concern, as are the deficiencies in prevention and lifestyles, together with the technological lag in provision of care to certain population groups.

Figure 4.3 shows that, although there was a sharp productivity recovery during the Adjustment Programme, the level of productivity in the sector has since resumed a declining trend. In 2019 it stood around 4 percentage points below the 2000 level. Inputs and outputs are expressed as fixed-base indices. Inputs are measured as a weighted average of several indicators (e.g. staff includes nurses and technical personnel). Output is also a weighted average of consultations, surgical procedures and successful hospitalisation-days.



Fonte: INE, INFARMED e cálculos do autor

A primeira responsabilidade do Sistema Nacional de Saúde é cobrir o país com um conjunto adequado de serviços primários, de proximidade, que permitam de **forma fácil e equitativa o acesso** da população aos profissionais de saúde. Os cidadãos devem **ter acesso** a uma equipa de saúde familiar adaptada ao seu historial físico e ao ciclo

Figure 4.3 — Efficiency in the health sector (fixed-base index, Output, Hospitalisations, Personnel, Medicines and Productivity). Source: INE, INFARMED and author's calculations.

The first responsibility of the National Health Service is to cover the country with an adequate set of primary, proximity services that allow easy and equitable access of the population to health professionals. Citizens should have access to a family health team adapted to their physical history and life cycle, with adapted hours and recourse to digital monitoring systems. Mental, oral, visual, nutritional and psychological care must be strengthened, along with the implementation of home hospitalisation.

There are two fundamental principles of health policy to raise efficiency: (i) freedom of choice for the citizen, who must have clear, transparent and complete information about the conditions of healthcare provision, complemented by (ii) financing must follow the patient — which makes it possible to remunerate the choice made by the user, subject only to the constraint of minimum population coverage.

Rationalising the means of delivery of the National Health Service is fundamental, in order to avoid duplications and to promote full utilisation of equipment and facilities. It is also fundamental to provide the essential investments in areas where there is severe congestion.

Private management of public hospitals, or PPPs for the construction of new hospitals, have already proven — both in Portugal and in other countries — that when accompanied by efficient monitoring, they are important instruments for improving management and saving public resources, or for plugging the investment gap needed to facilitate user access (CEA, 2016).

Among the various components needed in health policies to improve efficiency, the intensification of prevention and "lifestyle" policies stands out, along with a strong priority for proximity health systems — facilitating user access, promoting effective triage, and reducing costs through service contracting — exploiting all possible synergies in the country's health system.

Chapter 5. The Accounts of the SNS

Table 5.1 shows the evolution of the National Health Service budget between 2016 and 2022, showing the accumulation of negative balances in the actual accounts. Actual expenditure rose 69% between 2016 and 2024 (absent overruns in this year), from €8.9 bn in 2016 to €15 bn in 2024 in current expenditure terms. This evolution is in line with INE's national accounts, which show growth clearly above GDP.

Another point to underline is the low level of capital revenue and expenditure, which rose gradually from €110 million in 2016 to €805 million in 2024 — only in 2022 did they exceed €500 million. However, Table 5.2 on actual capital expenditure shows an even more disappointing evolution: capital expenditure rose from only €106 million to €362 million between 2016 and 2023. These figures reveal a substantial shortfall in investment in buildings, equipment and transport equipment, as well as in their maintenance.

Table 5.1 — SNS Revenue and Expenditure (Budgeted) — €million

Year	Current revenue	Actual revenue	Current expenditure	Actual expenditure	Overall balance
2016	8,691	8,754	8,823	8,933	-179
2017	8,803	8,882	9,020	9,130	-248
2018	9,552	9,661	9,748	9,899	-238
2019	9,999	10,111	10,027	10,201	-90
2020	10,931	10,987	11,019	11,271	-284
2021	11,299	11,515	11,311	11,604	-89
2022	12,010	12,291	12,997	13,552	-1,261
2023	13,804	13,950	13,872	14,564	-614
2024	14,525	15,089	14,284	15,089	0

Source: transparencia.sns.gov.pt — SNS account dataset.

