



Health priorities?

A comparison of New Zealand's public health and disability expenditure against selected OECD countries

NZIER report to Medicines New Zealand

October 2025

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Key points

Efficiency and good health outcomes require an optimal mix of inputs

Best health outcomes and efficient use of health system resources require optimisation of the mix of medicines and services. The Treasury's long-term fiscal statement makes clear the urgency of this issue. Medicines play a double role in the system: Sometimes as a substitute for workforce and physical infrastructure, medicines help to reduce the amount of service interaction people have and keep them out of hospitals. Medicines are also a complementary input that improves the effectiveness and cost-effectiveness of services. When access to medicines is low, there are often high levels of avoidable service use and the services provided are less effective in delivering health outcomes.

Pharmac's fixed budget constrains the system's ability to optimise

New Zealand has a unique model for assessing and procuring medicines. The budget through which Pharmac purchases medicines – the Combined Pharmaceutical Budget (CPB) – constrains the system's ability to achieve an optimal mix of inputs, with the many medicines assessed as cost-effective that linger on Pharmac's Options for Investment (OFI) list being evidence of that constraint and the likely resulting sub-optimal outcomes.

The OECD system of health accounts supports comparisons of health systems

The OECD system of health accounts provides consistent and comparable data on health system resources and expenditures, supporting an improved understanding of health systems by facilitating comparisons regarding their use of resources.

New Zealand has not submitted data to the OECD since 2007

Due to New Zealand's non-participation in OECD health expenditure data reporting, making comparisons between New Zealand's allocation of health expenditure and that of other countries is complex and time-consuming, creating opacity where there should be transparency. Key differences include not only the categories of expenditure within Vote Health, but also New Zealand's unique funding of the treatment of injuries and disability support services through other Votes (Vote Labour Market (ACC) and Vote Social Development), which reflect expenditure that would be reported to the OECD as government and compulsory scheme health expenditure.

Other recently published reports have also highlighted the lack of transparency, including pointing to New Zealand government reports that make comparisons with other OECD countries without the necessary adjustments for a fair comparison.

Comparisons can be made with careful alignment of data

In the absence of OECD data, understanding New Zealand's allocation of resources within the health and disability system, and comparing it to other countries, requires careful consideration of data definitions and adjustments to align Vote appropriations and other New Zealand sources of evidence with OECD health expenditure categories. As noted by the Ministry of Health (2012), comparability requires inclusion of ACC's contribution to health spending as well as disability support services.

We compared New Zealand’s allocation of government and compulsory scheme health expenditure to 12 other OECD countries across four major categories of health expenditure for robust alignment with New Zealand’s health and disability system expenditure: Delivery of health services, total pharmaceutical expenditure (hospital and retail pharmaceuticals), long-term residential and home care, and other health expenditure.

New Zealand is an outlier with higher allocation to services and less to medicines

Our analysis, based on allocations of health and disability total expenditure by government and compulsory schemes, shows that New Zealand is an extreme outlier, devoting only 4.9 percent of its overall health and disability expenditure to pharmaceuticals compared with an average of 13.3 percent across the sample. Notably, New Zealand’s share of health expenditure allocated to the delivery of health services significantly exceeds the sample average. More research would be needed to understand the relationship between these allocations; however, better access to medicines can reduce the need for services.

Table 1 Health expenditure allocation comparison

Based on the most recent year of available data, compared with the sample average (mean)

	Delivery of health services	Total pharmaceutical expenditure	Long-term residential and home care	Other health expenditure
Average (mean)	61.4%	13.3%	16.1%	9.2%
Australia	65.2%	12.2%	9.8%	12.9%
Canada	65.2%	9.6%	19.8%	5.5%
Denmark	60.2%	9.2%	23.0%	7.6%
Finland	59.9%	11.6%	25.2%	3.3%
Germany	54.3%	16.4%	12.4%	16.9%
Iceland	61.8%	10.4%	19.7%	8.1%
Korea	66.4%	19.3%	10.5%	3.8%
New Zealand	70.3%	4.9%	14.4%	10.4%
Norway	54.6%	6.6%	32.1%	6.6%
Portugal	46.2%	26.0%	2.0%	25.8%
Spain	63.9%	22.6%	7.5%	6.0%
Switzerland	62.0%	13.6%	19.2%	5.1%
United Kingdom	68.1%	10.0%	14.5%	7.4%

Notes: Most recent year 2023 except Portugal, Australia, Norway (2022) and New Zealand (2025). Denominator expenditure consists of government and compulsory schemes (in NZ: Vote Health, ACC health expenditure, and disability support services).

Source: NZIER

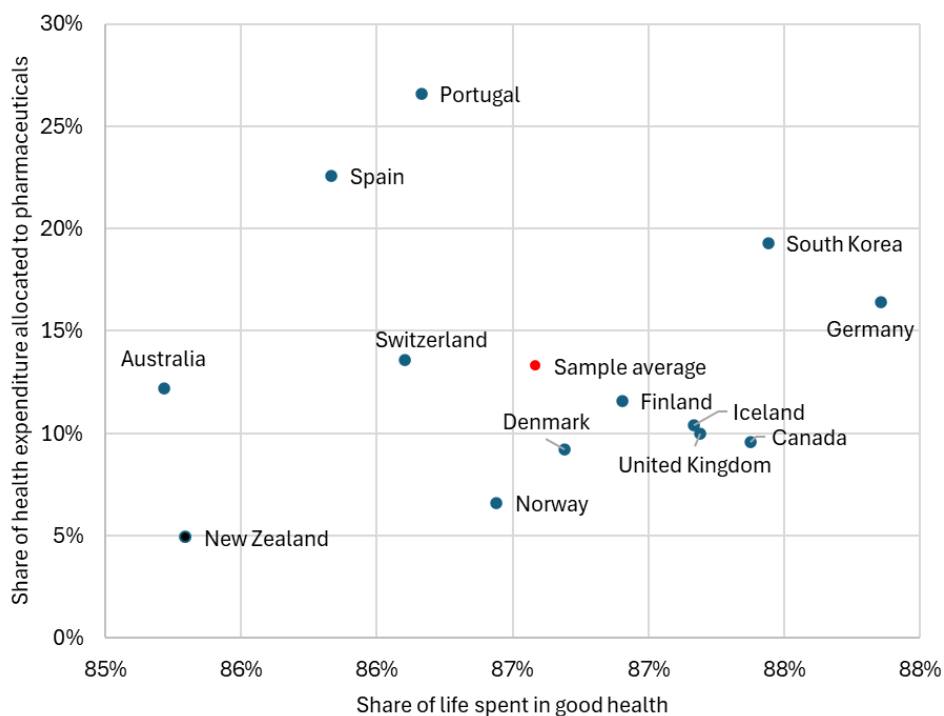
It is unclear what New Zealand’s unusual allocation of health expenditure means

Health systems operate differently around the world, and published research does not identify any one right way of organising or funding them.

However, New Zealand stands out not only in its expenditure pattern, but in the outcomes achieved. This is noticeable in terms of the share of life lived in good health (sometimes referred to as healthy life expectancy) (see Figures 1 and 2). With a lower share of life spent in good health resulting in health system and productivity costs, New Zealanders may well question how much of this difference is attributable to our unusual pattern of health expenditure.

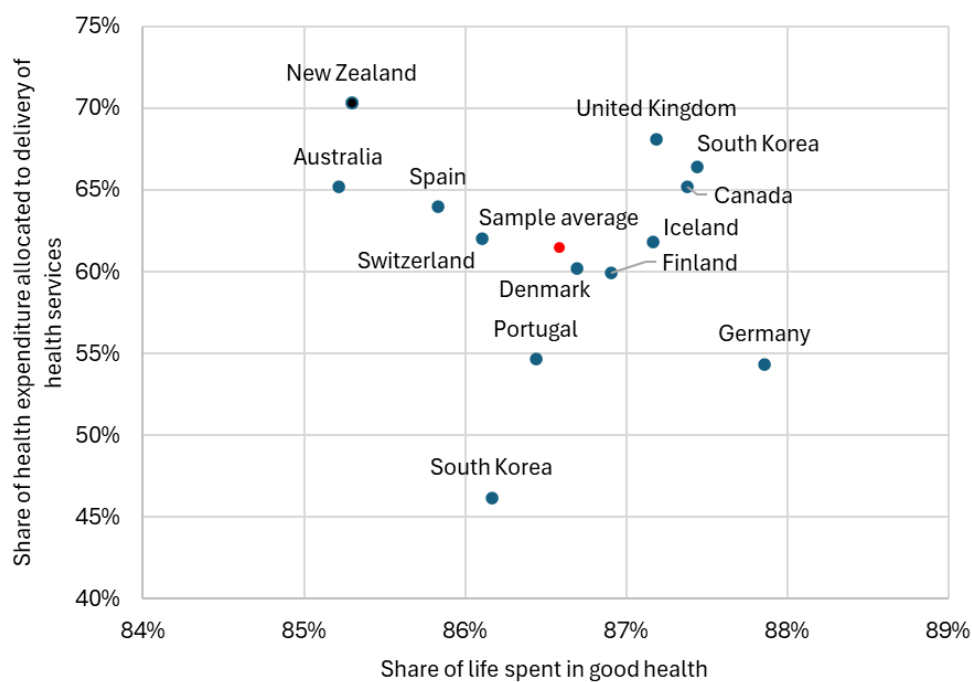


Figure 1 Share of life lived in good health and allocation of health expenditure to pharmaceuticals



Source: NZIER

Figure 2 Share of life lived in good health and allocation of health expenditure to delivery of health services



Source: NZIER

NZIER recommends

New Zealand data does not support transparency by reporting health system expenditure in readily comparable ways to other OECD countries. After careful consideration of definitions and adjustment to reflect differences in inclusions, New Zealand is revealed as an extreme outlier in terms of its allocation of health and disability system resources to pharmaceuticals versus service delivery. Based on these findings, we recommend:

- Re-establishing reporting of health and disability system expenditure to the OECD to improve transparency and support tracking of health expenditure trends using consistent and comparable metrics.
- Identifying opportunities for cost-effective medicines, such as those on Pharmac's OFI list, to reduce the use and cost of health services, and implementing an immediate increase in pharmaceutical investment, to improve the overall mix of system inputs for improved efficiency and better health outcomes.
- Research into the optimal mix of inputs in health systems.

Contents

1	Background	3
1.1	Medicines play a critical role in the health system and in society	3
1.2	Approaches to medicine purchasing vary broadly internationally.....	3
1.3	New Zealand's Pharmac model is unique in the world	3
1.4	Pharmac's approach offers important benefits.....	4
1.5	...as well as significant costs.....	4
1.6	Overall, medicines expenditure is low in New Zealand.....	4
1.7	International comparisons of health systems require comparable data	5
1.8	New Zealand's lack of reporting reduces transparency	6
1.9	How does New Zealand's health expenditure overall compare?.....	7
1.10	Affordability vs. allocation of health expenditure	9
2	Our approach	11
2.1	Comparable countries and health systems	11
2.2	New Zealand health expenditure and comparability with OECD data	12
2.3	Categories of health expenditure for comparison.....	13
2.4	Primary data sources	13
2.5	Timeframes	13
2.6	Comparator country data series.....	14
2.7	Presentation of results.....	15
2.8	Limitations	16
3	New Zealand	17
4	Australia	19
5	Canada.....	21
6	Denmark.....	23
7	Finland.....	25
8	Germany.....	27
9	Iceland	29
10	South Korea.....	31
11	Norway.....	33
12	Portugal.....	35
13	Spain.....	37
14	Switzerland.....	39
15	United Kingdom	41
16	All countries' pharmaceutical allocations over time.....	43
17	All countries' health expenditure allocations by category	44
17.1	Health outcomes in New Zealand and comparator countries.....	45
18	Conclusion and recommendations	48
19	References.....	50



Appendices

Appendix A Methodology.....	53
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Figures

Figure 1 Share of life lived in good health and allocation of health expenditure to pharmaceuticals ...	vi
Figure 2 Share of life lived in good health and allocation of health expenditure to delivery of health services	vi
Figure 3 Percentage of new medicines subsidised by government and compulsory schemes	5
Figure 4 Health expenditure (total and publicly mandated) 2000–2018.....	7
Figure 5 Reported health expenditure (total and publicly mandated) 2018–2023	8
Figure 6 Adjusted health expenditure (total and publicly mandated) 2018–2023.....	9
Figure 7 Percentage shares of New Zealand’s total health funding in 2010.....	16
Figure 8 New Zealand’s allocation of government and compulsory scheme health expenditure 2024/25	17
Figure 9 New Zealand’s allocation of health expenditure over time	18
Figure 10 Australia’s allocation of government and compulsory scheme health expenditure 2022	19
Figure 11 Australia’s allocation of health expenditure over time.....	20
Figure 12 Canada’s allocation of government and compulsory scheme health expenditure 2023	21
Figure 13 Canada’s allocation of health expenditure over time	22
Figure 14 Denmark’s allocation of government and compulsory scheme health expenditure 2023....	23
Figure 15 Denmark’s allocation of health expenditure over time	24
Figure 16 Finland’s allocation health expenditure 2023	25
Figure 17 Finland’s allocation of health expenditure over time	26
Figure 18 Germany’s allocation of government and compulsory scheme health expenditure 2023....	27
Figure 19 Germany’s allocation of health expenditure.....	28
Figure 20 Iceland’s allocation of government and compulsory scheme health expenditure 2023	29
Figure 21 Iceland’s allocation of health expenditure over time	30
Figure 22 South Korea’s allocation of government and compulsory scheme health expenditure 2023.....	31
Figure 23 South Korea’s allocation of health expenditure over time	32
Figure 24 Norway’s allocation of government and compulsory scheme health expenditure 2022	33
Figure 25 Norway’s allocation of health expenditure over time	34
Figure 26 Portugal’s allocation of government and compulsory scheme health expenditure 2022	35
Figure 27 Portugal’s allocation of health expenditure over time	36
Figure 28 Spain’s allocation of government and compulsory scheme health expenditure 2023.....	37
Figure 29 Spain’s allocation of health expenditure over time	38
Figure 30 Switzerland’s allocation of government and compulsory scheme health expenditure 2023.....	39
Figure 31 Switzerland’s allocation of health expenditure over time	40
Figure 32 United Kingdom’s allocation of government and compulsory scheme health expenditure 2023.....	41
Figure 33 United Kingdom’s allocation of health expenditure over time	42
Figure 34 Allocation to pharmaceuticals – all countries, over time.....	43
Figure 35 Breakdown of life expectancy at birth into healthy and unhealthy years	45
Figure 36 Share of life lived in good health and allocation of health expenditure to pharmaceuticals	46

Figure 37 Share of life lived in good health and allocation of health expenditure to delivery of health services	47
Figure 38 Distribution pathways for pharmaceuticals	55
Figure 39 Impact of hospital medicines on pharmaceutical expenditure estimates	56
Figure 40 Alignment of total pharmaceutical expenditure data	57
Figure 41 Mapping of delivery of health services in New Zealand Vote appropriations	58
Figure 42 Alignment of delivery of health services expenditure data	59
Figure 43 Alignment of long-term residential and home care expenditure	61
Figure 44 Adjustment to OECD expenditure on hospital providers for comparability	62
Figure 45 Percentage shares of New Zealand's total health funding in 2010.....	65

Tables

Table 1 Health expenditure allocation comparison	v
Table 2 Health financing schemes	12
Table 3 Comparator country OECD data series.....	14
Table 4 Health expenditure allocation heatmap.....	44
Table 5 Comparator country OECD data series.....	64



Glossary

ACC	Accident Compensation Corporation – New Zealand’s government-run, no-fault insurance scheme that provides compensation and support to individuals who have experienced injuries
ARC	Aged residential care
Association of Salaried Medical Specialists (ASMS)	A New Zealand union for senior salaried doctors and dentists
Co-payment	A charge to patients for health services or prescription medicines to top up funding from government or insurance schemes
District Health Board (DHB)	Regional health system organisations responsible for planning and delivering publicly funded health services prior to amalgamation into Health NZ
DSS	Disability support services
GP	General practitioner (doctor) or general practice
GDP	Gross Domestic Product – the total value of goods and services produced and sold in a country in one year
HCSS	Home and community support services
Health-adjusted life expectancy (HALE)	A measure of the average number of years a person can expect to live in full, good health, accounting for years lived with illness and disability.
Health financing	Methods of raising money for and allocating to health
Health funding	Money spent on health from a specific source (e.g. government)
Medical Council of New Zealand (MCNZ)	New Zealand’s national regulatory body for doctors
National health insurance (NHI)	A type of health system based on risk pooling, funded by mandatory contributions from employees, employers, and government, and managed by a single statutory insurer.
National health service (NHS)	A universal, primarily tax-funded health system in which the dominant mode of service provision is through public providers
OECD	Organisation for Economic Co-operation and Development
Options for investment (OFI)	A list of medicines assessed by Pharmac and identified as medicines that it would fund if the budget allowed it
Out-of-pocket	Payments made by patients/consumers
System of Health Accounts	An international accounting framework used by the OECD for tracking and categorising health spending



Vote appropriations	A term used to refer to the specific pools of funding and budget allocations by the New Zealand government to different areas of government spending (e.g. health, education, justice, etc)
Vote Health	A term used to refer to a specific pool of funding and budget allocation by the New Zealand government to its public health system
Whaikaha	New Zealand's Ministry of Disabled People

1 Background

1.1 Medicines play a critical role in the health system and in society

Medicines are a critical component of any health system because they are often the most direct and effective means of preventing, managing, and treating disease. Access to safe, effective, and affordable medicines enables people to live longer, healthier lives and reduces the burden of illness on families, communities, and economies.

Beyond individual health benefits, pharmaceuticals can help lower overall health system costs by avoiding hospital admissions, reducing the need for invasive procedures, and supporting patients to manage chronic conditions in the community.

At the same time, the pharmaceutical sector represents a significant source of economic activity and a market where issues of equity, innovation, pricing, and sustainability converge.

1.2 Approaches to medicine purchasing vary broadly internationally

Health systems organise the purchasing of pharmaceuticals in various ways, reflecting different policy goals and institutional arrangements.

In some countries, insurance funds or sickness funds act as purchasers on behalf of their members, sometimes coordinating through joint tenders to achieve economies of scale. In more market-oriented systems, private insurers and pharmacy benefit managers play a key role in negotiating rebates, managing formularies, and controlling utilisation.

In other countries, governments negotiate directly with manufacturers to set prices and secure supply, often using national agencies or centralised procurement bodies to leverage bargaining power. International pooling of resources and joint procurement is also becoming more prominent, with European Union countries demonstrating this approach.

Some health systems combine these approaches, using reference pricing, value-based assessments, or health technology evaluation to guide decisions about which medicines to fund and at what price. Ultimately, the way pharmaceuticals are purchased shapes not only the range of medicines available and the level of subsidy, but also the overall level of resources devoted to medicines, the incentives for innovation, and the efficiency of the health system as a whole.

1.3 New Zealand's Pharmac model is unique in the world

The role of the Pharmaceutical Management Agency (Pharmac) as a government agency is set out in the Pae Ora (Healthy Futures) Act 2022. Pharmac is the agency responsible for procuring community and hospital medicines at a subsidised rate, or more specifically:

“to secure for eligible people in need of pharmaceuticals, the best health outcomes that are reasonably achievable from pharmaceutical treatment and from within the amount of funding provided” (Pae Ora Healthy Futures Act 2022)

The ‘amount of funding provided’ is Pharmac’s annual Combined Pharmaceutical Budget (CPB), which is set by the Minister of Finance. Within that budget, Pharmac decides which medicines to fund based on an assessment of value for money, along with other factors for

consideration, such as need, suitability and broader health benefits (e.g. to family, society), etc.

This model is unique in the world for two reasons:

1. No other country assigns both the roles of assessing medicines, making purchasing medicines, and executing procurement processes to the same agency.
2. Other countries' medicines are typically purchased based on an assessment of value for money (e.g. cost-utility) against a threshold, from within general health budgets and without a specific constraint imposed by a fixed medicines budget.

1.4 Pharmac's approach offers important benefits...

Pharmac's procurement of medicines is based on a range of commercial strategies designed to achieve the best price for the medicines under consideration. Those strategies include a strong focus on purchasing generic medicines, which require waiting for patents to expire, as well as tendering for exclusive subsidy status to foster competition between suppliers.

The argument has been that by employing these strategies, Pharmac drives down the costs of the medicines it purchases, which has frequently been cited as "savings" achieved. For example, in its 2023/24 annual report, Pharmac reports having achieved significant savings of \$162.16 million through commercial negotiations and processes. Pharmac states that these savings enable it "to fund new medicines and stay on budget".

1.5 ...as well as significant costs

The fixed budget within which PHARMAC operates, and which arguably adds to Pharmac's credibility in commercial negotiations, means that many medicines that are cost-effective and would be funded in other jurisdictions where decisions are based more heavily on cost-effectiveness thresholds, linger on what PHARMAC calls the "options for investment" list, delaying access to treatment for New Zealanders who need these medicines despite the value of providing them being confirmed by PHARMAC.

A report commissioned by Medicines New Zealand (HealthiNZ 2023) found that medicines remained on the options for investment list for an average of 5.9 years. In January 2025, there were 87 medicines on the OFI list, and nearly half are considered standard of care around the world (Medicines New Zealand 2025)

This means that there are costs – potentially substantial and overwhelming costs – to Pharmac's failure to fund medicines that offset the price reductions that underpin its savings claims.

1.6 Overall, medicines expenditure is low in New Zealand

New Zealand's poor performance on medicines access is directly related to Pharmac's fixed budget. A fixed budget limits the investments that Pharmac can make each year, leading to many cost-effective medicines accumulating on the OFI list and other, higher priced medicines, such as new and innovative medicines, remaining out of reach to New Zealanders.