Table 5.2 — SNS Revenue and Expenditure (Actual) — €million

Year	Current rev.	Capital rev.	Total rev.	Current exp.	Public consumption	Personnel	Goods & services	Capital exp.	Actual exp.	Balance
2016	8,915	27	8,943	9,137	9,063	3,655	5,374	106	9,244	-301
2017	9,277	33	9,311	9,474	9,418	3,844	5,550	126	9,601	-290
2018	9,422	40	9,462	10,059	9,987	4,086	5,872	136	10,195	-733
2019	10,049	50	10,099	10,566	10,504	4,411	6,065	161	10,727	-628
2020	11,152	58	11,209	11,285	11,139	4,743	6,385	289	11,574	-365
2021	11,220	84	11,304	12,303	12,174	5,072	7,091	282	12,585	-1,281
2022	12,030	72	12,102	12,937	12,849	5,328	7,517	232	13,168	-1,067
2023	13,525	101	13,626	13,699	13,549	5,803	7,742	362	14,061	-435

Source: transparencia.sns.gov.pt — SNS account dataset.

A more disaggregated analysis shows that the two large aggregates of expenditure rose from €3.6 bn to €5.8 bn for personnel between 2016 and 2023 (+59%), while acquisitions of goods and services rose from €5.4 bn to €7.7 bn (+44%).

Within Acquisitions of Goods and Services, the items that grew most between 2016 and 2023 were "Other Acquisitions of Goods" (+100%: from €0.6 to €1.3 bn) and "Acquisitions of Goods" (+66%: from €1.6 to €2.7 bn). Complementary diagnostic services rose 32.7% (from €1.4 to €1.8 bn) and medicines rose 38.2% (from €1.2 to €1.7 bn). On the other hand, spending on Public-Private Partnerships fell by 70%, owing to closures decided by the socialist governments.

Chapter 6. The Accounts of ADSE

The accounts of ADSE — the public scheme covering the largest population of beneficiaries and the largest volume of resources — show a balanced evolution between 2017 and 2021 (Table 6.1). Total expenditure was practically unchanged, with a reduction in the "agreed-tariff regime" (regime convencionado) and an increase in the "free regime" (regime livre). As total revenue rose — driven by higher beneficiary contributions — the overall balance (surplus) of the accounts increased from €77 million to €165 million.

Table 6.1 — ADSE Revenue and Expenditure (€ million)

	2017	2018	2019	2020	2021
Beneficiary contributions	596.3	606.1	619.1	637.7	681.8
Other revenue	47.3	48.5	64.1	59.1	52.6
Total revenue	643.6	654.6	683.2	696.8	734.4
Agreed-tariff regime exp.	410.7	394.7	402.1	341.8	397.3
Free regime expenditure	146.6	160.3	155.8	129.9	158.3
Administrative costs	5.1	5.2	5.3	5.3	5.2
Other expenditure	4.2	48.7	17.4	22.8	20.0
Total expenditure	566.6	608.9	580.6	499.8	580.8
Profit / loss	77.0	45.7	102.6	197.0	153.6

Source: ADSE Activity Reports.

Chapter 7. Competition Cases in the Health Sector

Competition between firms — whether in markets for goods and services in the private sector of the economy or in the supply of goods and services to the State — is fundamental to ensuring the efficiency of the market economy and the well-being of consumers. For this reason, the founding laws of the European Union and Portuguese national law establish a set of basic principles that ensure each firm acts independently and autonomously to offer the best product at the lowest price. Competition between firms thereby leads to economic progress and innovation, beyond the satisfaction of short-term efficiency and welfare conditions.

The Competition Act (Law 19/2012), reflecting the EU regime, establishes two fundamental prohibitions on the conduct of firms: (i) the prohibition of collusion and cartel formation restricting prices, output or investment; and (ii) the prohibition of abuses by firms in a dominant position which erect barriers to entry of new firms or lead to the elimination of efficient firms, in an attempt to monopolise the market.

More concretely, Article 9 of Law 19/2012 — which generically prohibits cartels and bid rigging — establishes (quoted in translation):

"1 — Agreements between undertakings, concerted practices between undertakings and decisions of associations of undertakings whose object or effect is to prevent, distort or appreciably restrict

competition in the whole or in part of the national market are prohibited, namely those that consist of:

- a) Fixing, directly or indirectly, purchase or selling prices or any other transaction conditions;
- b) Limiting or controlling production, distribution, technical development or investment;
- c) Sharing markets or sources of supply;
- d) Applying dissimilar conditions to equivalent transactions with commercial partners, thereby placing them at a competitive disadvantage;
- e) Making the conclusion of contracts subject to the acceptance by other contracting parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts."

And Article 11 of Law 19/2012 prohibits abuses of dominant position (quoted in translation):

"1 — The abusive exploitation, by one or more undertakings, of a dominant position in the national market or in a substantial part thereof is prohibited."

The Portuguese Competition Authority (AdC), as the administrative entity responsible for enforcing this Law and the EU Competition Laws (Articles 101 and 102 TFEU), together with the Portuguese Courts, has already brought a considerable number of cases leading to Condemnatory Decisions in the Portuguese Health Sector. Between 2003 — shortly after its establishment — and the end of 2023, the AdC opened 16 competition-restriction cases, listed in Table A.5 of the Annex, involving some of the highest infringement amounts in the country.

Below we summarise some of the most important cases in the Health Sector.

1. Supply of Diabetic Products to Public Hospitals

Parties:

- Abbott Laboratórios, Lda.
- BAYER Diagnostics Europe, Lda.
- Bayer Portugal, SA
- Johnson & Johnson
- MENARINI Diagnósticos, Lda.
- Roche Farmacêutica Química, Lda.

Decision:

The case originated in a complaint by the Coimbra Hospital Centre, following the decision to annul a public tender for the acquisition of glucose-test reagent strips, on the basis of identical prices contained in the bids of five competing firms.

In the Final Decision (condemnatory) issued on 28 December 2004, the AdC concluded that the firms — by having engaged in a concerted practice the object of which was the uniform fixing of prices in a public tender in which they were all competitors — infringed Article 4 of Law 18/2003 of 11 June, and applied a fine of €658,413 to each respondent.

2. Supply of Teleradiology Services to Public Hospitals

Parties:

- Affidea Group B.V.
- Anlhealth, Sociedade Anónima
- Dr. Campos Costa — Consultório de Tomografia Computorizada, S.A.
- GS24 — Healthcare Solutions, S.A.
- IMI — Imagens Médicas Integradas, S.A.
- ITM — Instituto de Telemedicina, Lda.
- Lifefocus II — Global Solutions, Lda.

Decision:

The AdC investigation found that the three firms convicted — together with two others already covered by an earlier final sanction following settlement procedure — implemented an agreement and/or concerted practice under which they jointly defined which firms would present the winning bids in public-procurement procedures for the provision of teleradiology services.

In those contacts, the firms involved in the cartel exchanged information among themselves on the prices they would subsequently submit in tenders, so as to ensure that the winning bid would be that of the firm pre-designated by them. They further agreed that the remaining firms would be excluded by submitting bids that failed eliminatory tender criteria.

The contacts established allowed the firms involved in the cartel to share the national market for teleradiology services among themselves following public-procurement procedures.

3. Clinical Laboratory Testing Cartel

Parties:

- Affidea
- Unilabs
- Joaquim Chaves
- Synlab
- Germano de Sousa
- Redelab
- Beatriz Godinho
- Associação Nacional dos Laboratórios Clínicos (ANL)

Decision:

The AdC charge sets out that there was concertation between the association and the targeted laboratories, in that they agreed the strategy to adopt in negotiations with public entities — notably with the National Health Service — but also with private entities, which approached them for the provision of clinical analyses and for the supply of COVID-19 tests.

The cartel — established among the targeted laboratories through their participation in the direction of the association — set the prices applicable to the provision of clinical analyses and to

the supply of COVID-19 tests, and shared the market and the sources of supply, including a commitment not to recruit/hire employees from competing laboratory groups (the practice known as "no-poach").

The capillarity of the collection points and the mass execution of PCR or antigen tests represented an essential complement to the Portuguese effort to combat the pandemic caused by the SARS-CoV-2 coronavirus, with the aim of equipping the SNS with the additional capacity that the emergency required. Up to 30 March 2022, more than 40 million tests were performed in Portugal.

The concertation among the targeted laboratories will have allowed them to enhance their bargaining power vis-à-vis the public and private entities with which they negotiated the supply of clinical analyses and COVID-19 tests, leading to the setting of potentially higher prices than would result from individual negotiations under normal market conditions — preventing or delaying the review and reduction of prices.