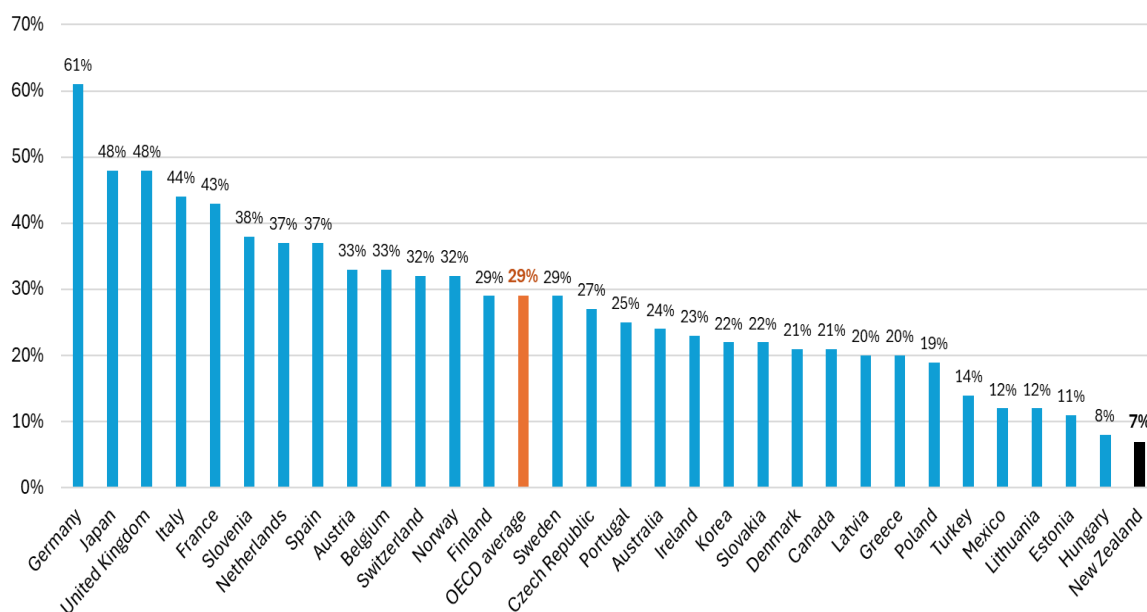
Numerous studies based on the experiences of 20 OECD countries have shown that innovator medicines with high prices have led to important gains in survival, as well as



generating savings to the health system (mainly reduced hospitalisation costs) that far exceed the price of the medicines. However, New Zealand has consistently ranked lowest in the OECD for the proportion of new medicines that are subsidised, resulting in New Zealanders having limited access to medicines with high societal benefits due to Pharmac's focus on price reduction.

Figure 3 Percentage of new medicines subsidised by government and compulsory schemes

Based on medicines launched from 2012 to 2021



Source: NZIER, based on PhRMA (2023)

Additional funding for medicines announced by the Government in June 2024 provided an important boost; however, as noted in *New Zealand's Medicines Landscape 2024/25* (Medicines New Zealand 2025), access to many medicines that represent the standard of care across the OECD is still lagging, with significant downstream effects within the health system, across society and the economy. The report also notes that 1.4 million people would benefit if the medicines and some of the vaccines on Pharmac's options for Investment (OFI) list were funded.

1.7 International comparisons of health systems require comparable data

New Zealand's public health and disability system encompasses a broad range of publicly funded goods and services involved in meeting the health and disability needs of the population. Key components include:

- Primary and community services
- Public health and health promotion
- Hospital services, including inpatient and outpatient care
- Aged care, including residential and home and community support services (HCSS)

- Disability support services (DSS), including long-term residential care and home and community support services (HCSS)
- Pharmaceuticals, including medicines obtained by consumers in the community or administered to patients in hospital settings, and non-durable medical goods.

At a high level, our system is very similar to the systems of many other high- and middle-income countries. When considered more closely, however, the organisation of services within these categories, the financing and funding arrangements behind them, and the provider and workforce mix that delivers them together create a complex system that has many possible permutations, and each country's system represents a unique combination that has emerged and evolved under the influence of its unique economic, cultural, and political context.

Internationally, standardised systems of accounts provide a common accounting framework for reporting and tracking the flows of resources across the economy in a way that allows for the identification, comparison, and monitoring of the contributions of different types of economic activity to GDP over time. The OECD System of Health Accounts (SHA) was developed to create a similarly consistent, internationally comparable framework for measuring health expenditure and financing. Before the SHA, countries reported health expenditure data to the OECD but used very different accounting methods, making it difficult to answer even basic questions such as how much was being spent on health care, who was paying, and what types of services were being funded.

The development of the SHA and increased reporting of SHA-aligned data to the OECD have supported governments, researchers, and policymakers to compare health spending across countries on a like-for-like basis. By supporting the breakdown of spending into categories such as hospital care, pharmaceuticals, long-term care, and preventive services, the SHA makes it possible to see not only the level of resources devoted to health but also the way those resources are allocated, providing insight into how different areas of health expenditure are prioritised.

1.8 New Zealand's lack of reporting reduces transparency

Only a few years after the OECD introduced the SHA to improve transparency, comparability, and accountability in health financing, enabling better decisions within countries and more meaningful international benchmarking, New Zealand stopped reporting health expenditure data to the OECD.

This means that international comparisons, including those with New Zealand, are challenging. Vote appropriations provide one source of data on government and compulsory scheme health expenditure, but appropriations change over time, particularly when there are significant changes in the organisation of the health and disability system or in agency responsibilities (for example, when Disability Support Services were transferred from the Ministry of Health to Whaikaha). Most importantly, public health expenditure is not broken down in Vote appropriations in the same way that it is in OECD data.

A recently published report (Tenbenschel and Lorgelly 2025) commissioned by the Association of Salaried Medical Specialists (ASMS) highlighted the lack of transparency and what it calls "major flaws" in the comparisons that have been made between New Zealand and other OECD countries, including in New Zealand government reports which indicate that suggest



New Zealand's health expenditure as a share of GDP is around 11 percent. The report argues:

"Our adjusted estimate of total health expenditure as a % of GDP in 2023 was between 10.2% and 10.4%, rather than the 11% reported in OECD figures. For context, an overestimate of 0.6% of GDP in 2023 equates to \$NZ 2.48 billion."
(Tenbensen and Lorgelly 2025)

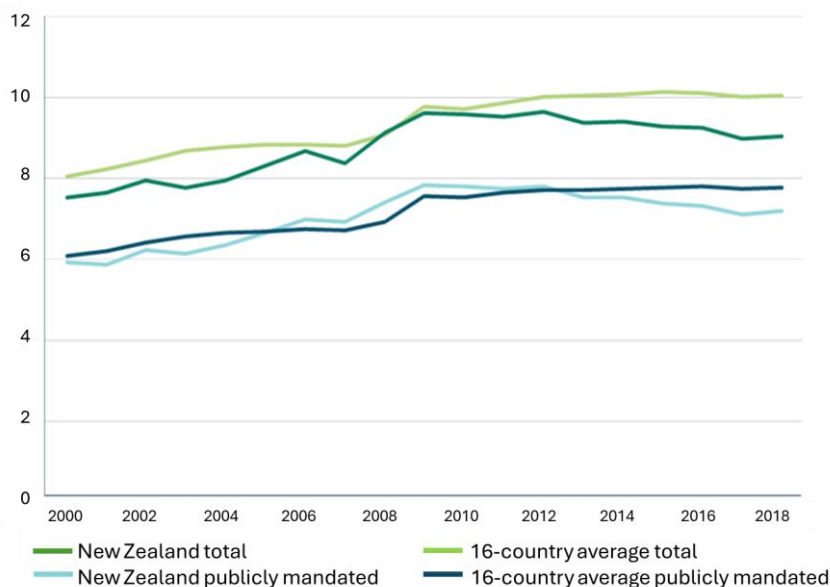
1.9 How does New Zealand's health expenditure overall compare?

Tenbensen and Lorgelly (2025) provide the most up-to-date and robust comparison of New Zealand health expenditure overall against other OECD countries. The report notes that:

- GDP per capita provides important context for interpreting comparisons of overall expenditure. It indicates that the OECD comprises countries with a wide range of GDP per capita (after adjusting for purchasing power parity), ranging from just over \$20,000 (Colombia) to just under \$140,000 (Luxembourg) and that New Zealand's 2023 GDP per capita is \$53,481.
- Between 2000 and 2018, the publicly mandated share of total health expenditure in New Zealand fluctuated within a small range (between 77 percent and 83 percent), placing it consistently above the average of the 16-country sample, indicating that the publicly mandated part of the health system plays a more important role in New Zealand than in many comparable OECD countries.
- In 2000, New Zealand's publicly mandated health expenditure accounted for a slightly smaller share of GDP (7.47 percent) than the average of the sample, before catching up and slightly surpassing it. But in the aftermath of the Global Financial Crisis, while other countries flatlined, New Zealand's publicly mandated health expenditure shrank as a percentage of GDP.

Figure 4 Health expenditure (total and publicly mandated) 2000–2018

% of GDP

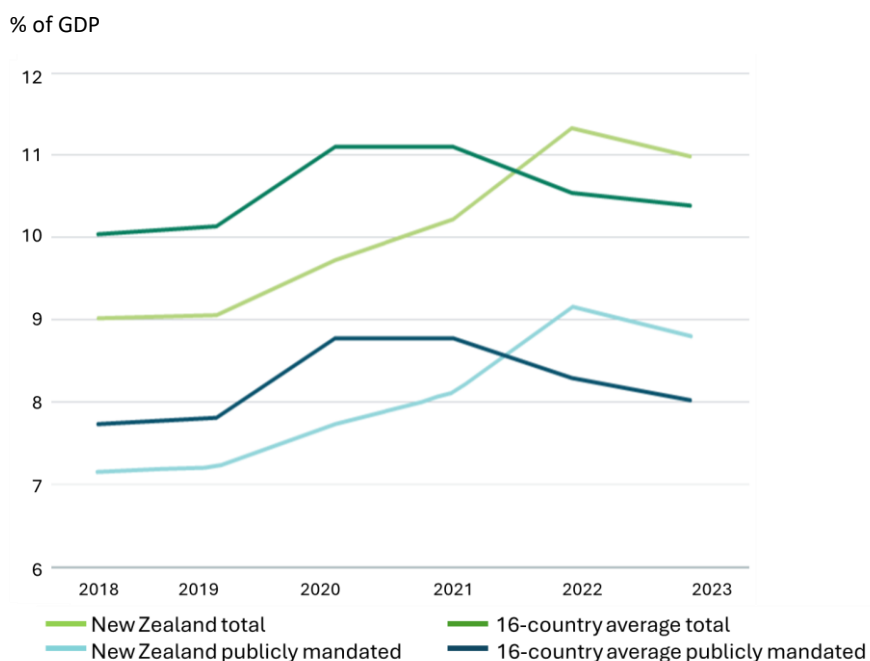


Source: Tenbensen and Lorgelly (2025)

Tenbensel and Lorgelly (2025) also provide results of a comparison from 2018 to 2023, based on adjusted figures to account for differences in how COVID-19 expenditure was counted, and correcting for the OECD's imputed data for New Zealand, which was necessary due to New Zealand's failure to report even total health expenditure since 2018.

This showed that while reported estimates showed New Zealand moving from well below the 16-country average to well above the 16-country average (see Figure 5), the adjusted estimates indicate that New Zealand's publicly mandated health expenditure was likely to be only just catching up to the 16-country average as a share of GDP in 2023 (see Figure 6).

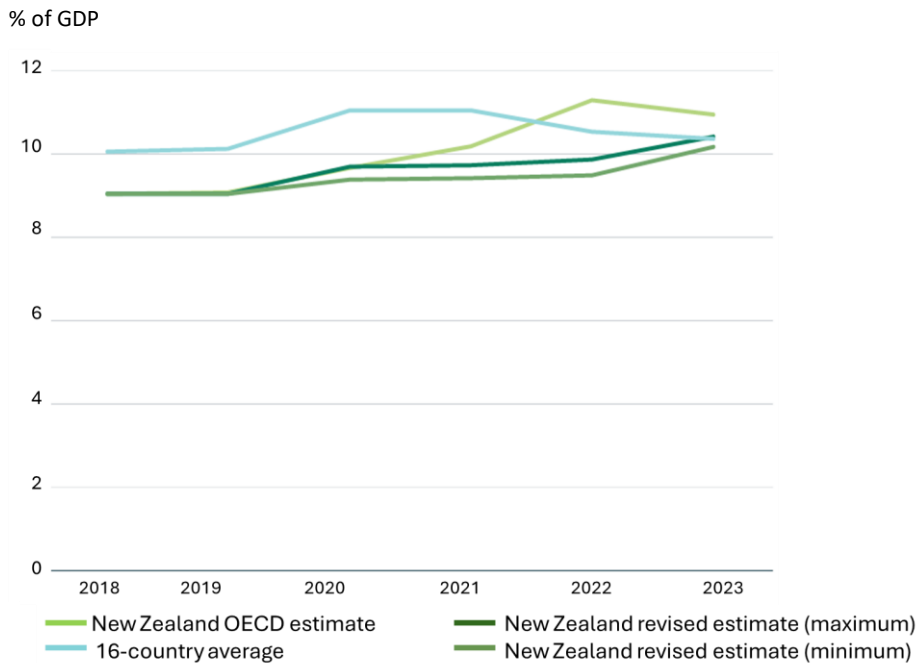
Figure 5 Reported health expenditure (total and publicly mandated) 2018–2023



Source: Tenbensel and Lorgelly (2025)



Figure 6 Adjusted health expenditure (total and publicly mandated) 2018–2023



Source: Tenbensel and Lorgelly (2025)

The report concludes that New Zealand’s health expenditure, both in per capita terms and as a percentage of GDP, has fallen behind that of similar countries over recent years. This fact has been obscured by the lack of reporting and the challenges in making comparisons based on available data. The report also concludes that:

“The consequences of New Zealand falling behind comparable countries in terms of % of GDP (both publicly mandated, and total) for an extended period help to explain current pronounced health workforce shortages, significant delays in upgrading capital and IT infrastructure, and increasing co-payments for primary health care, all of which put considerable pressure on publicly provided health services. Much of the boost in public expenditure on health in 2023 should be regarded as delayed spending.” (Tenbensel and Lorgelly 2025)

1.10 Affordability vs. allocation of health expenditure

The argument is often made that New Zealand is a poorer country than many other OECD countries that are often held up in comparison, and that we cannot afford to spend on health to the same extent. The Treasury’s latest long-term fiscal statement (The Treasury 2025) warns that health expenditure will rise from 7.1 percent of GDP to 10 percent of GDP by 2065 due to population ageing if policy settings remain unchanged.

In this report, the issue is not one of affordability, but one of allocative efficiency – Is health expenditure being allocated to the right uses within the overall health budget? Allocative efficiency means getting the best outcomes for the money being spent. That does have an impact on affordability: If health funding is poorly allocated, say by building and staffing too much hospital capacity but under-funding the medicines and primary care that help to keep people out of hospital, the overall cost of the system is likely to be higher.



Beyond the health system, the economy and our ability to generate the tax revenue needed to continue funding the health system also depends on getting the allocation of health funding right – ensuring people get the health care and medicines they need to be healthy and productive and can have long working lives and live independently for longer. The Treasury acknowledges this, stating that “improved health enables people to work for longer” (p.13) and identifies a “more active approach to reducing demand for health services by improving population health” and “improving the way health services are organised and funded” as strategies for reducing cost growth. Medicines and medicines funding need to be a key part of that approach.



2 Our approach

Medicines New Zealand commissioned NZIER to analyse OECD government health expenditure data and New Zealand government health expenditure data to identify differences in the proportion of total government and compulsory scheme health expenditure allocated to pharmaceuticals compared with other major allocations of health expenditure. Specifically, the research question is:

How does the New Zealand public health system allocate its spending across pharmaceuticals, health services, and aged care services and how does this allocation compare with other OECD countries?

So, the research question is about how health systems prioritise *within* their overall expenditure rather than how their *levels* of expenditure compare.

This section provides a summary of our approach. Our methodology is described in more detail in Appendix A.

2.1 Comparable countries and health systems

The Medical Council of New Zealand (MCNZ) has established a range of criteria for identifying countries with comparable health systems (Medical Council of New Zealand 2025). The criteria are based on a mix of regulatory and health system indicators, as well as population health outcomes:

- Health system infrastructure, including the ratio of doctors and hospital beds per head of population.
- Population health outcomes such as life expectancy, mortality rates, disease and injury as a cause of death.
- Medical regulatory framework, including the presence of a regulatory body and assessment of the registration system, disciplinary procedures, and standards set for the medical profession in that jurisdiction.

Comparator country selection was initially restricted to the list that the MCNZ identifies as meeting its criteria. All of the comparable countries identified by the MCNZ are OECD countries.

Because the research question is concerned with how the New Zealand public health system allocates spending within its budget compared with other countries, we also restrict the comparison to what the OECD identifies as “government and compulsory schemes” – health systems or parts of health systems based on public spending and mandatory health insurance. Across the OECD, government and compulsory schemes are the dominant source of health financing, covering around three-quarters of total health expenditure (OECD 2023). This selection for an appropriate and comparable basis for comparison is consistent with the approach taken by Tenbensel and Lorgelly (2025).

Table 2 below shows the types of health system financing that are captured by government and compulsory schemes. These include tax-based systems and mandatory insurance systems, of which there are two main types.



Table 2 Health financing schemes

Health financing scheme type	Categories
Government and compulsory	Tax-based (funding comes from taxation and other sources of general government revenues)
	Compulsory pre-payment (mandatory insurance schemes, e.g. social health insurance, national health insurance)
Voluntary	Voluntary private health insurance
	Out-of-pocket payments
	Philanthropic and community sources
	Voluntary employer contributions

Source: NZIER, based on OECD, Eurostat and World Health Organization (2017)

2.2 New Zealand health expenditure and comparability with OECD data

Making comparisons using OECD data should be a straightforward exercise, allowing any data-literate member of the public to download the necessary data and make whatever comparisons are needed. Indeed, this is possible for anyone interested in making comparisons between most OECD countries, at least with high-level categories of expenditure (less so at more granular levels where reporting is not consistent).

However, comparing New Zealand's prioritisation of health and disability system expenditure to that of other OECD countries is challenging because:

- New Zealand has not reported a complete set of health and disability system expenditure data to the OECD since 2007.
- New Zealand's only source of data on funding committed to the sector is the Vote appropriations, which categorise spending using different groupings than the OECD health expenditure dataset and do not provide clear definitions to indicate what is and isn't included in specific appropriations.
- New Zealand's health and disability system is spread across multiple Votes. It includes ACC-funded health services and Disability Support Services, which were separated from Vote Health in 2022 (when Whaikaha was established) and integrated into Vote Social Development from 2024/25 (when DSS was transferred from Whaikaha to the Ministry of Social Development (MSD)).
- New Zealand distinguishes between residential and non-residential care and support services for older people and disabled people and does not regularly report on the residential and non-residential categories of expenditure through Vote appropriations or other reporting, whereas the OECD makes no distinction between the populations that benefit from these services and includes regular reporting on these categories of expenditure. The Ministry of Health (2012) recognised that the OECD definitions broadened what had previously been the definition of the health sector to include disability support and long-term care services.
- New Zealand's financing and funding arrangements distinguish between health services delivered due to an injury (ACC-funded services) and health services delivered due to other reasons. All of this expenditure would be captured together in the OECD government and compulsory schemes category.



To achieve alignment of New Zealand and OECD data, we made a range of adjustments based on identifiable differences in inclusions and exclusions. These are described in Appendix A.

Our denominator: Total health and disability expenditure

A key issue for comparability with OECD data is that Vote Health alone does not capture total public system health and disability spending consistently with the OECD definition of government and compulsory scheme health expenditure. This was acknowledged by the Ministry of Health (2012), in noting that ACC is a compulsory scheme and the second most important funder of health services in New Zealand and that the OECD definitions broaden the definition of the health sector to include disability support and long-term care services. For comparability with OECD data, therefore, the denominator total expenditure for the analysis includes Vote Health as well as health and disability expenditure by ACC, and disability support services. As a result of these inclusions, the share of expenditure allocated to pharmaceuticals in New Zealand may be lower than what has been estimated in other reports, where only Vote Health may have been used as the denominator.

2.3 Categories of health expenditure for comparison

Because of the challenges in comparing New Zealand health and disability system expenditure and OECD health and disability expenditure, we mapped categories of expenditure to four broad areas of expenditure where we could be confident in making comparisons:

- Total pharmaceutical expenditure
- Delivery of health services
- Long-term residential and home care
- Other health expenditure.

2.4 Primary data sources

Our primary data source for New Zealand's allocation of health spending is Vote appropriations data (actuals) published on the Treasury website.

Our primary data source for comparator OECD countries is the OECD Health Expenditure data downloaded from the OECD data explorer. The OECD System of Health Accounts (OECD et al. 2017) provides a systematic description of the financial flows related to the delivery and consumption of health care goods and services described in the data. Definitions are critical because differences in the way expenditure data is captured can have significant impacts on comparability.

2.5 Timeframes

OECD data is reported by calendar year, whereas New Zealand Vote appropriations and other sources present data by fiscal year.



Where countries are compared by year, we align each calendar of OECD data to New Zealand for the fiscal year ending in that calendar year (OECD reporting year 2022 = New Zealand fiscal year 2021/22).

New Zealand Vote appropriations for 2025/26 were only available as estimates, and, in any case, inclusion of 2025/26 would have taken the New Zealand time series three years beyond the most recent OECD data, so the 2025/26 year was excluded from the analysis.

COVID-19 years

Most countries experienced significantly higher public health expenditure during the COVID-19 pandemic. As Tenbensel and Lorgelly (2025) note, within the OECD data, it is not possible to separate COVID-19 expenditure. We make no attempt to do so. It appears that some countries reported COVID-19 expenditure separately from other health expenditure, while other countries were unable to do so. However, our key comparison is based on the 2023 year (2022 for a small number of countries), and our time series data shows that the COVID-19 expenditure bulge had played out by then.

2.6 Comparator country data series

Reporting of the required categories of expenditure in recent years, along with a time series of at least five years, was the requirement for comparator OECD countries.

Countries on the MCNZ comparable country list, which also met the data requirements, are shown in the table below with data time series summary information.

This produces a slightly different list of comparator countries than was used by Tenbensel and Lorgelly (2025), with differences also shown in the table.

The comparator group contains nine tax-financed health systems (Australia, Canada, Denmark, Finland, Italy, Portugal, Spain, Sweden, UK) and seven mandatory insurance systems, including six which are considered to be social health insurance (SHI) systems (Austria, Belgium, France, Germany, Japan, Netherlands).