Having weighed all the evidence, the conduct of the targeted groups was found to constitute a price-fixing and a market-sharing/sources-of-supply allocation (including no-poach), achieved by an agreement between all the targeted groups, facilitated by the sector's representative association, in the market for the provision of clinical analyses / clinical pathology in the national territory — which was sustained continuously and uninterruptedly for at least six years (2016 to 2022). The agreement implemented qualifies as a restriction of competition by object, prohibited under subparagraphs (a) and (c) of Article 9(1) of Law 19/2012 of 8 May, and subparagraphs (a) and (c) of Article 101(1) of the TFEU.

4. Supply of Services to ADSE by Private Hospitals

Parties:

- APHP — Associação Portuguesa de Hospitalização Privada
- CUF, S.A.
- G.T.S. — Grupo Trofa Saúde, SGPS, S.A.
- Hospital Particular do Algarve, S.A.
- Hospital Privado da Trofa, S.A.
- José de Mello Capital, S.A.
- Lusíadas, S.A.
- Lusíadas, SGPS, S.A.
- Luz Saúde, S.A.

Decision:

Having considered the written pleadings against the evidence in the file and the clarifications provided during the complementary investigative procedures, the AdC found the following proven:

The targeted healthcare companies coordinated their interests and conduct in the context of negotiations with ADSE concerning ADSE's price schedule and rules, at least between 2014 (2015 in the case of HPA) and 2019, and also in the context of the regularisation of the 2015 and 2016 invoices, through and with the participation of APHP.

The conduct of the targeted parties occurred in the market for the procurement of private hospital health services by health subsystems/insurers in the national territory — leaving open the possibility of further segmentations of that market. In addition, following ADSE's 2018 decision to regularise the invoicing of 2015 and 2016, the targeted healthcare companies — jointly and in a coordinated manner — suspended and/or threatened to denounce the agreements with ADSE, decisively conditioning the course of the negotiations with ADSE, while obstructing the recovery of the invoices.

The conduct identified above constitutes an agreement or concerted practice within the meaning of subparagraphs (a) and (b) of Article 9(1) of the Competition Act, with the object of preventing, distorting or appreciably restricting competition.

On 30 June 2022, the Competition Authority adopted a Final Condemnatory Decision against the parties identified above for engaging in an agreement or concerted practice under subparagraphs (a) and (b) of Article 9(1) of the Competition Act, with the object of preventing, distorting or appreciably restricting competition — applying the respective fines indicated above.

Chapter 8. Estimates of Damages to the State and Taxpayers

Table 8.1 summarises the infringements reported in Annex Table A.5 by type of infringement. Three condemnatory decisions involved cartels in public tenders for the supply of goods to public hospitals; two condemnatory decisions concerned cartels formed in price negotiations between service-supplier firms and the SNS and ADSE; and four concerned abuses of dominant position.

As Table 8.1 shows, the AdC applied a total of €272 million in fines on the firms that infringed the competition law, with the largest amount attributed to cartels in negotiations.

Table 8.1 — Competition Infringements in the Health Sector (State damages)

	Fines (€ thousand)	Damages (€ million)
Cartels in public tenders	10,781	217
Cartels in negotiations	248,505	1,179
Abuses of dominant position	13,004	72
Total	272,290	1,468
Extrapolation to total infringements	—	11,905

Source: Author's calculations.

From the estimates of the Volume of Commerce indicated in Annex Table A.5, an estimate of the damages caused to the State (taxpayers) as a result of these infringements was made. We estimate a value of €1,468 million between 2003 and 2023.

Note: In cases where no overcharge rates were estimated, the median of the international sample of cartel cases (15%) was used. For abuses of dominant position, an overcharge of 10% was used.

As with all infringements, only a certain percentage is detected by the authorities. As in other branches of judicial statistics, it is possible to estimate the probability of detection of this type of infringement — particularly cartels — and from there to extrapolate the potential damages to the State.

Bryant and Eckard (1991) estimated the probability of detection at between 13% and 17% for the United States. Using the same methodology, Combe et al. (2008) obtained an estimate for Europe of 12.9% to 13.3%. A similar study for Spain by the National Commission for Markets and Competition (García-Verdugo et al., 2019) estimates the probability of detection in Spain at 10.7%. We adopted this value for the case of Portugal, given its similar history of competition policy. Starting from the estimated damages in Table 8.1, we obtain a potential figure of damages to the State of €11,905 million over the period 2003 to 2022 — equivalent to around €607 million per year.