Table 3 Comparator country OECD data series

Comparator country	Complete data series	Included in comparison by Tenbensel and Lorgelly (2025)
Australia	2014-2022	✓
Canada	2009-2023	✓
Denmark	2010-2023	✓
Finland	2009-2023	✓
Germany	2009-2023	✓
Iceland	2009-2023	Excluded due to small population
South Korea	2009-2023	Excluded due to low % of GDP allocated to publicly mandated health expenditure
Norway	2017-2022	Excluded due to significantly higher GDP per capita
Portugal	2008-2022	✓
Spain	2009-2023	✓



Comparator country	Complete data series	Included in comparison by Tenbensel and Lorgelly (2025)
Switzerland	2010-2023	Excluded due to significantly higher GDP per capita
United Kingdom	2017-2023	✓

Source: NZIER, OECD health expenditure data

While our analysis makes some different comparisons from Tenbensel and Lorgelly (2025), it is important to note the key difference: Tenbensel and Lorgelly focus on health expenditure as a share of GDP, whereas our report focuses on the shares of health expenditure allocated to different functions. Because our comparison is concerned with how governments prioritise different types of health expenditure, the comparability of the overall size of the health budget or the size of the population is less important.

2.7 Presentation of results

Treemap diagrams of the most recent year of health expenditure data

For each country, we present a treemap diagram showing how total health expenditure is allocated across the four major categories of expenditure in the most recent year of available data:

- Total pharmaceutical expenditure
- Delivery of health services
- Long-term residential and home care
- Other health expenditure.

Additional detail is provided by the inclusion of subcategories, with the proviso that these do not allow for the same level of confidence in country comparisons. Subcategories are maintained as per their original source. That is, New Zealand's subcategories of delivery of health services reflect Vote Health appropriations and subcategories of long-term residential and home care reflect the distinction made in New Zealand between services provided to older people and services provided to disabled people. Delivery of health services in OECD comparator countries is subdivided into hospital, ambulatory care, and preventive care providers. Subcategories of major expenditure categories are presented in the same colour for clarity and to assist with comparison at the major category level across countries.

Line charts of the time series of health expenditure data

For each country, we present a line chart showing the time series of health expenditure data at the subcategory level. Subcategories were selected for these charts due to the significant size of expenditure on the delivery of health services compared with other categories of expenditure. Subcategories of delivery of health services allow for better visibility of all categories of expenditure on these charts.

New Zealand time series required alignment of New Zealand health expenditure and Vote appropriations over time, creating an additional category of expenditure which aligns with the OECD-comparable delivery of health services category: DHB and ACC-funded services. This category combines the pre-reforms DHB-funded services with ACC-funded services that were mapped to delivery of health services (see Appendix for methods).



The CPB and the estimated value of aged residential care (ARC) and HCSS were also subtracted from DHB-funded services to provide separate categories of expenditure that are consistent over time and avoid double-counting.

Country comparison heat map

For ease of comparison, we compile the most recent data for each country into a heat map showing how all countries compare across all categories of health expenditure.

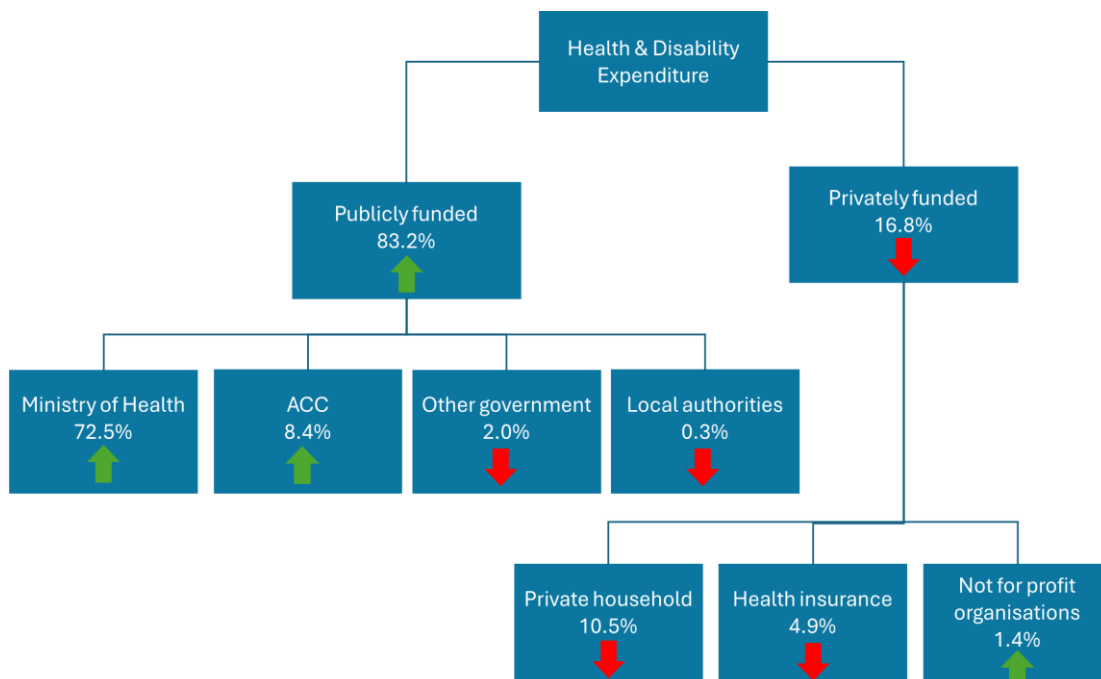
2.8 Limitations

Our methods are not without limitations; however, these are likely to have only minimal impacts on estimates. The most important limitation that we are aware of is the exclusion of some public health expenditure in the New Zealand expenditure data we use. A Ministry of Health report (Ministry of Health 2012) identified that in 2010, other government agencies and local authorities contributed to publicly funded health and disability expenditure, although the magnitude of these contributions was small (2.3 percent of all health and disability expenditure, and only 2.8 percent of publicly funded health and disability expenditure). The report noted that central government agencies contributing small amounts to health and health-related expenditure, included the Ministry of Defence, the Ministry of Social Development, the Department of Corrections, and others.

Current health and disability-related expenditure by these contributors is not readily identifiable. However, because their share of expenditure is likely still very small and likely to include multiple categories of health expenditure (e.g. services and pharmaceuticals), this omission is also expected to have a negligible impact on results (see Figure 7 below).

Figure 7 Percentage shares of New Zealand's total health funding in 2010

With direction of change (increase or decrease) since 2000



Source: NZIER, based on Ministry of Health (2012)

Other limitations and how these have been addressed are discussed in detail in Appendix A.



3 New Zealand

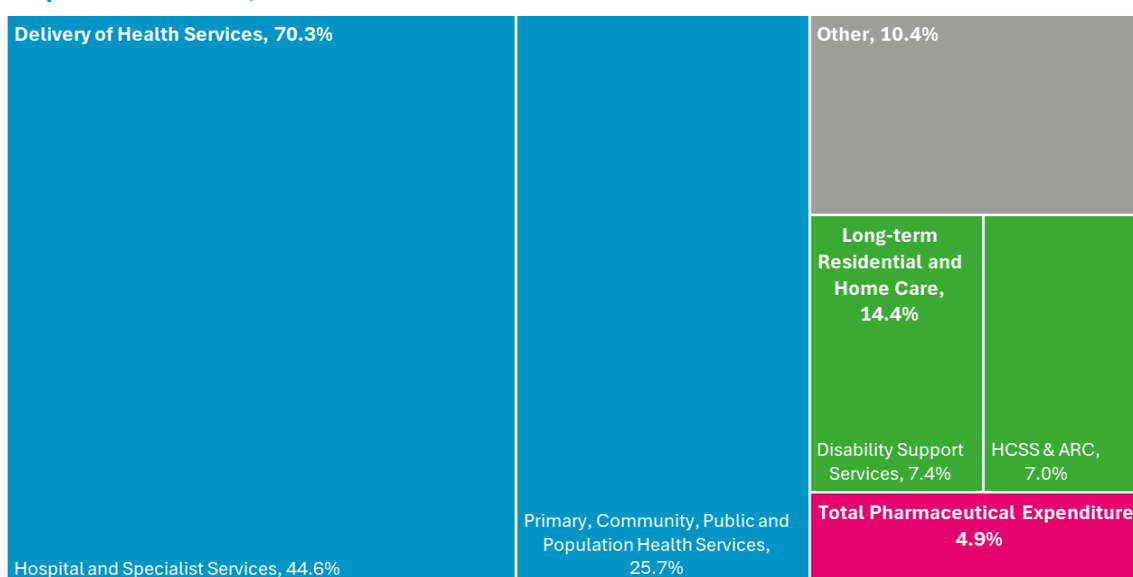
New Zealand has a predominantly tax-funded health system, providing universal coverage through a mix of public and private providers, with general practice acting as a gatekeeper to publicly funded specialist and secondary services. Additional health services, including diagnosis and treatment of injuries, and injury rehabilitation, are funded by ACC. The Ministry of Social Development has funded disability support services since 2024, following two years of funding by Whaikaha, before which these services were funded through Vote Health. Pharmac negotiates and manages the purchase of drugs from suppliers within a fixed budget known as the Combined Pharmaceutical Budget.

New Zealand's allocation of health and disability expenditure through its government and compulsory schemes includes:

- 70.3 percent to delivery of health services, including:
 - 44.6 percent to hospital and specialist services
 - 25.7 percent to primary, community, public and population health services
- 14.4 percent to long-term residential and home-based care, including:
 - 7.4 percent to disability support services
 - 7.0 percent to home and community support services and aged residential care
- 4.9 percent to pharmaceuticals
- 10.4 percent to other categories of health expenditure.

New Zealand's public pharmaceutical expenditure is the lowest allocation to pharmaceuticals of the sample of countries in our analysis at 4.9 percent compared with an average of 13.3 percent. Conversely, New Zealand has the highest share of expenditure on the delivery of health services, at 70.3 percent compared with an average of 61.4 percent.

Figure 8 New Zealand's allocation of government and compulsory scheme health expenditure 2024/25



Source: NZIER



Trends in New Zealand's health and disability system expenditure are difficult to interpret because reporting through Vote appropriations and other sources of data have been inconsistent. The most obvious example is the pre-2022 Vote appropriations' identification of DHB-funded health services, which included the CPB because during that period, Pharmac negotiated on behalf of the DHBs but was not directly allocated the budget (we subtracted the CPB from DHB funding for Figure 9 below). The DHB-funded services also included both hospitals and primary and community-based services.

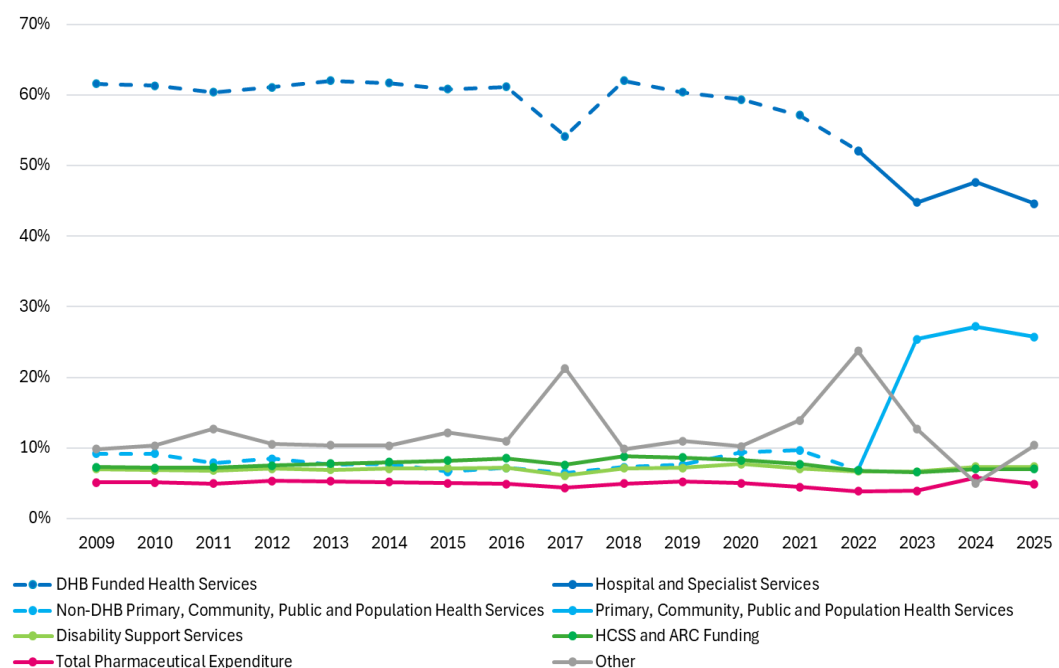
Prior to the health system reforms, the DHBs were funded to deliver secondary, primary and community-based health care to their respective populations. Only a small portion of primary care services were funded via a non-DHB primary health services appropriation. Within DHB funding appropriations, there was no breakdown identifying the DHBs' expenditure on hospital and specialist care versus primary and community-based care.

When the DHBs were amalgamated into Health NZ in 2022, Vote appropriations began referring to "delivery of health services", which was broken down into hospital and specialist services and primary, community, public and population health services. So, the dramatic decrease that the figure below shows in 2023 for hospital and specialist services relative to DHB and ACC funded services actually represents a splitting into two separate appropriations, with a matching increase in primary, community, public and population health services where the new appropriation includes what was previously delivered by the DHBs as well as the non-DHB appropriation for primary health care services.

Across the period 2008/09 to 2024/25, there has been little change in total pharmaceutical expenditure as a share of total health and disability system expenditure.

Figure 9 New Zealand's allocation of health expenditure over time

Fiscal year ending, 2009 to 2025, % of government and compulsory scheme total health expenditure (actual)



Note: DHB and ACC-funded health services (less CPB) represent hospital, primary and community services funded by the DHBs and by ACC prior to the health system reforms. The CPB was subtracted from the DHB appropriations to be presented as a separate series in this chart.

Source: NZIER



4 Australia

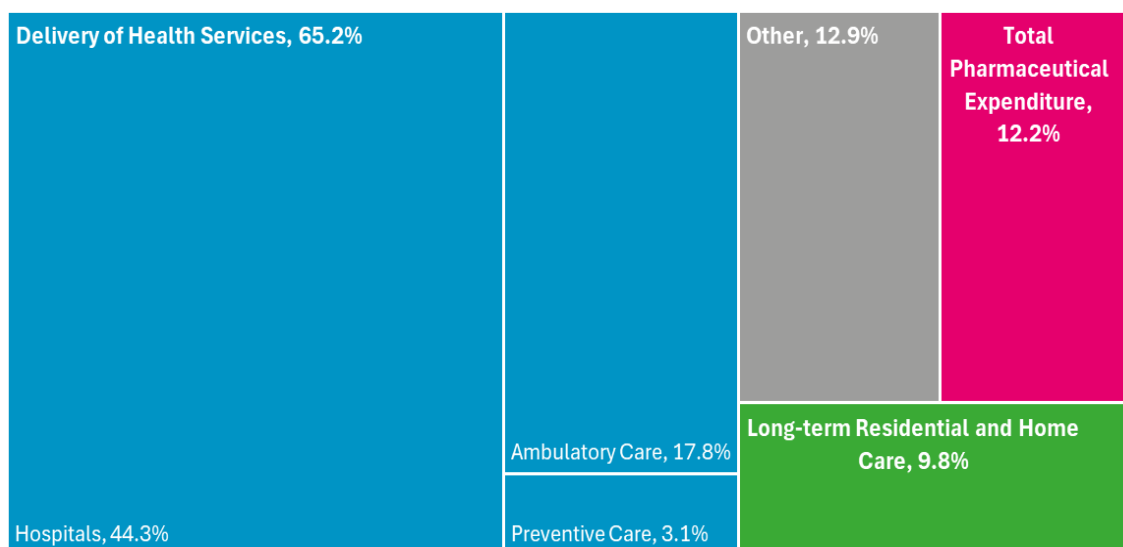
Australia has a regionally administered, universal public health system financed through general tax revenue and a government levy, which provides coverage for primary care and hospital services, pharmaceuticals, and some other services. The federal government provides funding for medicines through the Pharmaceutical Benefits Scheme (PBS). The Australian states own and manage public hospital service delivery, ambulances, public dental care, primary and preventive care, and mental health care, funding these services by topping up federal government contributions. Local governments also play a role in the delivery of community health and preventive health programs (R Tikkanen et al. 2020). 69 percent of Australia's total health spending comes from government and compulsory schemes (OECD 2020b).

OECD health expenditure data reveal that in 2022, Australia's government and compulsory schemes allocated:

- 65.2 percent to delivery of health services:
 - 44.3 percent to hospitals
 - 17.8 percent to ambulatory care providers
 - 3.1 percent to preventive care providers
- 9.8 percent to long-term residential and home-based care
- 12.2 percent to pharmaceuticals
- 12.9 percent to other categories of health expenditure.

Australia's allocation of government and compulsory scheme health expenditure to pharmaceuticals is similar to the sample average of 13.3 percent, and its allocation to the delivery of health services is slightly higher than the average.

Figure 10 Australia's allocation of government and compulsory scheme health expenditure 2022



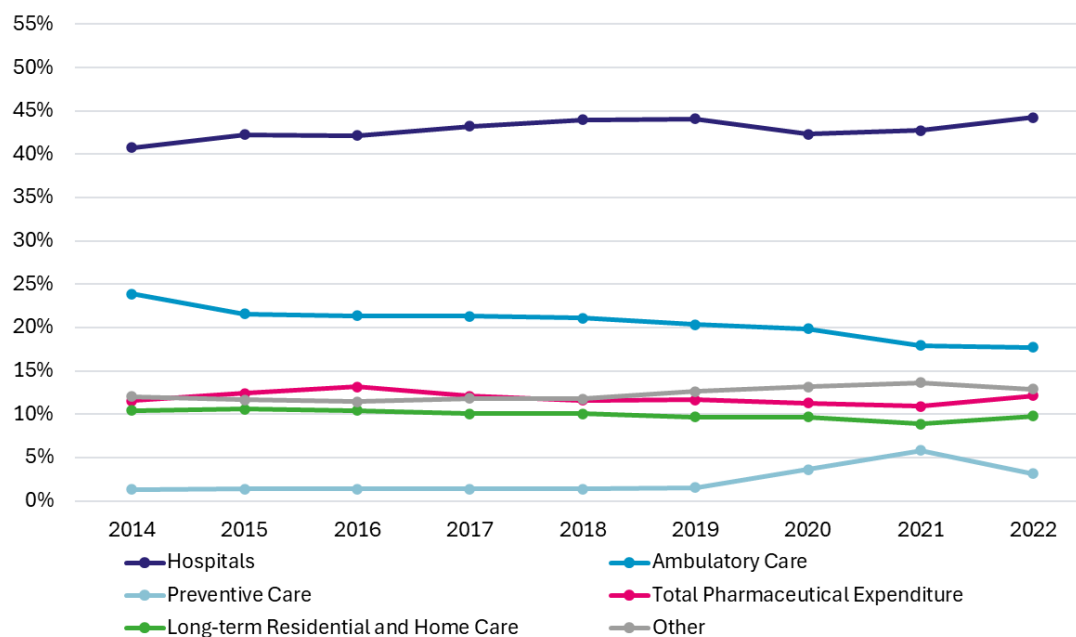
Source: NZIER, based on OECD data



Australia's allocation of health expenditure across these categories has slowly shifted over time, with the allocation to hospitals growing and the allocation to ambulatory health care shrinking. In comparison, its allocation of expenditure to pharmaceuticals has remained fairly constant, varying between 11.6 percent and 13.2 percent of total health and disability system expenditure.

Figure 11 Australia's allocation of health expenditure over time

2014–2022, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



5 Canada

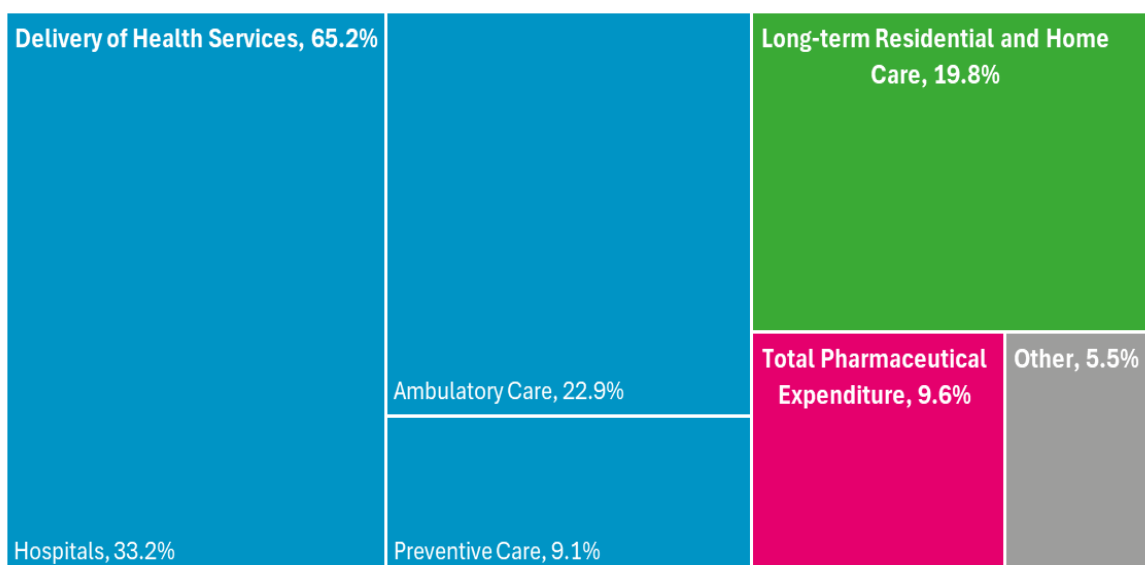
Canada has a decentralised, universal, publicly funded health care system. Healthcare is funded and administered primarily by the Canadian provinces and territories using a combination of their own tax revenue and financial assistance from the federal government. General practitioners act as gatekeepers to secondary care (Roosa Tikkanen et al. 2020). OECD data shows that 70.3 percent of Canada's total health expenditure is financed publicly, while the remaining 29.7 percent is covered by out-of-pocket payments or private insurance.

OECD health expenditure data reveal that in 2023, Canada's government and compulsory schemes allocated:

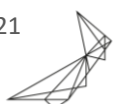
- 65.2 percent to delivery of health services:
 - 33.2 percent to hospitals
 - 22.9 percent to ambulatory care providers
 - 9.1 percent to preventive care providers
- 19.8 percent to long-term residential and home-based care
- 9.6 percent to pharmaceuticals
- 5.5 percent to other categories of health expenditure.