Chapter 9. Detecting Bid Rigging and Collusion: International Best Practice

Public tenders for the supply of goods and services are a frequent procurement mechanism used by the National Health Service. A large share of these supplies is acquired centrally by SNS Central Services to exploit the greater buying power that a single entity affords. On the other hand, it is more susceptible to manipulation and to collusion or bid-rigging schemes by tender participants.

These tenders take place through auctions or by negotiation between the parties. The market established in auctions or tenders has the following characteristics: (i) the winner takes all, and there is no situation as in a market where lowering the price allows an increase in quantity sold; (ii) competition is "lumpy" — each tender represents a non-trivial share of each firm's sales; (iii) tenders and bids are infrequent, so competition "restarts" with each tender, though in many cases auctions are repeated over time; and (iv) an auction method or process is — or should be — well defined.

There are four main types of auctions: (a) the ascending auction (also known as oral, open or English auction), in which the auctioneer announces ascending values, and participants drop out as their maximum reserve value is exceeded — the winner being the participant who offers the highest value, paying that value to the house; (b) the descending auction (used in the Netherlands for wholesale flower trade, hence "Dutch auction"), in which the scheme starts at a high price which falls until the first interested party appears — that party being the winner; (c) the sealed-bid first-price auction, in which the winner is the one who offers the best price; and (d) the Vickrey auction, also of sealed bids, in which the winner is the one who submits the highest price but pays the value of the second bid.

We present these types as if they concerned the sale of an object. But the notions are analogous in the case of a purchase.

The fundamental theorem of auction theory states that all four types are equivalent — whether information is private or common to all participants — and all of them lead to an efficient outcome, in the sense that the object of the auction is always allocated to the participants who attach the highest value to it; that participants with minimum values (below the reserve price) have a zero expected surplus; and that the remaining participants have an expected value equal to the value they attach to the object — and finally, that all of them lead to the same expected value for the seller. The structuring of auctions is not a trivial task, as demonstrated by spectrum auctions.

The most common forms of bid rigging are:

- Bid rotation — participants take turns choosing who wins each tender, so the designated firm submits the winning bid and the rest submit losing bids. For example, in the concession of a motorway, one firm or consortium is designated as winner, submits the lowest bid, and the rest submit higher bids. In subsequent tenders the participants take turns submitting winning bids. In this way, firms partition markets — by geography, by segment, or by a combination of factors related to costs, available capacity or simply turn-in-rotation — suppressing competition among themselves.
- Bid suppression — one or more competitors agree not to submit bids so that the sole participant wins the auction.

- Complementary (courtesy) bids — also known as cover bids; one or more participants are invited to participate only to give an impression of competition, submitting bids that are clearly weaker and losing.
- Subcontracting collusion — one or more participants agree not to submit bids or to submit losing bids on condition that the winning firm awards them a share of the work (dividing the spoils).

Where compensating monetary transfers between cartel participants are not permitted, the incentive-compatibility mechanism dictates that the good should be allocated by lottery, with equal probability, to each participant who attaches a value above the seller's minimum (reserve) price. One way to obtain this mechanism is for all participants to submit the same bid (the same price), which is the collusive price — and equal to the seller's reserve price. Since firms do not know each other's costs, even where there is asymmetry among them, this is the best strategy. Interestingly, there are numerous cases of bid-rigging in which this was the strategy followed.

See Scherer (1970, p. 182), Hay and Kelley (1974), William Comanor and Mark Schankerman (1976), OECD (1976, p. 20), Christopher Green (1985, pp. 176-7). In 1955, five firms submitted exactly the same bid in sealed envelopes — \$108,222.58 — in a public tender for the supply of 5,640,100 packages for tetracycline (Scherer and Ross, 1990, p. 267).

Where lateral payments are allowed, then participants in a bid-rigging scheme can reach the collusive equilibrium by previously holding a sealed-envelope auction among themselves. If the highest value is above the reserve price of the auction, then the winner of the prior auction is the only one to present, with a bid equal to the (minimum) reserve price, and pays the remaining participants the difference between what was bid in the prior auction and the minimum — in equal shares. As we see, the State is thereby damaged because it can only obtain the reserve price — and if no reserve price is set, this may be almost nil. And the agents that capture most of the surplus are the cartel participants.