In 2023, Canada's public pharmaceuticals expenditure as a portion of government and compulsory scheme total health expenditure was significantly lower than the average of the sample at 9.6 percent compared with the sample average of 13.3 percent. Its allocation to delivery of health services is the same as Australia's at 65.2 percent – slightly higher than the sample average of 61.4 percent.

Figure 12 Canada's allocation of government and compulsory scheme health expenditure 2023



Source: NZIER, based on OECD data

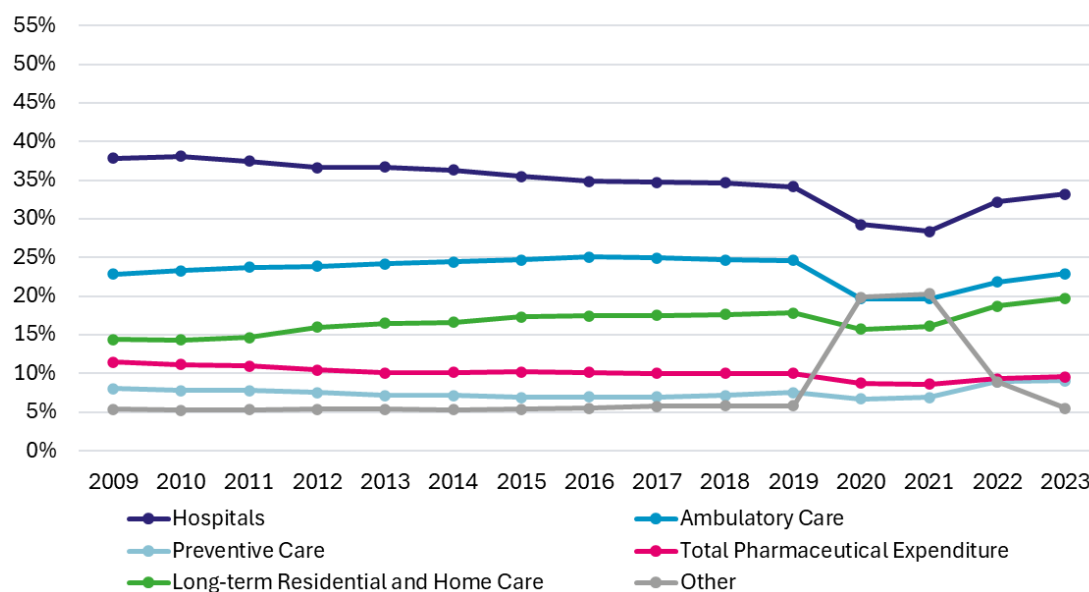


Between 2009 and 2023, Canada's public pharmaceutical expenditure as a portion of total public expenditure decreased slightly from 11.5 to 9.6 percent, with 2021 being the year that Canada allocated the least to pharmaceuticals at 8.6 percent – potentially owing to the COVID-19 pandemic restrictions, which may have had a substantial impact on hospital medicines if many elective services were cancelled. The substantial dip in the allocation to hospitals and ambulatory care, which includes outpatient care, appears to confirm that cancellations of services were significant. The manner in which Canada reported its COVID-19 health expenditure has resulted in a substantial portion of COVID-19-specific costs being captured outside the main categories included in our analysis for 2020 and 2021 and instead appearing in the category of other health expenditure.

Notwithstanding COVID-19-related impacts, a long-term trend apparent in Canada's health expenditure allocations is the shift from hospitals to ambulatory care as well as long-term residential and home-based care. Meanwhile, the allocation to pharmaceuticals slowly decreased from 11.5 percent of health and disability system expenditure in 2009 to 9.6 percent in 2023.

Figure 13 Canada's allocation of health expenditure over time

2009–2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



6 Denmark

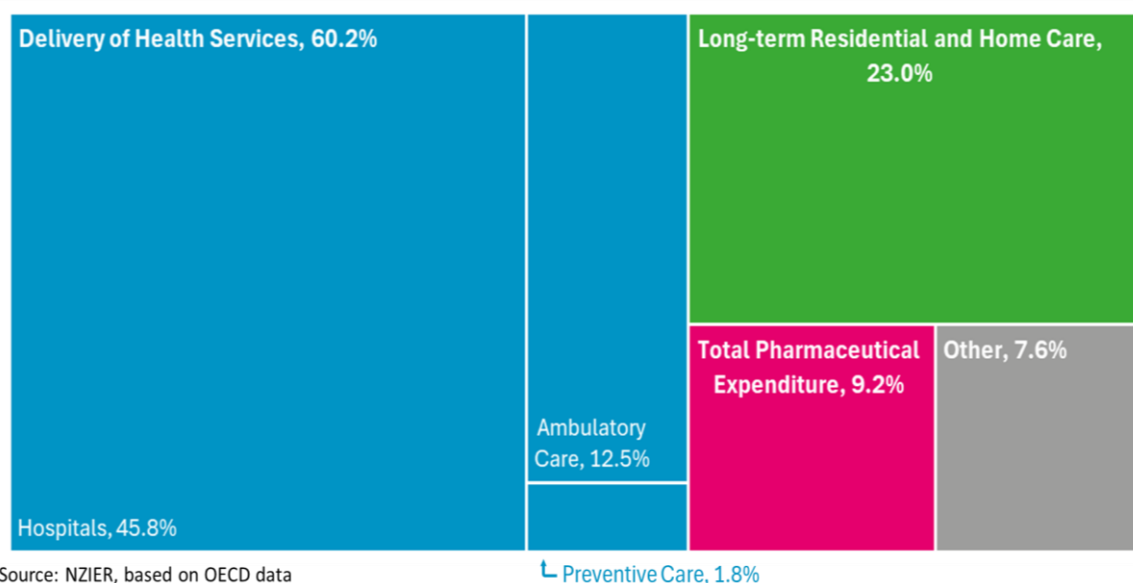
Denmark has a universal tax-financed health system which is organised into three administrative levels: state, region, and municipal. The state holds the overall regulatory, supervisory and fiscal functions while the five regions are responsible for hospitals and for planning and financing primary care services. These primary care services are the first point of contact for patients and have a gatekeeping role to more specialised services. OECD data shows that in 2023, 83.3 percent of Denmark's health spending was funded by government and a compulsory scheme, while out-of-pocket payments accounted for the remaining 16.7 percent. Public pharmaceutical expenditure accounted for 63.7 percent of total pharmaceutical expenditure, and the remaining 36.3 percent of pharmaceutical expenditure was covered by out-of-pocket payments.

OECD health expenditure data reveal that in 2023, Denmark's government and compulsory schemes allocated:

- 60.2 percent to delivery of health services:
 - 45.8 percent to hospitals
 - 12.5 percent to ambulatory care providers
 - 1.8 percent to preventive care providers
- 23 percent to long-term residential and home-based care
- 9.2 percent to pharmaceuticals
- 7.6 percent to other categories of health expenditure.

Among the countries included in the sample, Denmark ranks third lowest in terms of the share of government and compulsory scheme health expenditure allocated to pharmaceuticals (with 9.2 percent allocated to pharmaceuticals compared with the sample average of 13.3 percent).

Figure 14 Denmark's allocation of government and compulsory scheme health expenditure 2023



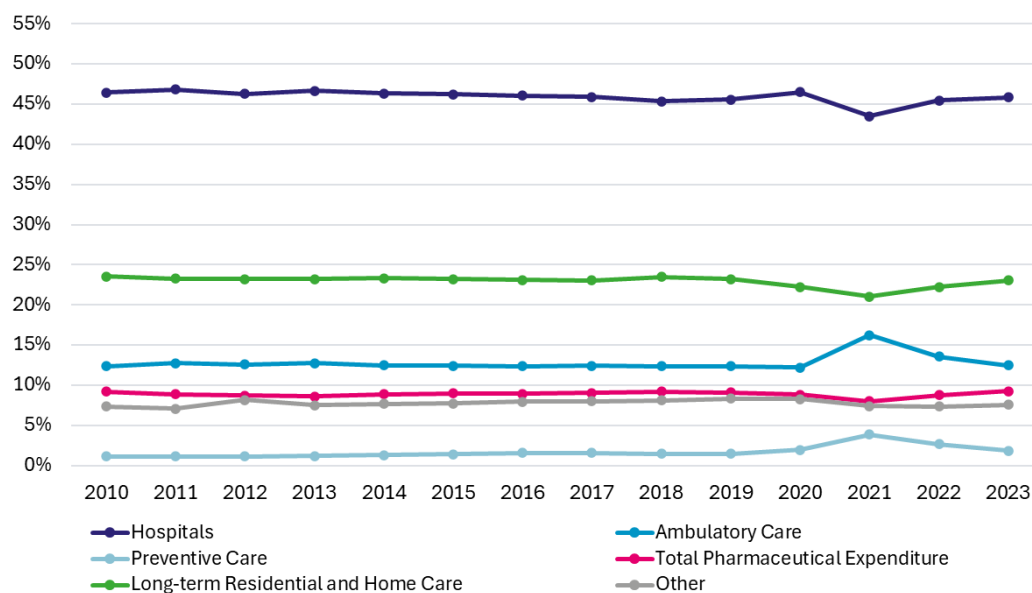
Source: NZIER, based on OECD data



Excluding health expenditure associated with COVID-19 in 2021, there has been no significant variation in Denmark's government and compulsory scheme health expenditure allocation in the past 13 years. Denmark has continually remained among the countries with the lowest allocation of government and compulsory scheme health expenditure on pharmaceuticals.

Figure 15 Denmark's allocation of health expenditure over time

2010–2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



7 Finland

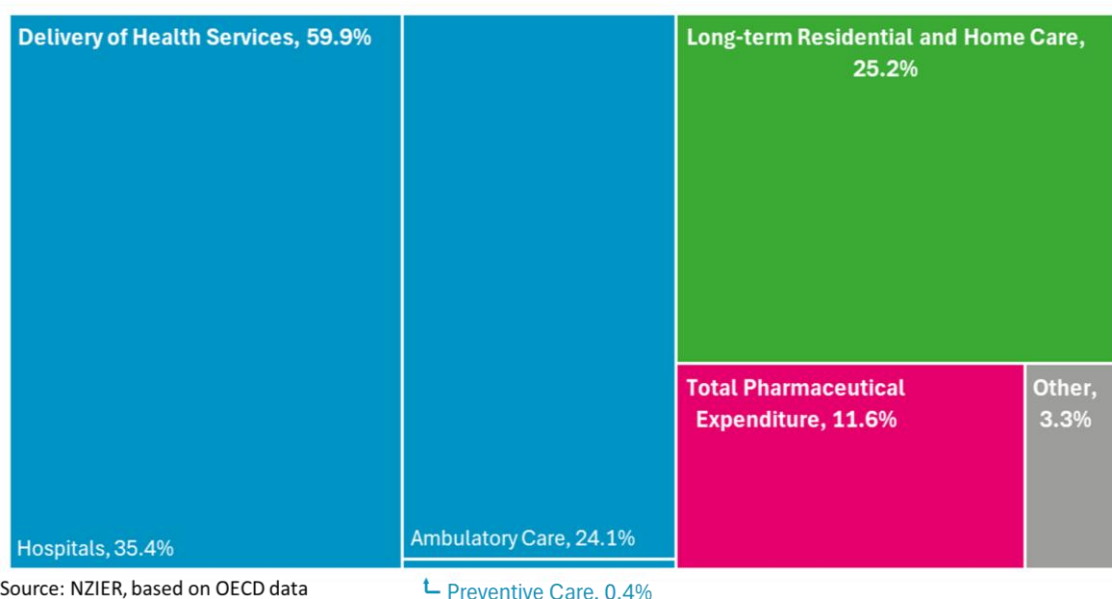
After two decades in the making, a major structural reform has led the Finnish health system to become centralised at the national level. The National Health Insurance system (NHI) is responsible for reimbursing outpatient prescription medicines. The NHI scheme is funded by the state and employees through income-based insurance contributions collected alongside income tax. In Finland, all residents are covered by the public health system, and most employees are additionally covered for primary care services through occupational healthcare (Tynkkynen et al. 2023). OECD data shows that 81 percent of Finland's total health expenditure is covered by government and compulsory schemes. Government and compulsory schemes cover 67.3 percent of pharmaceutical spending with the remaining 32.7 percent being out-of-pocket payments. Pharmaceuticals account for almost a quarter (24 percent) of total out-of-pocket health expenditure.

OECD health expenditure data reveal that in 2023, Finland's government and compulsory schemes allocated:

- 59.9 percent to delivery of health services:
 - 35.4 percent to hospitals
 - 24.1 percent to ambulatory care providers
 - 0.4 percent to preventive care providers
- 25.2 percent to long-term residential and home-based care
- 11.6 percent to pharmaceuticals
- 3.3 percent to other categories of health expenditure.

Finland's government and compulsory scheme allocation to pharmaceuticals is below the sample average of 13.6 percent. Its long-term residential and home care allocation is significantly above the sample average of 16.1 percent.

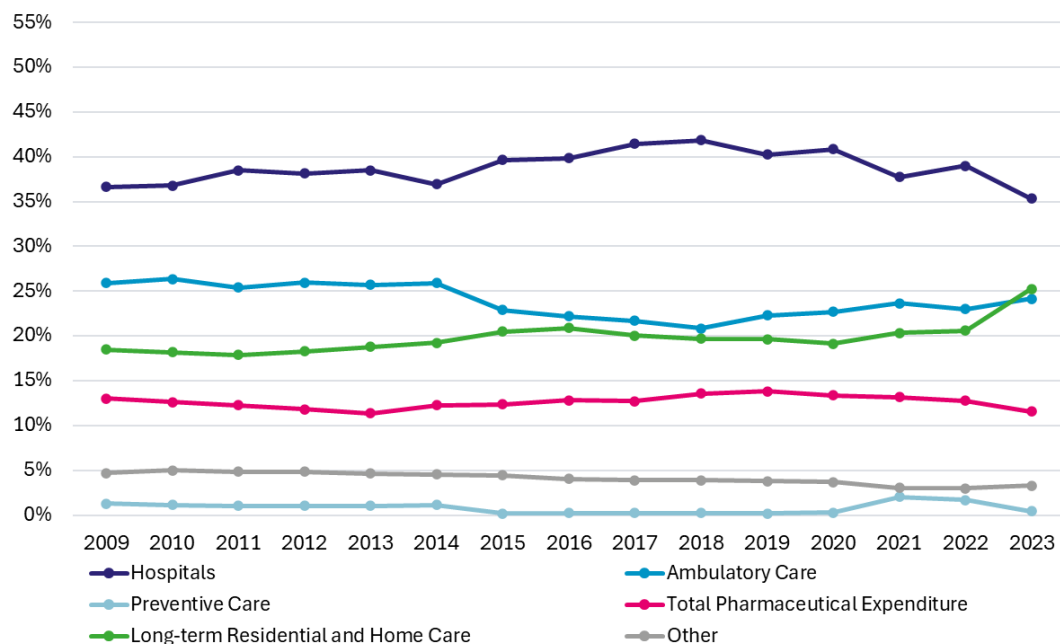
Figure 16 Finland's allocation health expenditure 2023



Since 2019, Finland has reduced the share of health expenditure towards pharmaceuticals. This portion has fallen by 2.8 percentage points from 13.8 percent to 11.6 percent. Over the same period, the portion of government and compulsory scheme health expenditure allocated towards long-term residential and home care has increased by 5.6 percentage points, rising from 19.6 percent to 25.2 percent.

Figure 17 Finland's allocation of health expenditure over time

2009–2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



8 Germany

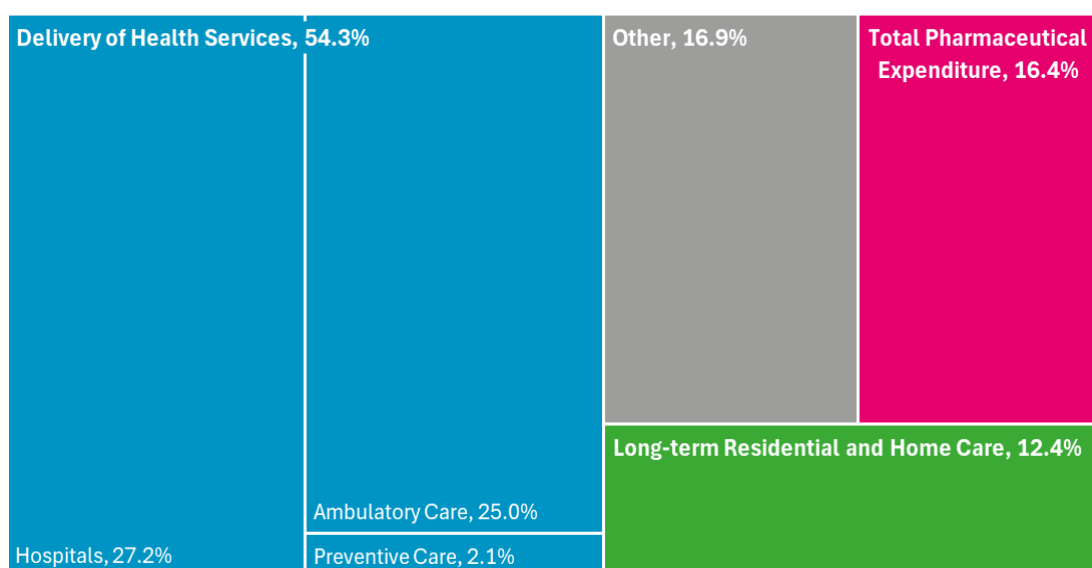
Germany has a mandatory social health insurance (SHI) system. This system provides near-universal health coverage for 89 percent of the population. The remaining 11 percent of Germans are covered through private health insurance. OECD data shows that in 2023, 85.9 percent of Germany's health expenditure was by government and compulsory schemes, with the remaining 14.1 percent met through voluntary schemes and out-of-pocket payments. The share of voluntary schemes and out-of-pocket expenditure on pharmaceuticals is similar at 17.4 percent. Germany's public pharmaceutical expenditure contributes to 85.2 percent of total pharmaceutical expenditure within the country, with out-of-pocket payments making up only 14.8 percent.

OECD health expenditure data reveal that in 2023, Germany's government and compulsory schemes allocated:

- 54.3 percent to delivery of health services:
 - 27.2 percent to hospitals
 - 25 percent to ambulatory care providers
 - 2.1 percent to preventive care providers
- 12.4 percent to long-term residential and home-based care
- 16.4 percent to pharmaceuticals
- 16.9 percent to other categories of health expenditure.

Germany is among the countries allocating the greatest shares of government and compulsory scheme health expenditure to pharmaceuticals and is significantly above the sample average of 13.3 percent. It ranks below the sample average for its allocation to delivery of health services and long-term residential and home care.

Figure 18 Germany's allocation of government and compulsory scheme health expenditure 2023



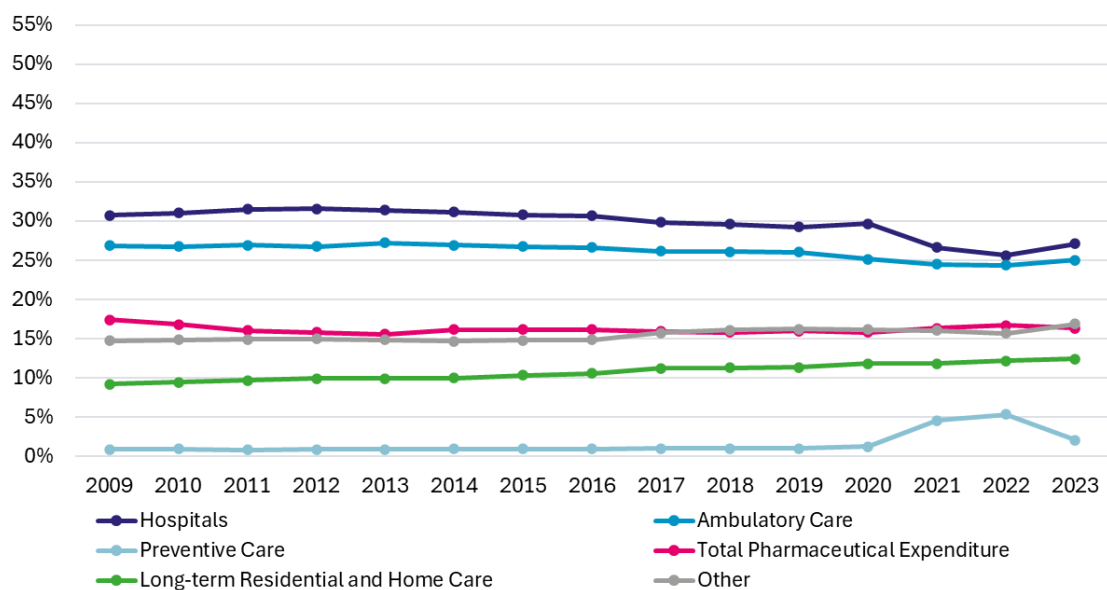
Source: NZIER, based on OECD data



Between 2009 and 2023, the share of government and compulsory scheme health expenditure on pharmaceuticals has constantly remained between 17.4 and 15.6 percent. During the same period, long-term residential and home care expenditure has steadily increased by 3.2 percentage points from 9.2 percent to 12.4 percent of government and compulsory scheme total health expenditure.

Figure 19 Germany's allocation of health expenditure

2009–2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



9 Iceland

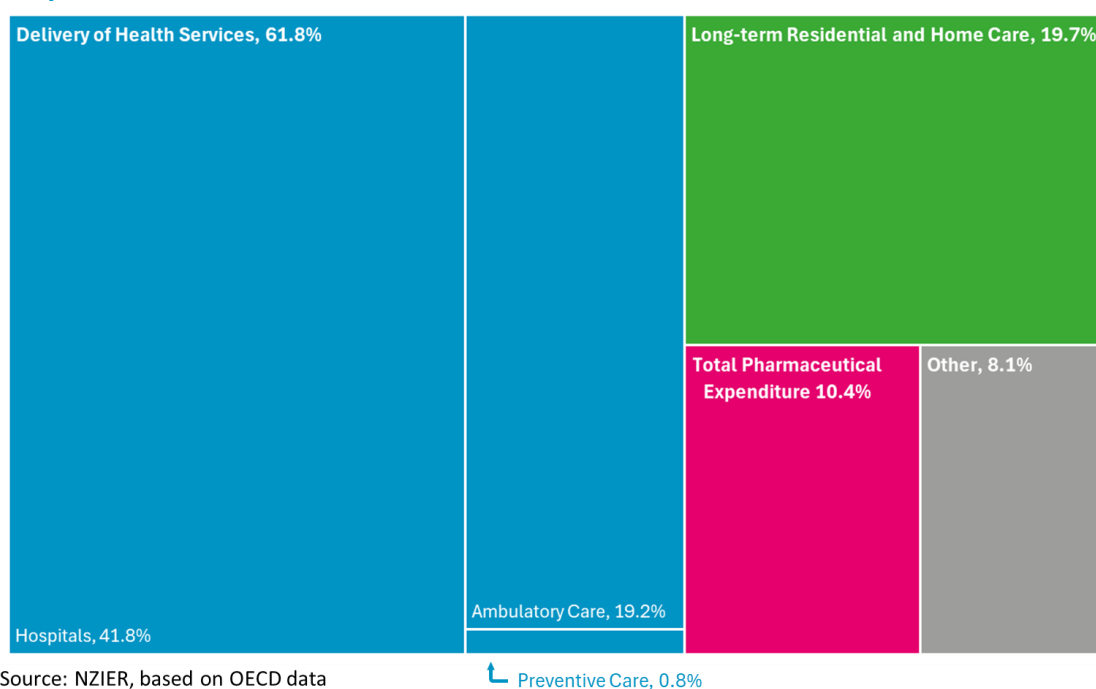
The health system in Iceland is primarily funded through government revenue and covers all legal residents. It operates under an integrated purchaser-provider model, wherein the government serves as both the payer and the owner of most healthcare organisations. The majority of primary care is provided by public healthcare centres, and all hospitals are public. In Iceland, GPs do not act as gatekeepers, allowing patients to seek care directly from private specialists. In 2023, 83.6 percent of total health expenditure in Iceland was covered by government and compulsory schemes, with the remaining 16.4 percent met through voluntary schemes and out-of-pocket payments.

OECD health expenditure data reveal that in 2023, Iceland's government and compulsory schemes allocated:

- 61.8 percent to delivery of health services:
 - 41.8 percent to hospitals
 - 19.2 percent to ambulatory care providers
 - 0.8 percent to preventive care providers
- 19.7 percent to long-term residential and home-based care
- 10.4 percent to pharmaceuticals
- 8.1 percent to other categories of health expenditure.

Iceland's government and compulsory scheme allocation to pharmaceuticals is below the sample average of 13.3 percent. Its allocation to long-term residential and home care is above the sample average of 16.1 percent.

Figure 20 Iceland's allocation of government and compulsory scheme health expenditure 2023

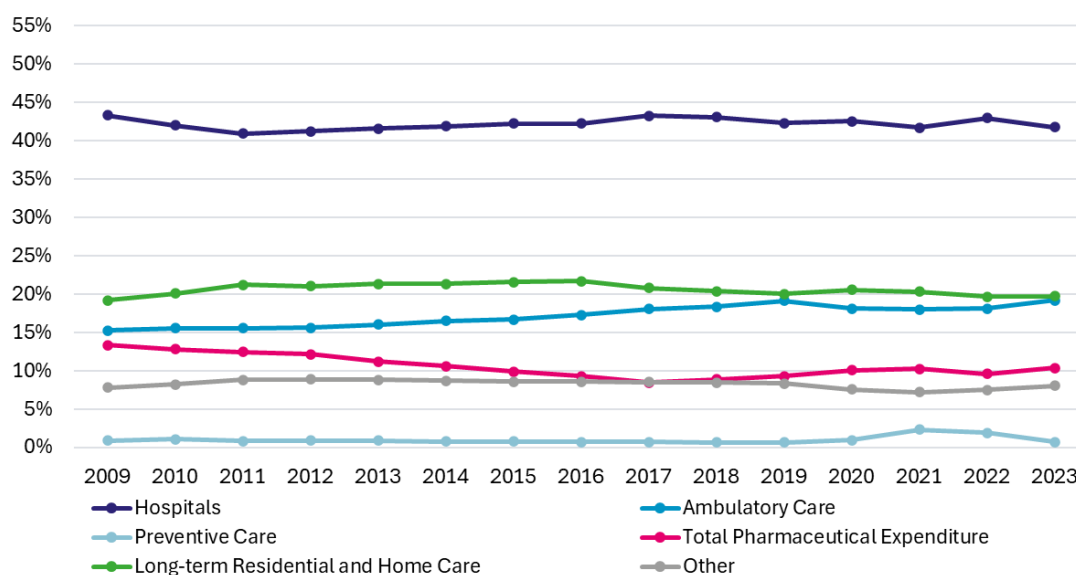


In 2023, Iceland's share of government and compulsory scheme health expenditure spent on pharmaceuticals (10.4 percent) was similar to that of the UK (10.0 percent) and Canada (9.6 percent). At the same time, pharmaceuticals made up 27.7 percent of voluntary and out-of-pocket health expenditure. Of Iceland's total pharmaceutical spend, 65.8 percent was publicly funded, and 34.2 percent was funded privately.

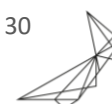
Between 2009 and 2017, the share of Iceland's health expenditure allocated to pharmaceuticals declined 4.9 percentage points from 13.4 to 8.5 percent. Since then, it has gradually risen by 1.9 percentage points to 10.4 percent of total health expenditure in government and compulsory schemes. Ambulatory care as a portion of government and compulsory scheme total health expenditure has risen from 15.3 percent to 19.2 percent over the same 15-year period.

Figure 21 Iceland's allocation of health expenditure over time

2009–2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



10 South Korea

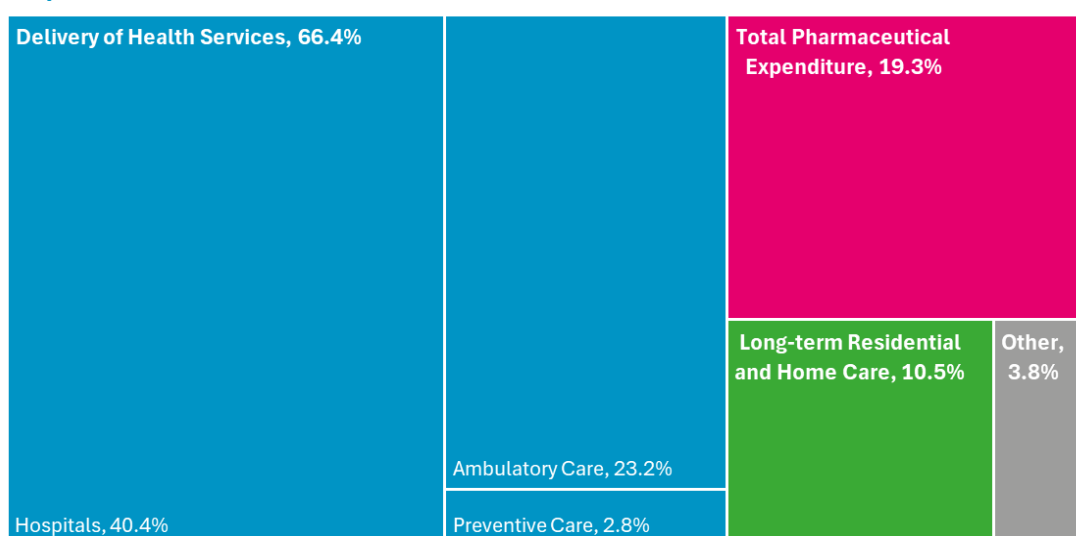
South Korea has a single-payer, universal health care system organised through its compulsory national health insurance system (NHI). The NHI is funded through contributions collected from residents and employers, tobacco surcharges, and government subsidies (World Health Organization 2014). Co-payments are a strong feature of South Korean health care, with patients paying between 30 percent and 80 percent of the cost of care, depending on the service and the patient. The NHI also subsidises pharmaceuticals, leaving patients with a co-payment of around 30 percent of the cost. In 2017, patients paid around 34.7 percent of the cost of care out-of-pocket – substantially higher than the OECD average of 20 percent. Pharmaceuticals make up 27.1 percent of total voluntary and out-of-pocket health expenditure. Overall, pharmaceutical spending is split almost evenly, with 52.1 percent funded publicly and 47.9 percent out-of-pocket payments. (OECD 2020a).

OECD health expenditure data reveal that in 2023, South Korea's government and compulsory schemes allocated:

- 66.4 percent to delivery of health services:
 - 40.4 percent to hospitals
 - 23.2 percent to ambulatory care providers
 - 2.8 percent to preventive care providers
- 10.5 percent to long-term residential and home-based care
- 19.3 percent to pharmaceuticals
- 3.8 percent to other categories of health expenditure.

Among the countries in the sample, South Korea records one of the highest shares of government and compulsory scheme health expenditure allocated to pharmaceuticals at 19.3 percent – significantly higher than the sample average of 13.3 percent.

Figure 22 South Korea's allocation of government and compulsory scheme health expenditure 2023



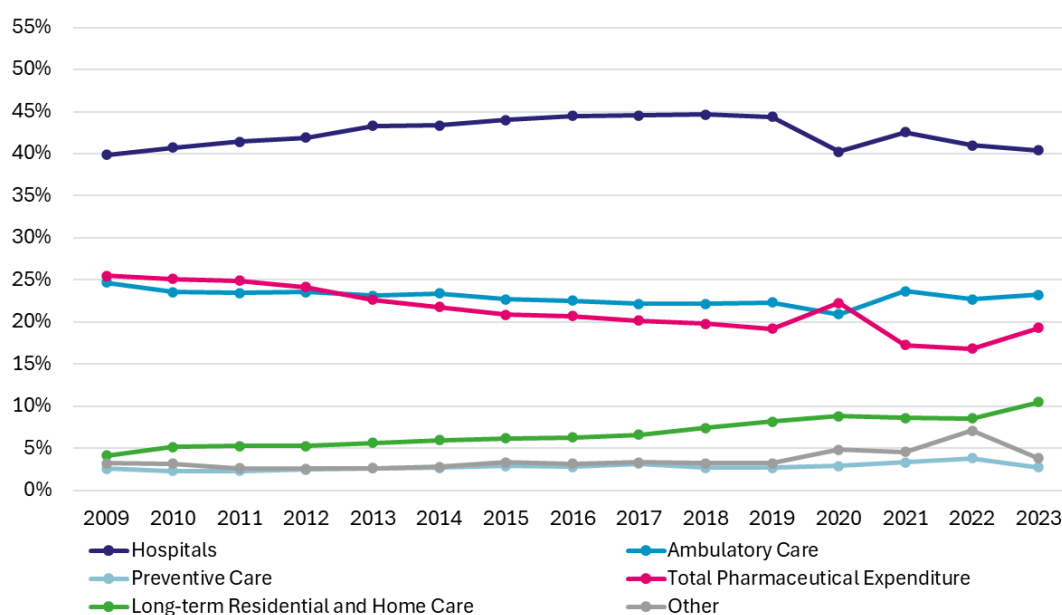
Source: NZIER, based on OECD data



While total health expenditure in South Korea has increased dramatically over the last 15 years (Yoo et al. 2025), the share of government and compulsory scheme health expenditure allocated to pharmaceuticals has declined. Between 2009 and 2023, the share of health expenditure devoted to pharmaceuticals declined by 6.2 percentage points from 25.5 percent to 19.3 percent. In contrast, its share of expenditure on long-term residential and home care has risen steadily from 4.2 percent to 10.5 percent during the same period, likely reflecting the needs of its rapidly ageing population.

Figure 23 South Korea's allocation of health expenditure over time

2009–2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



11 Norway

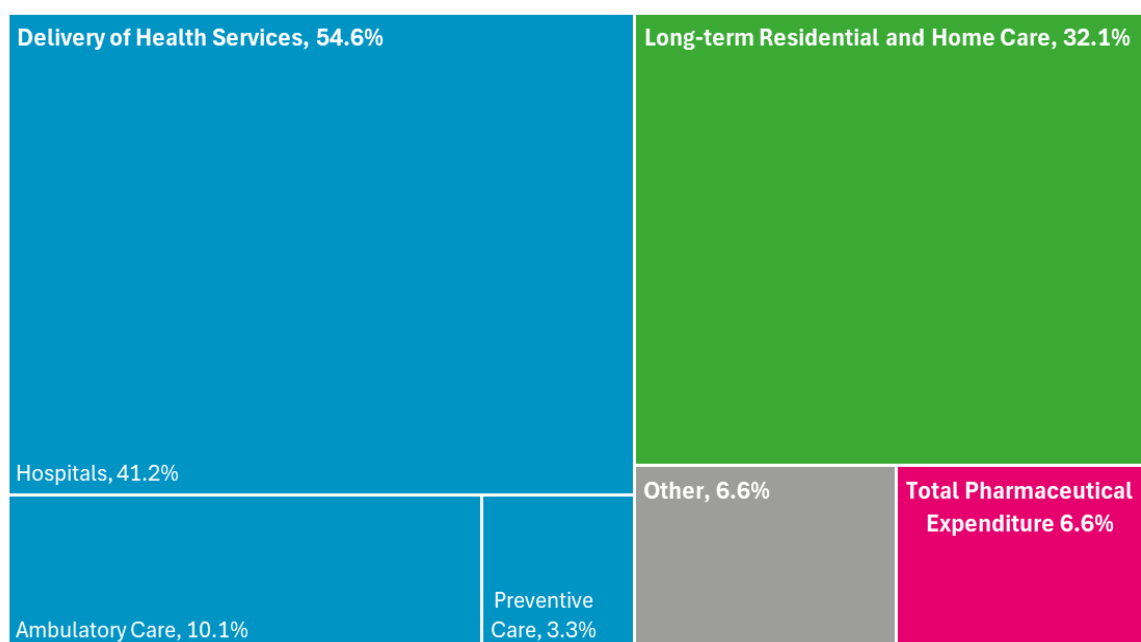
Norway's health system is a tax-financed, universal public system that provides high-quality, accessible, and equitable care, although users pay user fees and co-payments for certain services. Delivery of care is based on some decentralised services, with the regions responsible for specialist and secondary care, while municipalities are responsible for primary care services. Its overall health expenditure is one of the highest in Europe, with public financing accounting for more than 85 percent of total health expenditure (Saunes et al. 2024)

OECD health expenditure data reveal that in 2022, Norway's government and compulsory schemes allocated:

- 54.6 percent to delivery of health services:
 - 41.2 percent to hospitals
 - 10.1 percent to ambulatory care providers
 - 3.3 percent to preventive care providers
- 32.1 percent to long-term residential and home-based care
- 6.6 percent to pharmaceuticals
- 6.6 percent to other categories of health expenditure.

Norway's government and compulsory scheme allocation to pharmaceuticals is significantly below the sample average of 13.3 percent, placing Norway's allocation second to bottom in the sample but still significantly above New Zealand's allocation to pharmaceuticals.

Figure 24 Norway's allocation of government and compulsory scheme health expenditure 2022



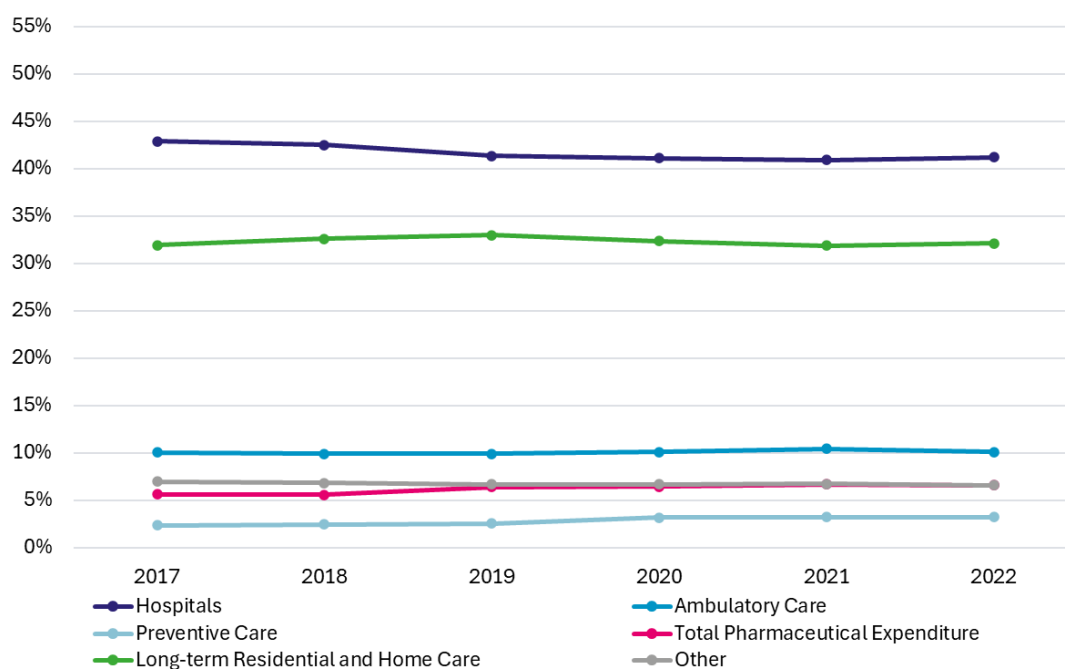
Source: NZIER, based on OECD data



While Norway's reporting of total pharmaceutical expenditure dates back to 2017, the allocation of expenditure has increased from 5.7 percent in 2017 to 6.6 percent in 2022. Some decrease in the share allocated to hospitals has occurred during this period, while the allocation to preventive care has increased slightly.

Figure 25 Norway's allocation of health expenditure over time

2017–2022, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



12 Portugal

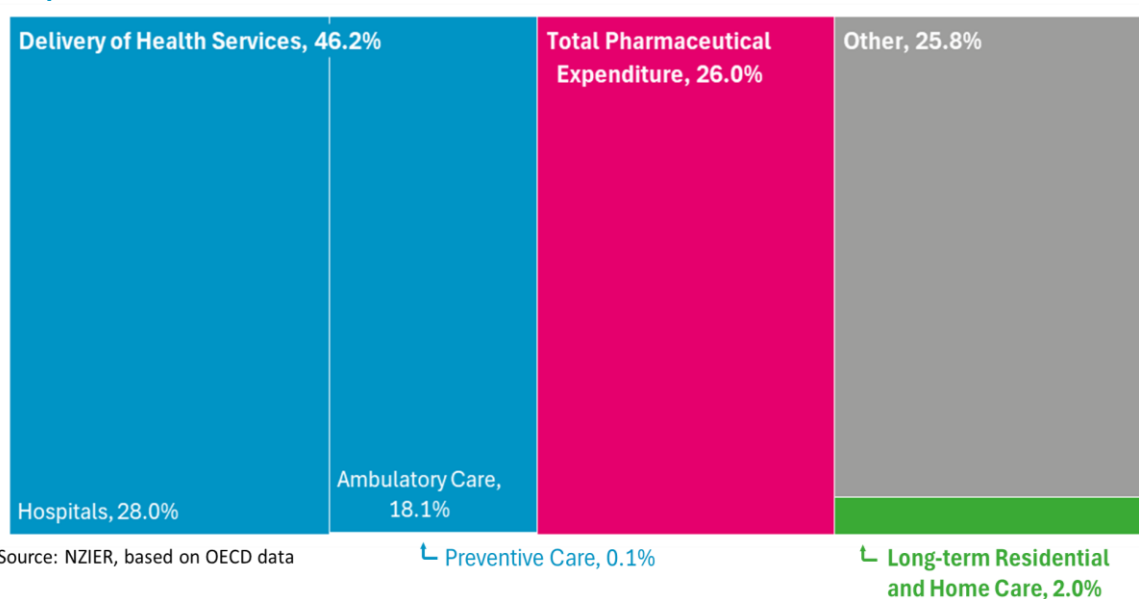
Portugal's National Health Service (NHS) is a universal health system financed primarily through general taxation. General practice acts as a gatekeeper to publicly funded specialist and secondary services (European Commission et al. 2023). Medicines are mostly fully or heavily subsidised. OECD data shows that in Portugal, 62.4 percent of health expenditure is publicly funded, while the remaining 37.6 percent is covered through out-of-pocket payments. Out-of-pocket health expenditure allocated to pharmaceuticals is similar at 25.3 percent. Of all pharmaceutical expenditure in Portugal, 62.4 percent is publicly funded and 37.6 percent is financed privately.

OECD health expenditure data reveal that in 2022, Portugal's government and compulsory schemes allocated:

- 46.2 percent to delivery of health services:
 - 28 percent to hospitals
 - 18.1 percent to ambulatory care providers
 - 0.1 percent to preventive care providers
- 2.0 percent to long-term residential and home-based care
- 26.0 percent to pharmaceuticals
- 25.8 percent to other categories of health expenditure.

Portugal is the only country that allocates less than half of its government and compulsory scheme health expenditure to the delivery of health services through the identified providers, but its other health expenditure category captures substantially more than the average, suggesting that Portugal's services and reporting of health expenditure may vary from common practice. Its public pharmaceutical expenditure is the highest among the countries in our sample at 26 percent, compared with the sample mean of 13.3 percent.

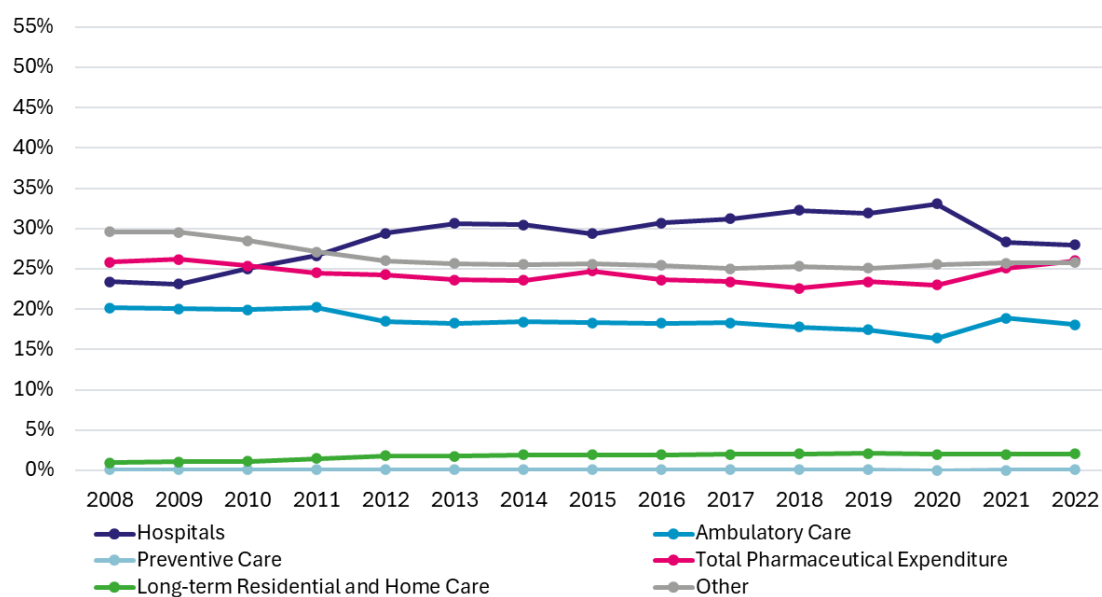
Figure 26 Portugal's allocation of government and compulsory scheme health expenditure 2022



Portugal's health expenditure allocation shows some interesting trends over time. The allocation to hospitals grew significantly in the early 2010s and continued to track upwards from 2015 to 2020 before a significant decline in 2021. The increased share allocated to hospitals came at the expense of the shares allocated to ambulatory care, other health expenditure, and, to a lesser extent, pharmaceuticals, although the latter have returned to their earlier share in recent years.