It is interesting that in India the State held a public auction for the licence to sell alcoholic beverages in each village. Villages that managed to organise themselves held a prior auction among interested participants. The winner was then the only one to present at the State auction. The village committee subsequently used the difference of values for public works (a more social cause!). See Robert Wade (1987). A response by the auctioneer to suspected collusion is precisely the manipulation of the reserve price — see Mailath and Zemsky (1991).

The structural conditions conducive to collusion remain valid for oligopolies: few firms participating, market transparency, high frequency of contact between firms, predictability of demand and costs, similarity of firms, absence of severe financial restrictions on the firms, product standardisation, long-term commitment of the firms to remain in the market, and difficulty of entry by new firms.

See Klemperer (2005), Bidding Markets, Competition Commission.

The Competition Authority has developed an important pedagogical role in detecting collusion in public tenders, as can be seen on its page: www.concorrenca.pt/pt/combate-ao-conluio-na-contratacao-publica.

In particular, it has developed a manual of good practices that should be read and followed by every public entity using public tenders for the acquisition of goods and services or for project execution (AdC, n.d.). The inspection and audit units of each Ministry plainly have particular responsibility in this area.

The OECD has also developed important work in this area. Some countries have created task forces or dedicated intervention units for the detection and prosecution of these practices, which may have a significant corruption component.

Chapter 10. Recovery of Damages

Once these cases of competition-law infringement are detected, they must be communicated to the Competition Authority for it to apply the respective law.

However, there are now legal mechanisms that go further and permit the State and consumers to recover the damages caused by infringements — either through follow-on actions (i.e. after the authorities (the AdC and/or courts) have condemned the infringing firms) or through stand-alone actions (i.e. even where no such condemnation has taken place).

At EU level the fundamental text is Directive 2014/104/EU of 26 November 2014 "on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union".

At national level the text is Law 23/2018 of 5 June, "Right to Compensation for Infringement of Competition Law".

Chapter 11. Conclusions

After a detailed analysis of Current Health Expenditure in Portugal, we find that it reaches a level substantially above what would be expected for our GDP per capita; that it has grown sustainably and well above GDP growth; and that its efficiency is low and has deteriorated over the last six years. After the shock of the Covid pandemic — an exceptional phenomenon — there has been no adjustment in overall expenditure.

Among the deep structural reforms needed, and the need to design the health system as a National Health Service that integrates the SNS components, the Private sector (increasingly important) and social components, this work highlights the importance of reducing the costs of State purchases and acquisitions of goods and services through policies that combat cartels and bid rigging — as well as abuses of dominant position. As demonstrated, these policies — which have been underplayed in Portugal — can deliver significant additional resources to the State and contribute to a more efficient allocation of resources not just for the State but for the economy as a whole.

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Statistical Annex

Table A.1 — Current Health Expenditure by Provider (€ thousand)

Provider (ICHA-HP)	2000	2005	2010	2015	2019
Hospitals (HP.1)	4,212,793	5,850,940	6,975,997	6,881,712	8,564,932
Public hospitals	3,646,319	4,968,519	5,680,208	5,026,947	6,215,225
Private hospitals	566,474	882,421	1,295,789	1,854,765	2,349,707
Ambulatory care (HP.3)	2,619,587	3,806,791	4,648,179	4,337,165	5,222,800
Public ambulatory	1,125,600	1,497,534	1,528,856	1,241,413	1,418,429
Private ambulatory	1,493,987	2,309,257	3,119,323	3,095,752	3,804,371
Ancillary services (HP.4)	538,448	832,196	942,187	794,350	913,347
Pharmacies (HP.5.1)	2,342,572	3,297,474	3,455,088	2,657,951	3,017,971
Administration/financing (HP.7)	201,962	239,023	335,444	317,152	398,695
Other	1,034,037	1,161,457	1,457,879	1,457,054	1,915,206
TOTAL	11,044,981	15,305,198	18,019,461	16,742,903	20,392,491

Source: INE, Health Satellite Accounts.