Figure 27 Portugal's allocation of health expenditure over time

2008–2022, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



13 Spain

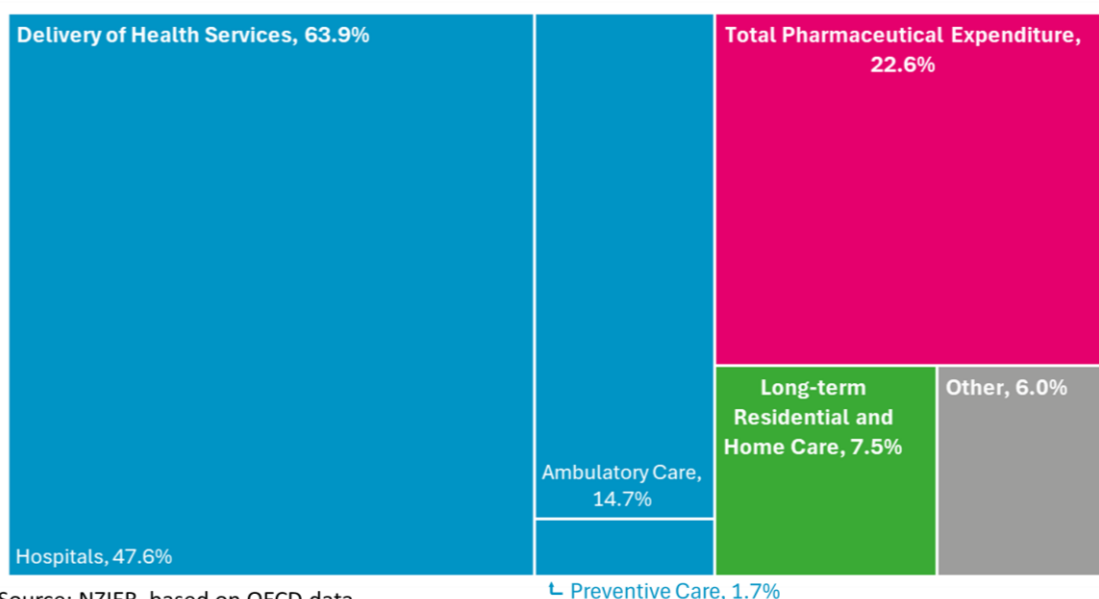
Spain has a decentralised national health system which provides virtually universal and free-of-charge health care mainly funded through general taxation. Spain stands out as having the highest life expectancy among EU countries, along with some of the lowest rates of avoidable hospitalisations and avoidable mortality (from both preventable and treatable causes). The public health system fully or partly subsidises pharmaceuticals to levels designed to ensure out-of-pocket payments (applying to retail medicines only) are affordable to patients (European Observatory on Health Systems and Policies et al. 2024). OECD data show that out-of-pocket payments account for 26.8 percent of Spain's health expenditure, while 73.2 percent is covered by government and compulsory schemes.

OECD health expenditure data reveal that in 2023, Spain's government and compulsory schemes allocated:

- 63.9 percent to delivery of health services:
 - 47.6 percent to hospitals
 - 14.7 percent to ambulatory care providers
 - 1.7 percent to preventive care providers
- 7.5 percent to long-term residential and home-based care
- 22.6 percent to pharmaceuticals
- 6.0 percent to other categories of health expenditure.

Spain has the second-largest share of spending on pharmaceuticals at 22.6 percent – significantly higher than the sample average of 13.3 percent and with only Portugal allocating more (26 percent). Spain's allocation to long-term residential and home care is significantly below the sample average of 16.1 percent.

Figure 28 Spain's allocation of government and compulsory scheme health expenditure 2023



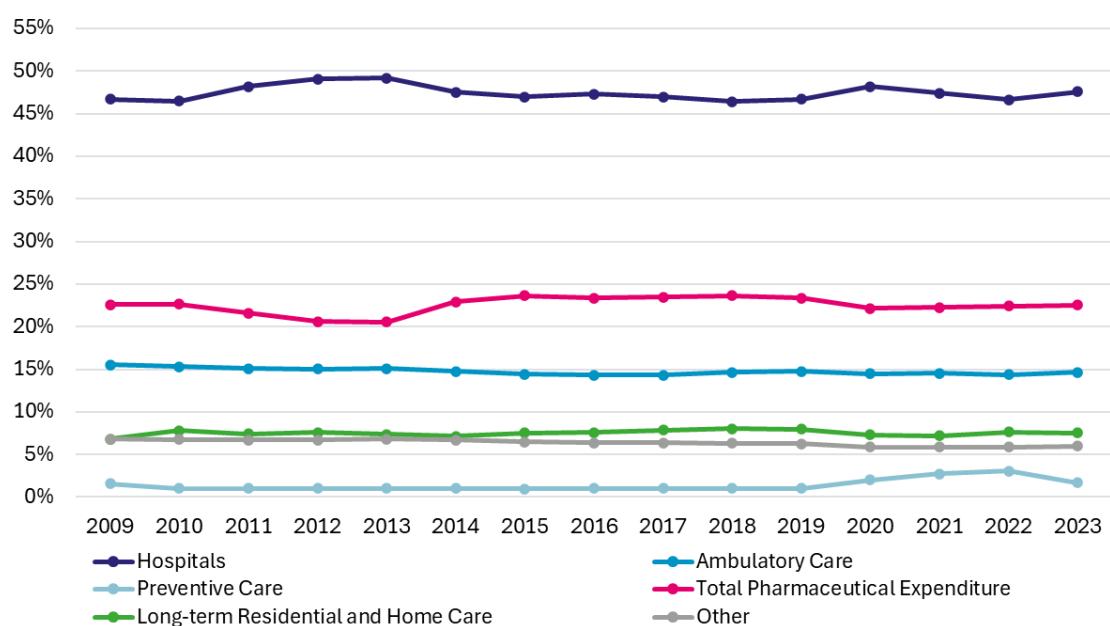
Source: NZIER, based on OECD data



Spain's allocation to pharmaceuticals has remained relatively consistent over 15 years, varying between 20 and 24 percent of the total health expenditure of its government and compulsory schemes. The pattern of expenditure allocation shows that allocations to pharmaceuticals tend to move inversely to allocations to hospitals. The boost to the allocation to preventive care, which began during the COVID-19 pandemic and continued through 2022, had ended by 2023.

Figure 29 Spain's allocation of health expenditure over time

2009-2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



14 Switzerland

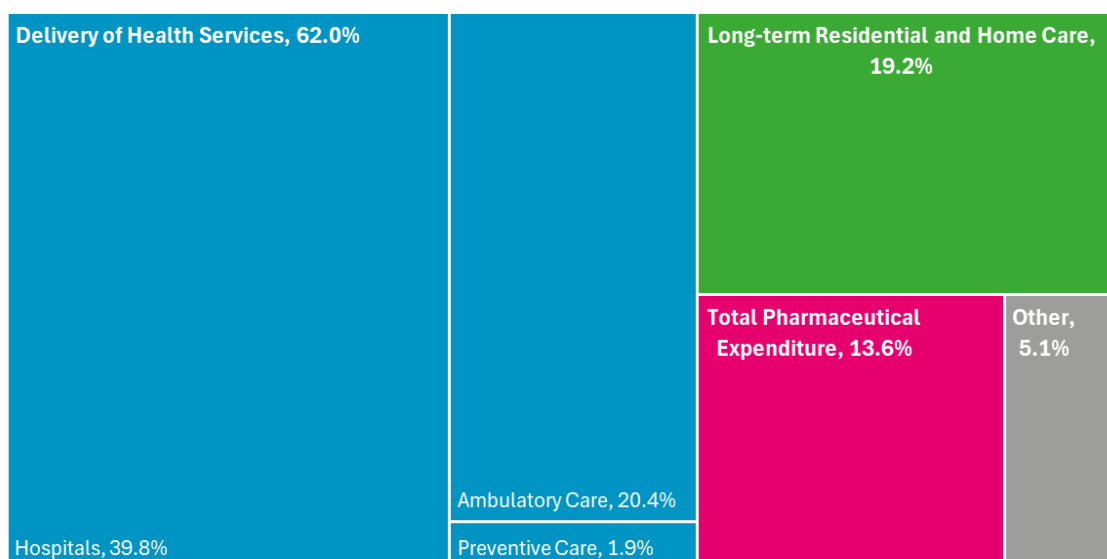
Switzerland's health system is a universal, federally regulated, but provisioned by a private insurance system where basic health insurance is compulsory for all residents, who choose from competing insurance funds. Universal access to health care through its compulsory health insurance scheme has only been in place since 1996. Cantons manage the delivery of health services, including both primary and secondary care (De Pietro et al. 2015). OECD data shows that two-thirds of total health expenditure is publicly funded, while the remaining third is covered by out-of-pocket payments. 75.9 percent of pharmaceutical expenditure in Switzerland is publicly funded, while 24.1 percent is privately funded.

OECD health expenditure data reveal that in 2023, Switzerland's government and compulsory schemes allocated:

- 62 percent to delivery of health services:
 - 39.8 percent hospitals
 - 20.4 percent to ambulatory care providers
 - 1.9 percent to preventive care providers
- 19.2 percent to long-term residential and home-based care
- 13.6 percent to pharmaceuticals
- 5.1 percent to other categories of health expenditure.

Switzerland's government and compulsory scheme allocation to pharmaceuticals is slightly over the sample average of 13.3 percent, and its allocation to delivery of health services is also close to the average of 61.4 percent. Switzerland allocates a greater-than-average share to long-term residential and home care, with 19.2 percent allocated to this category of health expenditure, compared with an average of 16.1 percent for the sample.

Figure 30 Switzerland's allocation of government and compulsory scheme health expenditure 2023



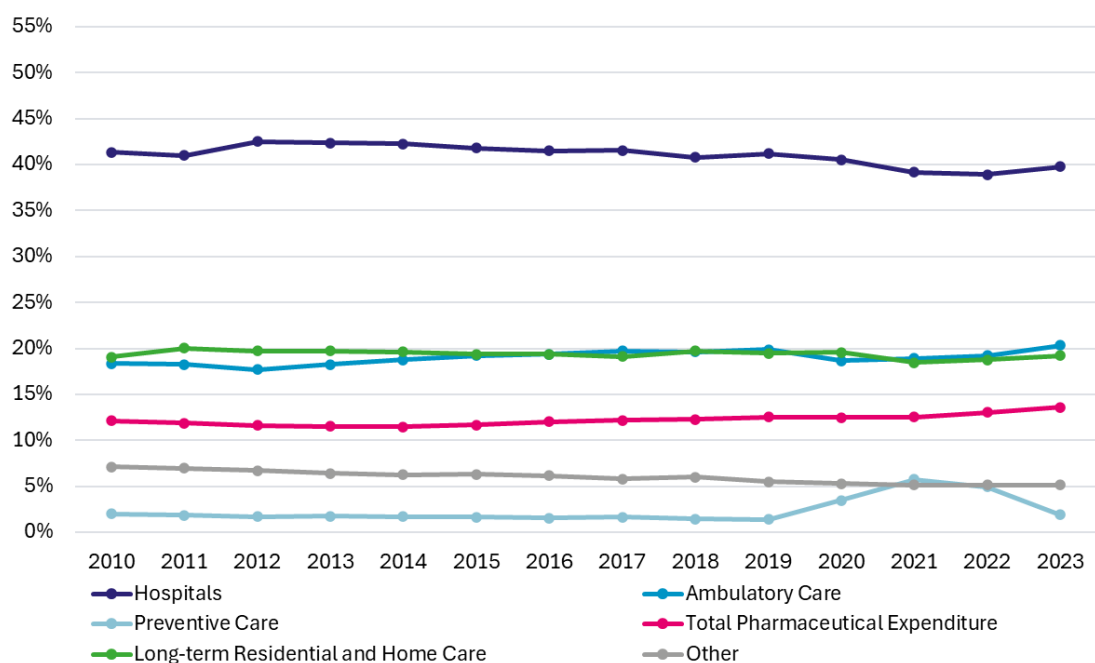
Source: NZIER, based on OECD data



Switzerland's allocation of health expenditure within government and compulsory schemes has remained fairly constant over time, with only a notable boost to preventive care during the COVID-19 pandemic. However, two subtle trends are apparent: a decreasing allocation to hospitals from 2012 to 2023, matched by an increasing share to pharmaceuticals, with the allocation to the latter increasing gradually from 11.5 percent in 2014 to 13.6 percent in 2023.

Figure 31 Switzerland's allocation of health expenditure over time

2010-2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



15 United Kingdom

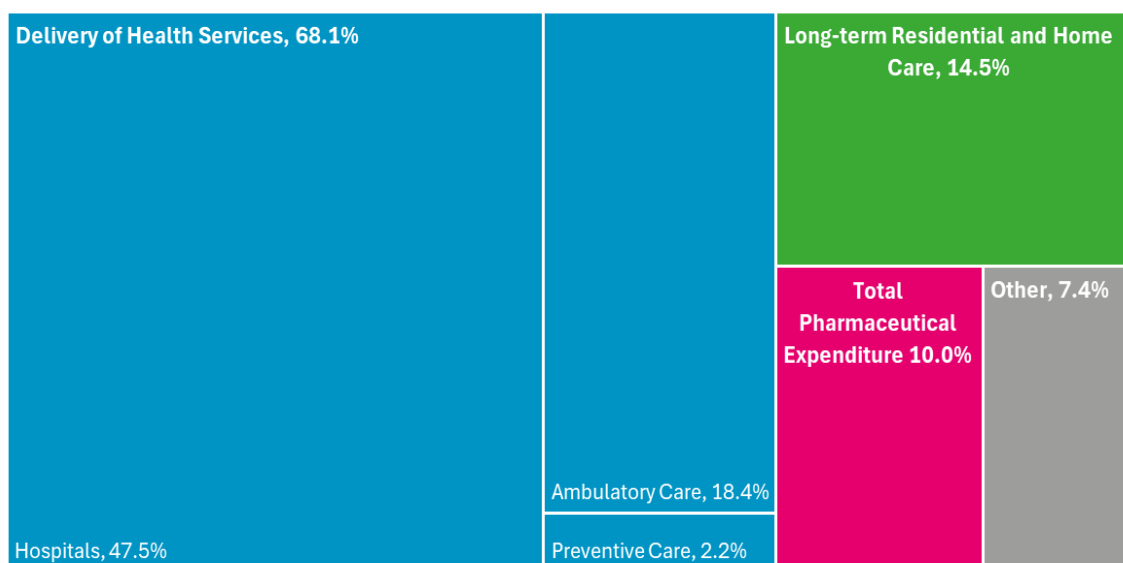
The United Kingdom has a universal, tax-funded national health service (NHS). Primary and secondary care, and emergency services are provided free of charge. In 2019, health care expenditure accounted for 10.2 percent of GDP, and public funding for health care accounted for roughly 80 percent of total health expenditure, making the UK's health system one of the most comprehensive in the OECD. Co-payments are charged for dental care, ophthalmic services, social care and outpatient (retail) prescription medicines (in England only), although some patient groups are exempt from co-payments (Anderson et al. 2022).

OECD health expenditure data reveal that in 2023, the UK's government and compulsory schemes allocated:

- 68.1 percent to delivery of health services:
 - 47.5 percent to hospitals
 - 18.4 percent to ambulatory care providers
 - 2.2 percent to preventive care providers
- 14.5 percent to long-term residential and home-based care
- 10.0 percent to pharmaceuticals
- 7.4 percent to other categories of health expenditure.

The United Kingdom, similarly to New Zealand, allocates a large but slightly lower portion of its government and compulsory scheme health expenditure to the delivery of health services (68.1 percent, compared with New Zealand's 70.3 percent). But its share assigned to pharmaceuticals is twice that of New Zealand's (10 percent compared with 4.9 percent), even though it is well below the sample average of 13.3 percent.

Figure 32 United Kingdom's allocation of government and compulsory scheme health expenditure 2023



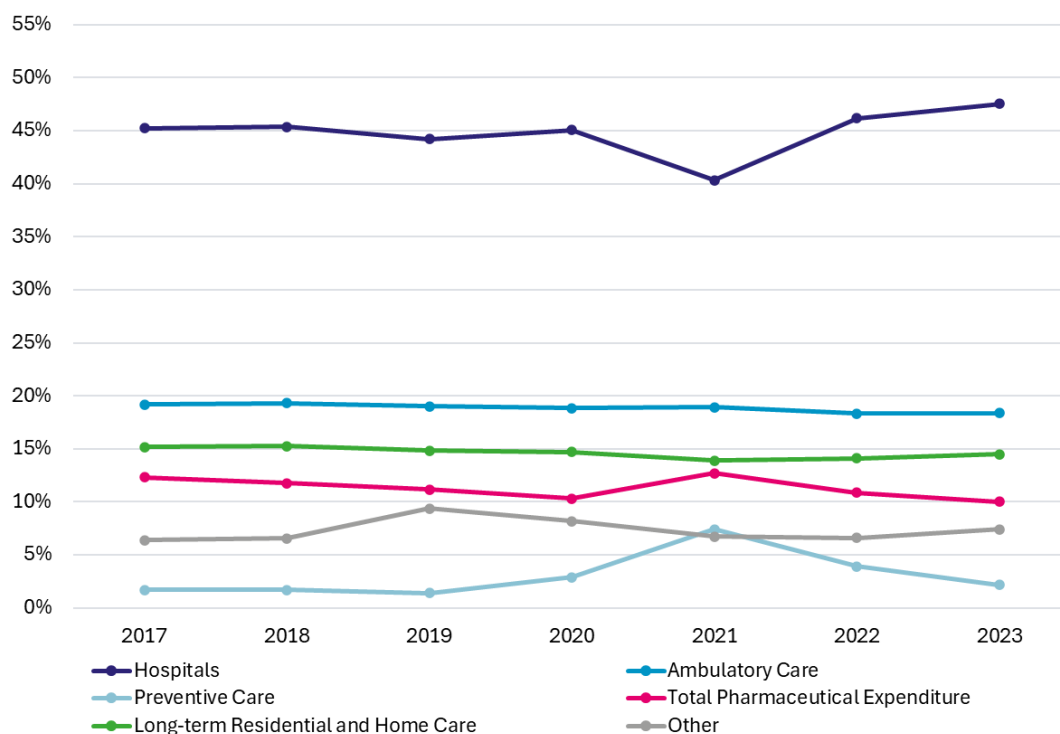
Source: NZIER, based on OECD data



The UK has only reported total pharmaceutical expenditure to the OECD since 2017. Over this period, total pharmaceutical expenditure (TPE) fell slightly in the pre-COVID period, increased during the peak of the COVID-19 pandemic and then declined again. Other notable trends are largely COVID-19-related, with opposing movements in the shares of expenditure to hospitals and preventive care in 2021.

Figure 33 United Kingdom's allocation of health expenditure over time

2017-2023, % of government and compulsory scheme total health expenditure



Source: NZIER, based on OECD data



16 All countries' pharmaceutical allocations over time

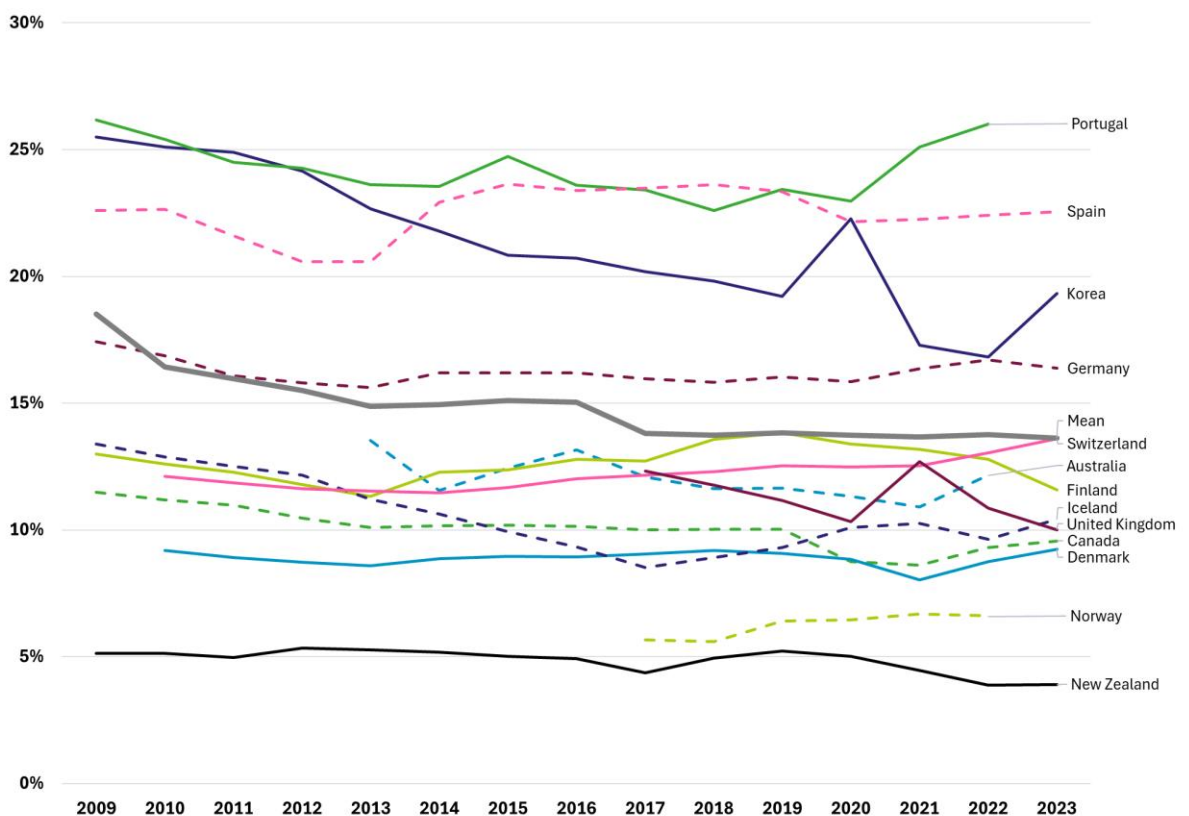
The figure below shows the government and compulsory scheme allocations to pharmaceuticals for all the countries in the sample for the years for which data is available. The data shows that New Zealand has remained well below the average and at the bottom of the set of comparable countries since at least 2009.

The data also shows that, while countries with a high proportion of health expenditure devoted to pharmaceuticals have clearly tried to reduce this (see, for example, Portugal pre-COVID and Korea), which has also resulted in a decreasing average, countries with lower proportions of expenditure devoted to pharmaceuticals have kept the proportion relatively stable.

Where countries with lower pharmaceutical expenditure have seen a declining share of health expenditure devoted to pharmaceuticals, the trend has typically been reversed once pharmaceutical expenditure has dipped below 10 percent of total health expenditure (see, for example, the United Kingdom and Canada). Apart from New Zealand, only Denmark and Norway have consistently maintained total pharmaceutical expenditure below 10 percent of total health expenditure, but Denmark has been significantly above New Zealand, and Norway's shorter time series shows a growing gap between the share it allocates to pharmaceuticals and the share allocated by New Zealand.

Figure 34 Allocation to pharmaceuticals – all countries, over time

12 OECD reporting countries + New Zealand and mean (average) 2009-2023, % of government and compulsory schemes health expenditure



Source: NZIER, based on OECD data



17 All countries' health expenditure allocations by category

The table below presents a summary assessment of the entire sample's most recent year of health expenditure allocations compared with the average for the sample. The chart shows that:

- New Zealand's total pharmaceutical expenditure is the lowest of the set of comparable countries at 4.9 percent, compared with an average of 13.3 percent and the range of comparator countries being 6.6 percent (Norway) to 26 percent (Portugal). Australia and the United Kingdom – countries the New Zealand health system is often compared with – both allocate more than double the share of health spending to pharmaceuticals at 12.2 percent and 10 percent, respectively.
- New Zealand's low share of expenditure devoted to pharmaceuticals is counterbalanced by its share of expenditure on delivering health services, which, at 70.3 percent, is the highest in the sample, higher than the average allocation of 61.4 percent and significantly higher than the lowest at 46.2 percent (Portugal, which also has the highest allocation to pharmaceuticals).

Optimisation of resources for efficiency and best outcomes requires the right balance between pharmaceutical expenditure and health services expenditure. As an extreme outlier amongst comparable countries, New Zealand is operating with a balance that other countries appear to perceive as sub-optimal.

Table 4 Health expenditure allocation heatmap

Based on most recent year of available data

	Delivery of health services	Total pharmaceutical expenditure	Long-term residential and home care	Other health expenditure
Average (mean)	61.4%	13.3%	16.1%	9.2%
Australia	65.2%	12.2%	9.8%	12.9%
Canada	65.2%	9.6%	19.8%	5.5%
Denmark	60.2%	9.2%	23.0%	7.6%
Finland	59.9%	11.6%	25.2%	3.3%
Germany	54.3%	16.4%	12.4%	16.9%
Iceland	61.8%	10.4%	19.7%	8.1%
Korea	66.4%	19.3%	10.5%	3.8%
New Zealand	70.3%	4.9%	14.4%	10.4%
Norway	54.6%	6.6%	32.1%	6.6%
Portugal	46.2%	26.0%	2.0%	25.8%
Spain	63.9%	22.6%	7.5%	6.0%
Switzerland	62.0%	13.6%	19.2%	5.1%
United Kingdom	68.1%	10.0%	14.5%	7.4%

Notes: Most recent year for Portugal, Australia, and Norway is 2022; most recent year for New Zealand is 2025. The most recent year for other countries is 2023. Average calculated from the most recent year of data for each country (2022–2025).

Source: NZIER



17.1 Health outcomes in New Zealand and comparator countries

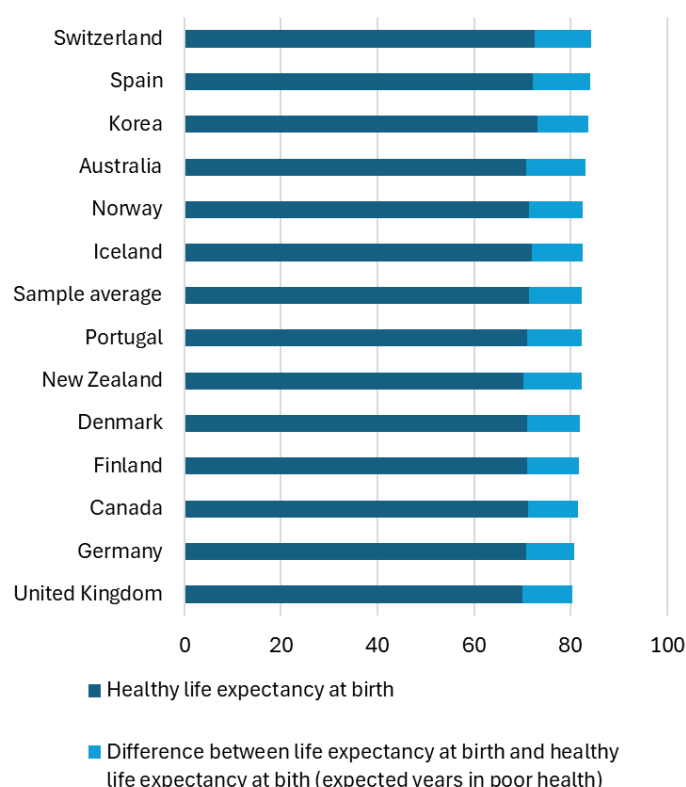
The right mix of health system inputs is unknown. What is right for one system and its population will almost certainly be different from what is right for another. However, it is important to consider health outcomes along with the allocation of resources within a system as there is bound to be some relationship.

Two major health outcomes reported across all countries in our sample are life expectancy at birth and health-adjusted or healthy life expectancy at birth. These two health outcomes considered together provide a high-level view of the health of the population. A population that enjoys good health outcomes should have a high life expectancy at birth and a high percentage of years spent in good health (healthy life expectancy should be a high percentage of life expectancy) because health interventions should aim to provide both length of life and quality of life.

Looking at the sample of countries in our analysis, the average life expectancy at birth is 82.4 years, and the average healthy life expectancy at birth is 71.3 years. New Zealand is slightly below the average life expectancy at birth (82.3 years) and over a year below the healthy life expectancy at birth (70.2 years).

Figure 35 Breakdown of life expectancy at birth into healthy and unhealthy years

Based on health-adjusted life expectancy 2019 and life expectancy at birth in the latest year (range 2020–2023)



Source: NZIER based on data from Public Health Agency of Canada (2025)

This means that while the average country in our sample has a population that expects to spend 87 percent of its life in good health, New Zealanders may only expect to spend 85 percent of their lives in good health. To put that into perspective, if New Zealanders spent



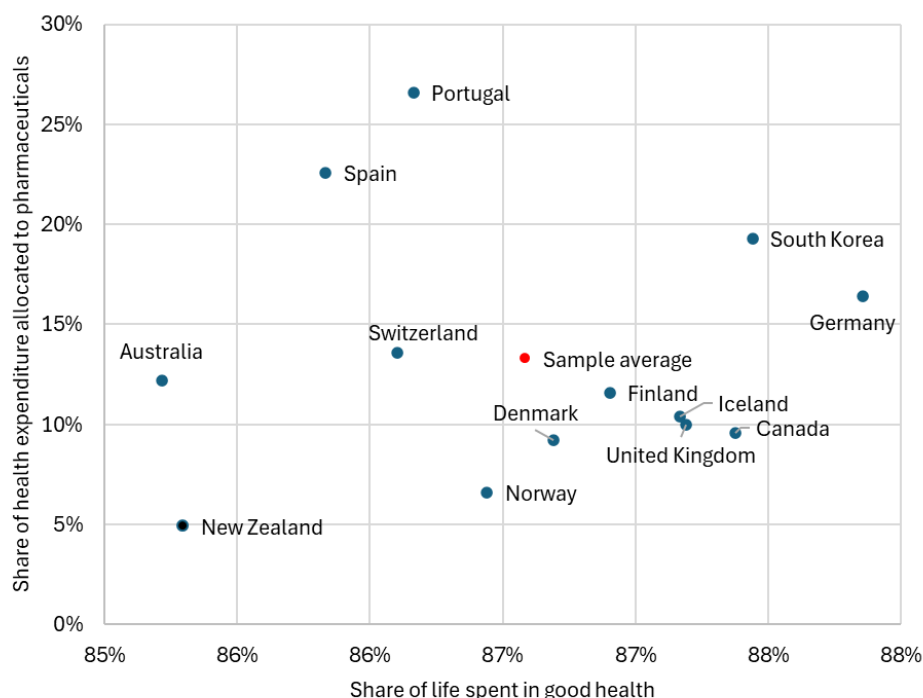
87 percent of their lives in good health, this would mean an additional 1.4 years (17 months) of good health. For some people, that would be 1.4 additional years in the workforce, or 1.4 years living independently at home instead of in aged residential care. Even spread over a lifetime, the additional health gains would likely translate into increased productivity resulting from reduced absenteeism and presenteeism as well as greater wellbeing. The health system costs would also be significant as poor health drives demand for costly services – a fact acknowledged by the Treasury in its long term fiscal statement (The Treasury 2025).

According to the Treasury (2024), Pharmac investments reveal a value of \$44,783 per quality adjusted life year (QALY), so an additional 1.4 QALYs per person would mean a value of \$62,296 per person, or up to \$3.7 billion annually¹.

The role that New Zealand's low allocation to pharmaceuticals plays in our almost last equal place in the sample ranking on the share of life years spent in good health cannot be determined from our analysis, but the sample does show some clustering at higher levels of pharmaceutical expenditure (around 10 percent) and higher share of life lived in good health (see Figure 36 below).

Similarly, the results indicate that New Zealand's high allocation of expenditure to the delivery of health services does not result in better health outcomes than other countries in the sample, with most health systems that allocate less to health services achieving a greater share of life lived in good health (see Figure 37 below).

Figure 36 Share of life lived in good health and allocation of health expenditure to pharmaceuticals

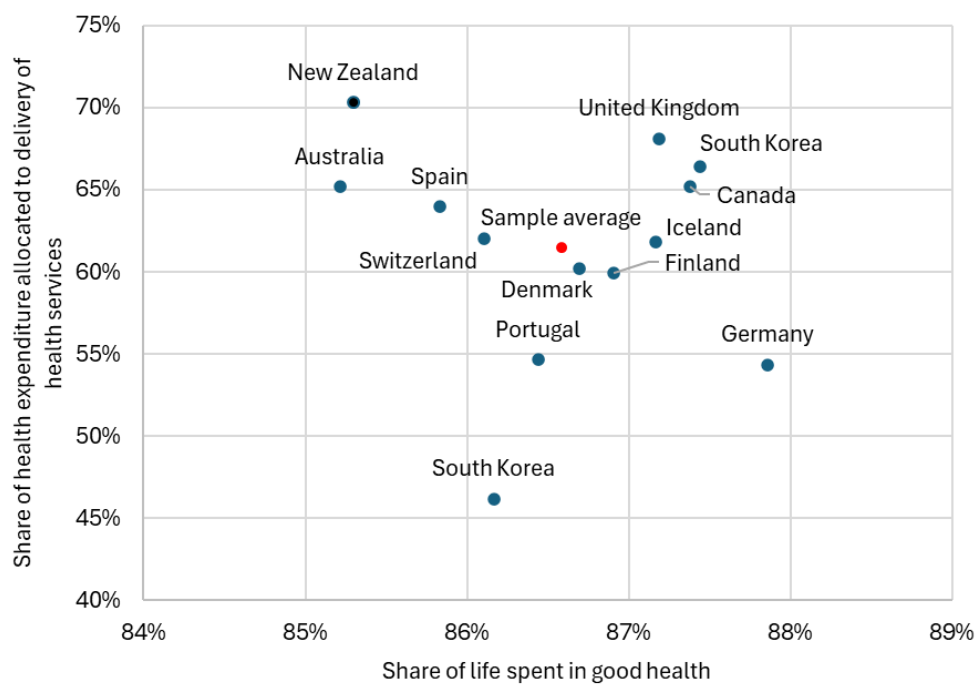


Source: NZIER

¹ Calculated based on 58,341 live births registered in New Zealand in the year ending December 2024.



Figure 37 Share of life lived in good health and allocation of health expenditure to delivery of health services



Source: NZIER



18 Conclusion and recommendations

Due to New Zealand's non-participation in OECD health expenditure data reporting, making comparisons between New Zealand's allocation of health expenditure and other countries' allocations is complex and time-consuming and creates opacity where there should be transparency.

New Zealand's health and disability system has some unique features, including but not limited to Pharmac. Comparisons with other countries' systems, outcomes, resource use and input mix are essential to understanding where our own system is working well, and where it isn't.

“Unlocking the full potential of health data is key to driving innovation, transforming healthcare, and subsequently improving public health.”²

After aligning definitions, inclusions and exclusions, and adjusting data to remove double-counting risks, we found that New Zealand's system is not just unique in its design: It is a low outlier in its allocation of resources to pharmaceutical expenditure. At just 4.9 percent of government and compulsory scheme total health and disability system expenditure, New Zealand's allocation to pharmaceuticals is well under half of the sample average, under half of Australia's allocation and approximately half of the UK's allocation.

It is unclear from the data whether a high allocation to health services constrains the available budget for pharmaceuticals, or whether a lower allocation to pharmaceuticals is driving higher allocation to delivery of health services or simply allowing it within a separately determined overall budget. New Zealand's allocation of health expenditure to delivery of health services is the highest in the sample at 70.3 percent (compared with an average of 61.4 percent).

Health system efficiency and best health outcomes are dependent on an optimal mix of health system inputs. With a mix of inputs that is such an outlier against comparable countries, the data raises the question: *How confident are we that we have the right mix?* This is a critical question given the Treasury's long-term modelling (The Treasury 2025) which shows rapidly increasing health expenditure over the coming decades if system settings remain as they are.

Based on the results of our analysis, we recommend that:

- Reporting of health expenditure data to the OECD should be reinstated to support system transparency with consistent and comparable data, enabling a greater understanding of our system settings and their implications.
- Opportunities for cost-effective medicines, such as those on Pharmac's OFI list, should be considered for immediate investment, to reduce the use and cost of health services, given the likelihood that a move in the direction of greater allocation of health

² Shmerling Magazanik and Sutherland (2025)



resources to medicines would improve the overall mix of inputs, resulting in improved efficiency and health outcomes.

- Identifying the optimal mix of inputs in health systems should be prioritised for research.



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Appendix A Methodology

This Appendix provides the full description of our methods, which are summarised in section 2.

A.1 Comparable countries and health systems

The Medical Council of New Zealand has established a range of criteria for identifying countries with comparable health systems (Medical Council of New Zealand 2025). The criteria are based on a mix of regulatory and health system indicators, as well as population health outcomes:

- Health system infrastructure, including the ratio of doctors and hospital beds per head of population.
- Population health outcomes such as life expectancy, mortality rates, disease and injury as a cause of death.
- Medical regulatory framework, including the presence of a regulatory body and assessment of the registration system, disciplinary procedures, and standards set for the medical profession in that jurisdiction.

Comparator country selection was initially restricted to the list that the MCNZ identifies as meeting its criteria. All of the comparable countries identified by the MCNZ are OECD countries.

Because the research question is concerned with how the New Zealand public health system allocates spending within its budget compared with other countries, we also restrict the comparison to what the OECD identifies as “government and compulsory schemes” – health systems or parts of health systems based on public spending and mandatory health insurance. Across the OECD, government and compulsory schemes are the dominant source of health financing, covering around three-quarters of total health expenditure (OECD 2023).

A.2 New Zealand health expenditure and comparability with OECD data

Making comparisons using OECD data should be a straightforward exercise, so straightforward that any data-literate member of the public could download the necessary data and make whatever comparisons are needed. Indeed, this is possible for anyone interested in making comparisons between most OECD countries, at least with high-level categories of expenditure (less so at more granular levels where reporting is not consistent).

However, comparing New Zealand’s prioritisation of health and disability system expenditure to that of other OECD countries is challenging because:

- New Zealand has not reported health and disability system expenditure data to the OECD since 2007.
- New Zealand’s only source of data on funding committed to the sector is the Vote appropriations, which categorise spending using different groupings than the OECD health expenditure dataset and do not provide clear definitions to indicate what is and isn’t included in specific appropriations.



- New Zealand's health and disability system is spread across multiple Votes and includes ACC-funded health services and Disability Support Services, which were separated from Vote Health in 2022 (when Whaikaha was established) and integrated into Vote Social Development from 2024/25 (when DSS was transferred from Whaikaha to the Ministry of Social Development).
- New Zealand distinguishes between residential and non-residential care and support services for older people and disabled people and does not regularly report on the residential and non-residential categories of expenditure through Vote appropriations or other reporting, whereas the OECD makes no distinction between the populations that benefit from these services and includes regular reporting on these categories of expenditure. The Ministry of Health (2012) recognised that the OECD definitions broadened what had previously been the definition of the health sector to include disability support and long-term care services.
- New Zealand's financing and funding arrangements distinguish between health services delivered due to an injury (ACC-funded services) and health services delivered due to other reasons, whereas the OECD makes no such distinction.

A.3 Categories of health expenditure for comparison

Because of the challenges in comparing New Zealand health and disability system expenditure and OECD health and disability expenditure, we mapped categories of expenditure to four broad areas of expenditure where we could be confident in making comparisons:

- Total pharmaceutical expenditure
- Delivery of health services
- Long-term residential and home care
- Other health expenditure.

A.4 Primary data sources

Our primary data source for New Zealand's allocation of health spending is Vote appropriations data (actuals) published on the Treasury website.

Our primary data source for comparator OECD countries is the OECD Health Expenditure data downloaded from the OECD Data Explorer. The OECD System of Health Accounts (OECD et al. 2017) provides a systematic description of the financial flows related to the delivery and consumption of health care goods and services described in the data. Definitions are critical because differences in the way expenditure data is captured can have significant impacts on comparability.

A.5 Total Pharmaceutical Expenditure

New Zealand's total pharmaceutical expenditure

In New Zealand, all subsidised pharmaceuticals accessed in the community (e.g. from pharmacies) and pharmaceuticals used in public hospitals are a cost to the public health system and purchased by Pharmac using the Combined Pharmaceuticals Budget (CPB). Because New Zealand does not report to the OECD, the total CPB is the only robust



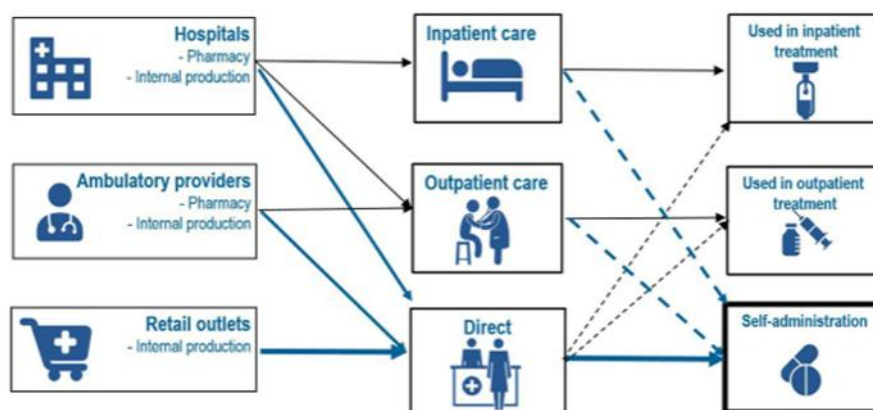
measure of pharmaceutical expenditure available. This CPB is directly available from Vote appropriations and is identified as National Pharmaceuticals Purchasing. Pharmac's management of the CPB has a separate appropriation identified as National Management of Pharmaceuticals.

For our New Zealand time series, we separately identified the CPB from Pharmac's annual reports and subtracted it from Vote Health appropriations for DHB-funded health services to provide a separate pharmaceutical expenditure timeline and avoid double-counting.

OECD total pharmaceutical expenditure

The OECD health expenditure data has captured pharmaceuticals in different ways, including as separate categories of expenditure as well as embedded in other categories representing key providers or functions within the health system (e.g. hospitals, rehabilitative care, etc), reflecting the complex distribution pathways of pharmaceuticals within a health system (see Figure 38 below).

Figure 38 Distribution pathways for pharmaceuticals



Note: The thinly dotted lines indicate that pharmaceuticals bought directly in retail outlets including community pharmacies could potentially be used during an inpatient or outpatient episode, but by convention are included under 'retail' pharmaceutical spending (HC.5.1).

Source: Morgan and Xiang 2022

The most frequently reported category of pharmaceutical expenditure in the OECD is expenditure on retail pharmaceuticals. This category of pharmaceutical expenditure excludes pharmaceuticals used in hospitals and other health facilities. Across the OECD, retail pharmaceutical expenditure alone has represented the third largest component of total health expenditure after inpatient and outpatient care, and government and compulsory schemes are the main funders of retail pharmaceuticals (OECD 2023).

The OECD has worked towards improving data on pharmaceutical expenditure, recognising in 2022 (Morgan and Xiang 2022) that *"only a partial understanding of total expenditures across health systems is currently possible, as reporting is often limited to medicines dispensed in community pharmacies"*.