Table A.2 — Current Health Expenditure by Provider (% of total)

Provider	2000	2005	2010	2015	2019
Hospitals	38.1	38.2	38.7	41.1	42.0
Public hospitals	33.0	32.5	31.5	30.0	30.5
Private hospitals	5.1	5.8	7.2	11.1	11.5
Long-term residential (HP.2)	0.9	0.8	1.1	1.8	1.8
Ambulatory	23.7	24.9	25.8	25.9	25.6
Public ambulatory	10.2	9.8	8.5	7.4	7.0
Private ambulatory	13.5	15.1	17.3	18.5	18.7
Ancillary services	4.9	5.4	5.2	4.7	4.5
Pharmacies	21.2	21.5	19.2	15.9	14.8
Other medical goods	5.0	3.7	4.0	4.2	4.4
Preventive care	0.1	0.1	0.1	0.1	0.1
Administration	1.8	1.6	1.9	1.9	2.0
Other	9.4	7.6	8.1	8.7	9.4
Rest of economy / world	4.2	3.8	3.9	4.4	4.8
TOTAL	100.0	100.0	100.0	100.0	100.0

Source: INE, Health Satellite Accounts.

Table A.3 — Current Health Expenditure by Financing Agent (€ thousand)

Financing agent	2000	2010	2015	2020	2022p	2024p
General government (FA.1)	7,706,933	12,559,971	10,794,495	14,080,111	16,713,497	18,230,581
National Health Service	6,344,913	10,562,753	9,131,257	11,878,928	14,241,594	15,534,303
Public health subsystems (ADSE et al.)	671,436	729,587	601,533	639,596	752,972	—
Social security funds	170,552	336,245	388,225	505,102	581,843	—
Private sector	3,338,048	5,459,490	5,948,408	7,070,021	8,704,192	9,468,847
Insurance corporations	160,056	527,315	598,733	755,339	985,987	—
Private subsystems / NPISH	337,791	479,899	404,662	388,714	449,227	—
Households	2,840,201	4,452,276	4,945,013	5,925,968	7,268,978	7,907,550
TOTAL	11,044,981	18,019,461	16,742,903	21,150,132	25,417,689	27,699,428

Source: INE, Health Satellite Accounts. Notation: e — estimate; p — provisional.

Table A.4 — Current Health Expenditure by Financing Agent (% of total)

Financing agent	2000	2010	2015	2020	2022p	2024p
General government	69.8	69.7	64.5	66.6	65.8	65.8
National Health Service	57.4	58.6	54.5	56.2	56.0	56.1
Public health subsystems	6.1	4.0	3.6	3.0	3.0	—
Social security funds	1.5	1.9	2.3	2.4	2.3	—
Private sector	30.2	30.3	35.5	33.4	34.2	34.2
Insurance corporations	1.4	2.9	3.6	3.6	3.9	—
Private subsystems / NPISH	3.1	2.7	2.4	1.8	1.8	—
Households	25.7	24.7	29.5	28.0	28.6	28.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: INE, Health Satellite Accounts.

Table A.5 — Competition Law Infringement Cases in the Health Sector (Portugal, 2003-2023)

Year	Parties	Object	Period	Turnover (€M)	Fine (€M)	Comm. Vol. (€M)	Overcharge (%)	Damages (€M)
2005	Abbott, Bayer, Menarini, J&J, Roche	Concertation on prices in public tenders — glucose strips to hospitals	2005-2010	35	3.29	396	5	20
2014	Ordens Profissionais	Various clauses by professional associations	2014-2019	58.8	9.79	1,612	—	—
2018	Baxter, Glinth	Concertation on prices in public tenders — medicine packaging equipment	2018-2019	11.9	9.79	283	15	45

2015	Roche	Abuse of dominance (mixed bundling) — sale of medicines to hospitals	2015-2020	6.0	0.95	3,345	10	72
2015	AN Farmácias	Refusal to supply data to IMS	2015-2017	7.2	1.27	6,154	—	—
2015	APHP (private hosp.)	Cartel in supply of hospital services to ADSE	2015-2022	7.5	247.0	23	15	1,179
2016	Various	Restrictions on distribution of medical devices	2016-2022	0.4	—	8	—	—
—	Affidea, IMI, ITM	Supply of teleradiology services	—	—	2.2	85	15	13
—	Carmodietica	POM — dietetic products	—	—	—	—	—	—
—	Clinical Laboratories	Cartel in supply of clinical-testing services	2016-2022	—	—	—	10	139
—	Dietmed	POM — dietetic products	—	—	—	—	—	—

Source: Author's compilation from AdC Press Releases and Annual Reports. POM = Posição Dominante (Abuse of dominant position). Some commercial-volume and overcharge figures are author's estimates where AdC has not published them.