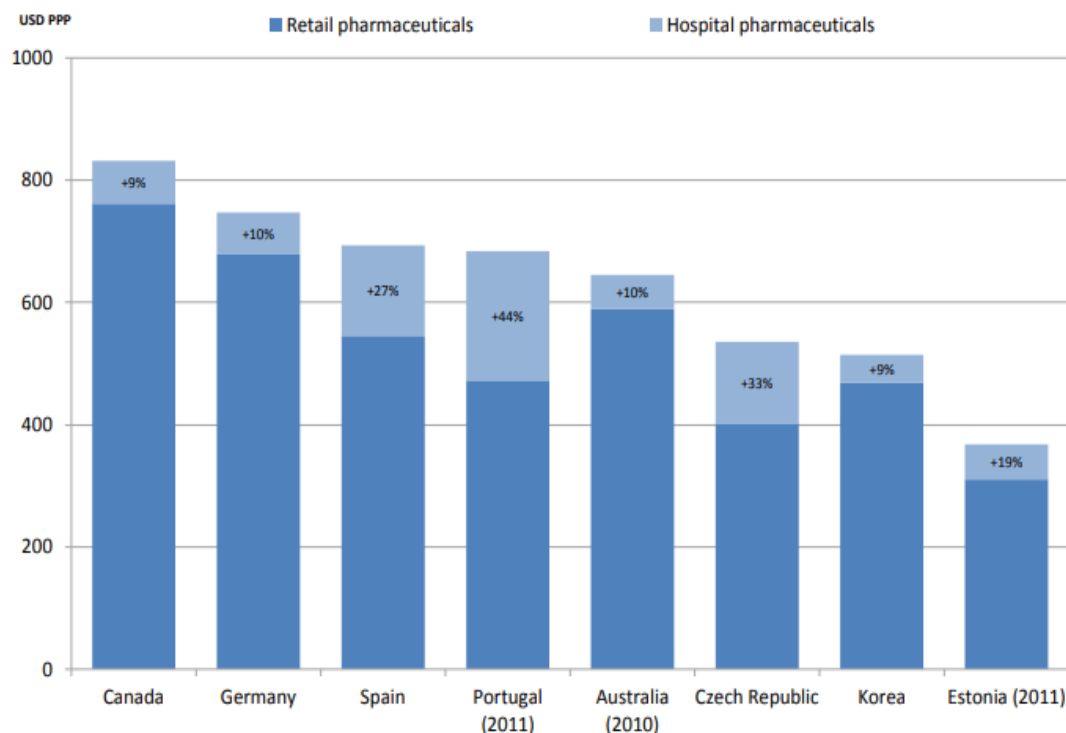
Depending on the mix of public and private hospital services, pharmaceuticals used in hospitals may or may not represent a significant additional cost to government and compulsory schemes. For example, one OECD report (Morgan and Xiang 2022) noted that pharmaceutical expenditure in the hospital sector may add less than 10 percent or over 40 percent to estimates of pharmaceutical expenditure based on retail pharmaceuticals alone



(see figure below) and that, on average, the addition of hospital pharmaceuticals increases total pharmaceutical expenditure by 20 percent.

Figure 39 Impact of hospital medicines on pharmaceutical expenditure estimates

2013 or latest year available



Source: Belloni et al. 2016

The OECD (Belloni et al. 2016) also noted that expenditure on pharmaceuticals used within hospitals represented a growing share of overall medicines spending.

However, it was also noted in 2022 (Morgan and Xiang 2022) that estimates of pharmaceutical expenditure in this context remained less widely reported. It recommended, after reviewing data sources and estimation methods, that:

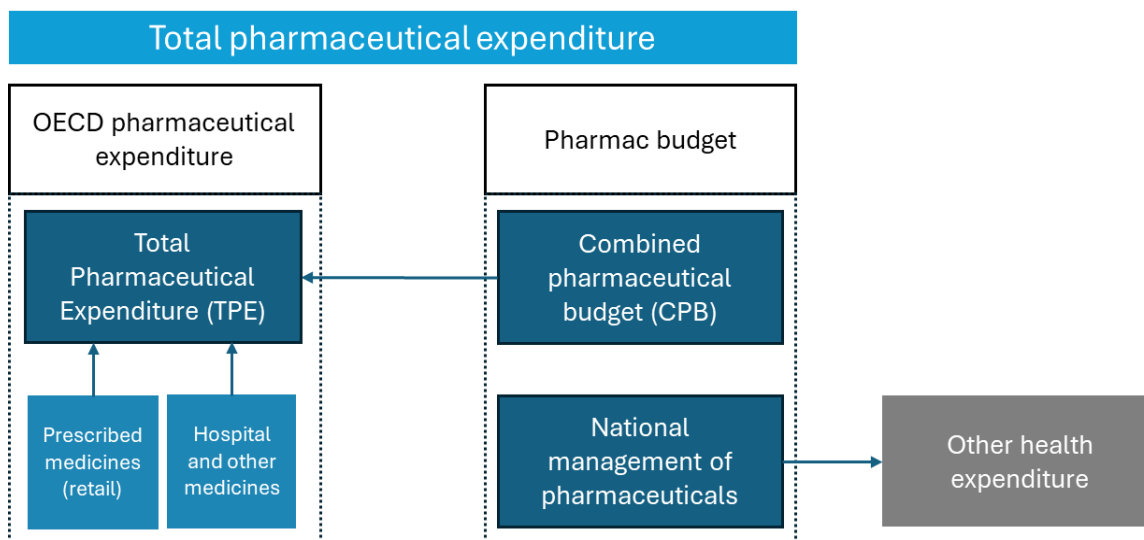
“The overall financial resources allocated to pharmaceuticals in the health sector are best measured using the accounting framework A System of Health Accounts 2011 via the reporting item Total Pharmaceutical Expenditure (or TPE), which is defined as the sum of final consumption expenditure on pharmaceuticals (explicitly reported) together with intermediate pharmaceutical consumption used in other episodes of care, such as an inpatient hospital stay”.

TPE was selected as the most appropriate category of expenditure for this report due to its comprehensive inclusion of all pharmaceuticals and the increasing importance of capturing hospital pharmaceuticals in expenditure analysis, but also because it provides the most appropriate comparator for New Zealand’s Combined Pharmaceuticals Budget (CPB), which reflects spending on medicines in both community and hospital contexts. While not all OECD countries report TPE, and some have only reported it for a small number of years, the OECD offers no alternative category (or combination of categories) of expenditure on pharmaceuticals that provides this comprehensive measure of total pharmaceutical



expenditure. This was acknowledged by the OECD in its 2022 report on improving pharmaceutical expenditure data (Morgan and Xiang 2022).

Figure 40 Alignment of total pharmaceutical expenditure data



Source: NZIER

A.6 Delivery of health services

New Zealand expenditure on the delivery of health services

Vote Health appropriations identify expenditure on health services broadly as “delivery of health services”, which is broken down into only two components:

- hospital and specialist services
- primary, community, public and population health services.

All other Vote Health appropriations were set aside as “other health expenditure”.

Additionally, the estimated combined value of aged residential care (ARC) and home and community support services (HCSS) was subtracted from primary, community, public and population health services and assigned to the category “long-term residential and home care”.

Although ACC sits alongside the tax-funded health system, it purchases services from public providers for patients and injuries that would be treated using tax-funded services in other countries. ACC is also a compulsory scheme and therefore aligns with the OECD definition of government and compulsory schemes. For alignment with OECD expenditure data from comparator countries, therefore, it is necessary to include the portion of ACC expenditure that goes to health services (i.e. exclude worker compensation). For this, we extracted the following specific appropriations under Vote Labour Market:

- Sexual abuse and treatment services
- Public health acute services (treatment of injuries – earners and non-earners)
- Rehabilitation entitlements and services (earners and non-earners).

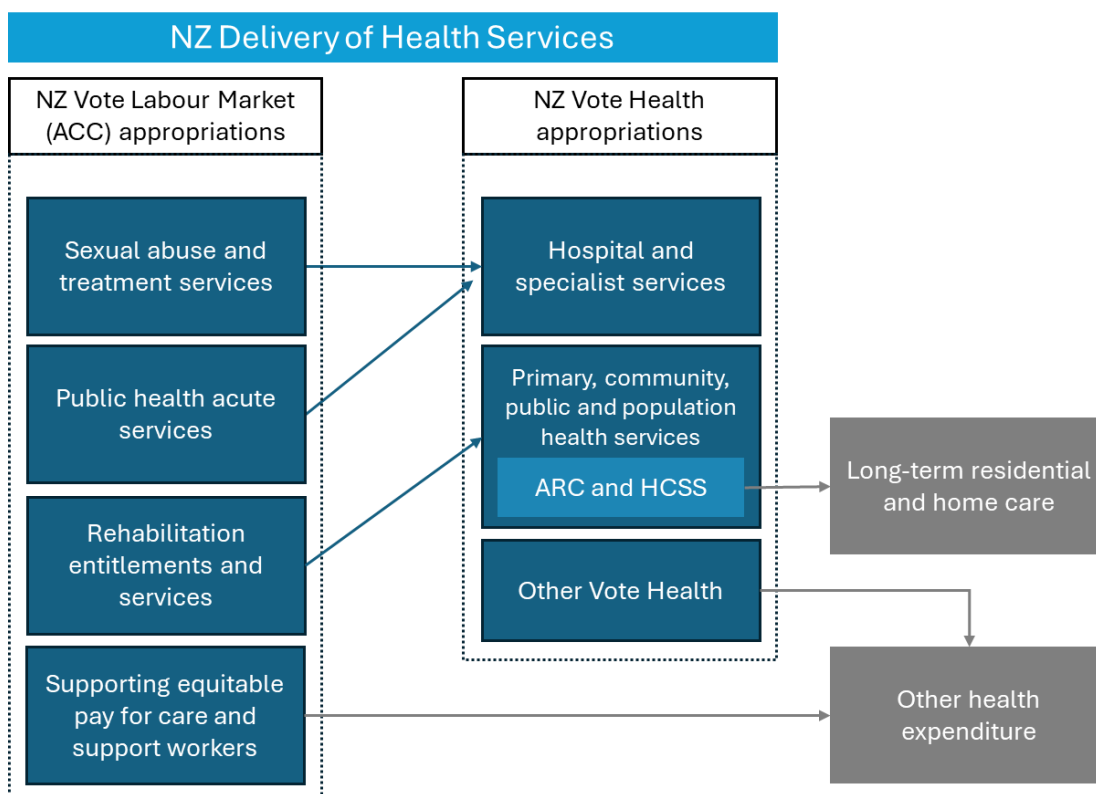
While all of these services may be provided in both hospital and community contexts, they were mapped to hospital and specialist services and primary, community, public and



population health services as shown in Figure 41 below for a simplified grouping of delivery of health services consistent with the grouping of Vote Health appropriations.

An additional appropriation under Vote Labour Market (supporting equitable pay for care and support workers) was allocated to the category of “other health expenditure”.

Figure 41 Mapping of delivery of health services in New Zealand Vote appropriations



Source: NZIER

Consistent with this approach, for our New Zealand time series, ACC-funded services mapped to hospital and specialist services were combined with Vote Health appropriations for DHB-funded health services (less the CPB, see section A5) for the years prior to the health reforms, and the historical estimated combined value of ARC and HCSS was subtracted from the value of DHB-funded health services to remain as a separate category of expenditure.

OECD expenditure on the delivery of health services

OECD data captures health expenditure by provider type and by function. However, many countries only report an incomplete set of these, likely due to a combination of limitations in national systems of accounts as well as health system differences.

However, most OECD countries report expenditure on:

- Hospitals
- Ambulatory care, defined as including any physician-led service or facility where medical care is provided without admitting the patient to a hospital as an inpatient,

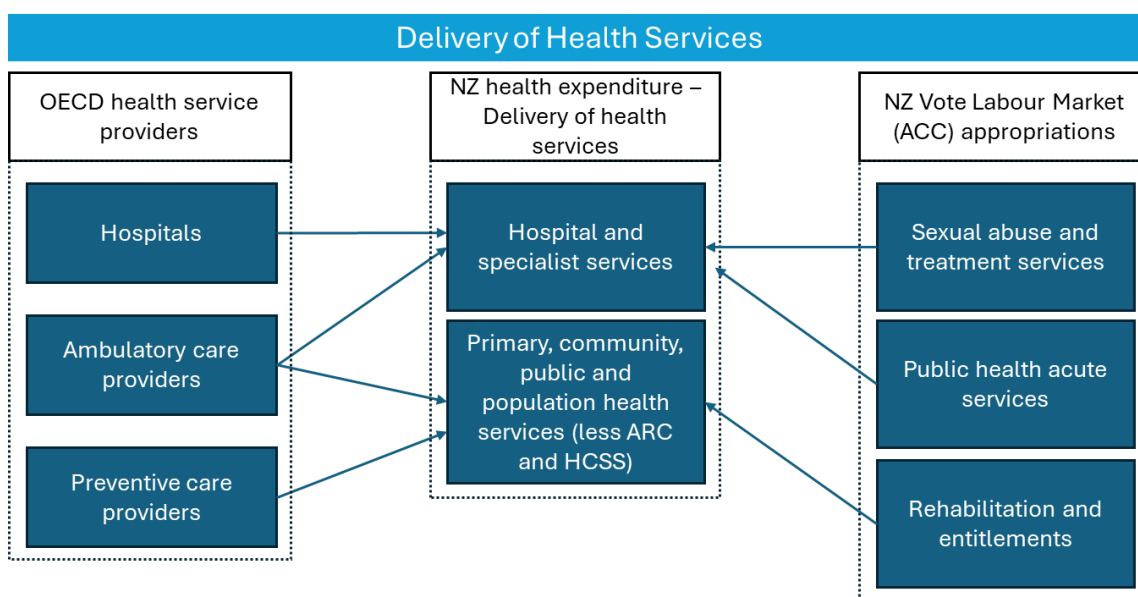


such as GP clinics, outpatient services, some outpatient and community mental health services, and some home visits

- Preventive care, defined as including individual preventive services such as immunisation and screening and collective prevention efforts such as health promotion and disease surveillance.

Overall, the definitions of these categories indicate that, as a set, they provide a reasonably comparable basis for comparison with New Zealand’s “delivery of health services”. However, while the OECD category “Hospitals” is fully aligned to New Zealand’s “hospital and specialist services” and the OECD category “preventive care” is fully aligned to New Zealand’s “primary, community, public and population health services”, the OECD category “ambulatory care” is partly captured in New Zealand’s “hospital and specialist services” and partly captured in New Zealand’s “primary, community, public and population health services” due to the inclusion of both hospital outpatient services and GP services (see Figure 42 below). While this simplified mapping introduces some inaccuracy in the subcategories of “Delivery of Health Services”, it maintains robust comparability between New Zealand and other OECD countries at the level of overall expenditure on delivery of health services.

Figure 42 Alignment of delivery of health services expenditure data



Source: NZIER

A.7 Long-term residential and home care

OECD aged care and disability services

Inspection of OECD definitions revealed that no distinction is made in OECD health expenditure data between expenditure on residential care or home care for older people versus disabled people. This means that residential care in OECD data captures both aged residential care (ARC) and long-term residential care for disabled people. Similarly, home care in OECD data captures home care services for both older people and disabled people.

Both of these service provider expenditure categories were captured in our analysis.



New Zealand aged care and disability services

In New Zealand, ARC is separately funded from long-term residential care for disabled people. Similarly, home care services are separately funded for the two populations. Services for older people (both residential and home-based) are captured within Vote Health, while services for disabled people (Disability Support Services) are captured within Vote Health until 2021/22, Vote DSS in 2022/23 and 2023/24, and Vote Social Development in 2024/25 and 2025/26.

While Vote Health includes aged care, there is no specific Vote Health appropriation for aged care. In order to separately identify this component of health expenditure, we extracted evidence from the following sources:

- The Health New Zealand website states that:
 - Health NZ spent \$1.352 billion on ARC in 2022/23 and \$1.7 billion on ARC in 2024/25
 - \$643 million on HCSS in 2022/23 and \$720 million on HCSS in 2024/25 (Health New Zealand | Te Whatu Ora 2025).
- The review of aged care funding and service models commissioned by Health NZ and published in 2024 (Moore et al. 2024), which provided an estimate of HCSS spending in 2016/17 of \$421 million.
- A report for the New Zealand Productivity Commission (Knopf 2022) on aged residential care, which provided a value for expenditure on ARC in 2017/18 (1.1 billion).
- A 2014 report by the Office of the Auditor General (Office of the Auditor General New Zealand 2014) identified that in 2012/13, the DHBs collectively spent \$263 million on home-based support services for older people.

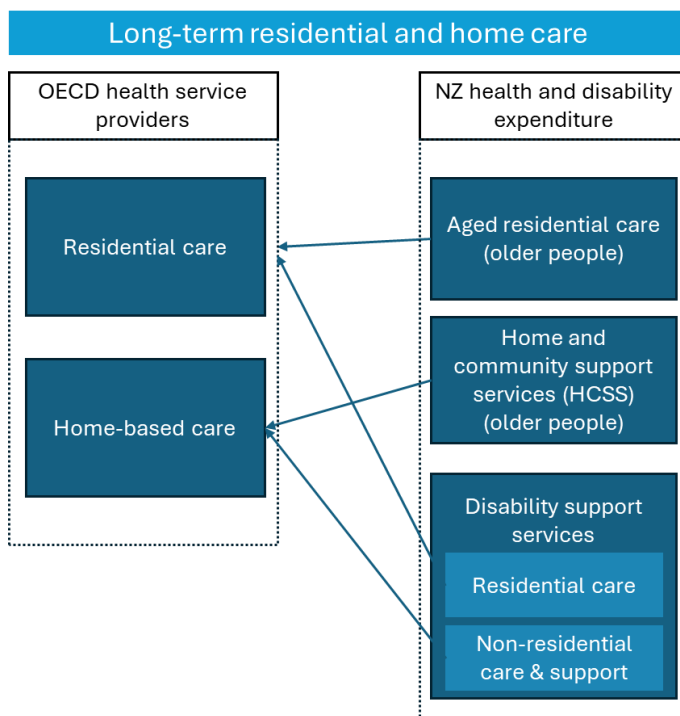
Expenditure on DSS, which includes both long-term residential care for disabled people and home-based care for disabled people, was sourced from:

- The independent review of disability support services phase one report (2024), which provided the level of DSS expenditure from 2015/16 to 2022/23 (Wevers et al. 2024).
- Vote Appropriations for the remaining years:
 - Vote Health provided the DSS expenditure from 2009/10 to 2014/15
 - Vote Social Development provided the DSS expenditure for the 2023/24 and 2024/25 years.

DSS is not explicitly split out into residential and non-residential care.



Figure 43 Alignment of long-term residential and home care expenditure



Source: NZIER

A.8 Adjustments to avoid double-counting

OECD health expenditure data is used in a variety of ways and is captured using categories that deliberately overlap to support a wide range of information needs.

Because the OECD's Total Pharmaceutical Expenditure captures all medicines accessed by consumers and used by different providers, such as hospitals, ambulatory care providers, and others, as well as community/retail pharmaceuticals, and because expenditure on providers in some jurisdictions includes funding to support the purchase of medicines, there is a risk of double-counting by the inclusion of both TPE and expenditure on providers, with hospitals being the most likely area affected.

The OECD confirms that many countries' reporting of expenditure by health care provider includes pharmaceutical expenditure where pharmaceuticals are used in the delivery of health services (OECD 2023).

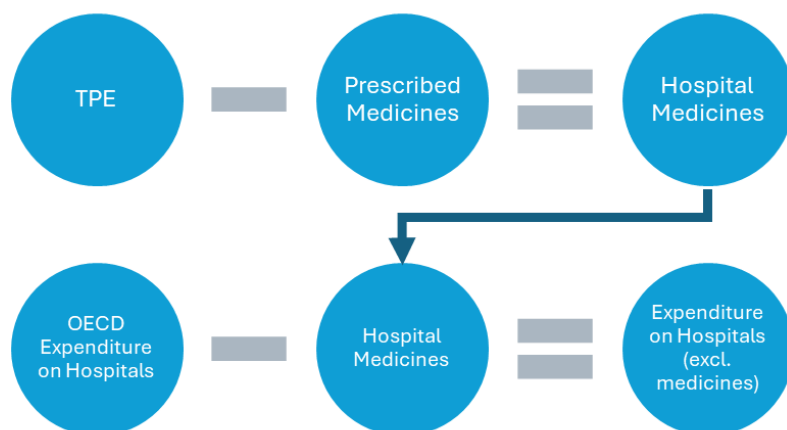
Without any adjustment to separate pharmaceutical expenditure from health services delivered by providers in our analysis, the share of total health expenditure for affected provider categories would be overestimated, and consequently, the share of health expenditure allocated to TPE would be underestimated.

To address this risk, we estimate expenditure on hospital pharmaceuticals using the TPE and the other commonly reported measure of pharmaceutical expenditure: Prescribed Medicines. Prescribed Medicines is defined as expenditure on medicines that are prescribed and obtained by consumers from a retail outlet, e.g. community pharmacy (this is sometimes referred to as "retail pharmaceuticals" in OECD and other reports (see, for example, Belloni et al. 2016). This means that the difference between TPE and Prescribed Medicines provides an estimate of expenditure on hospital medicines. Having estimated



expenditure on hospital medicines, we then subtract this value from the reported expenditure on Hospitals (see Figure 44 below).

Figure 44 Adjustment to OECD expenditure on hospital providers for comparability



Source: NZIER

This means the figures representing hospital expenditure for OECD countries in our report are lower than the hospital expenditure figures extracted directly from the OECD database would indicate, due to our exclusion of hospital medicines from this category.

A.9 Other health expenditure

All other identified categories of health expenditure were captured in a general category named “other health expenditure”.

New Zealand’s other health expenditure

For New Zealand, “other health expenditure” captures:

- All Vote Health appropriations not captured as “delivery of health services”
- The portion of Pharmac’s budget allocated to national management of pharmaceuticals.
- Vote Labour Market (ACC) appropriation for:
 - case management and supporting services (treatment injuries)
 - supporting equitable pay for care and support workers.

OECD other health expenditure

OECD other health expenditure was captured as the difference between total expenditure in government and compulsory schemes and the sum of included expenditure categories after adjusting expenditure on hospitals for estimated hospital pharmaceutical expenditure as described in Section **Error! Reference source not found..**



A.10 Timeframes

OECD data is reported by calendar year, whereas New Zealand Vote appropriations and other sources present data by fiscal year.

Where countries are compared by year, we align each calendar of OECD data to New Zealand for the fiscal year ending in that calendar year (OECD reporting year 2022 = New Zealand fiscal year 2021/22). Additionally, consistent with this, New Zealand charts present data by fiscal year based on year ending (i.e. 2022 = 2021/22).

New Zealand Vote appropriations for 2025/26 were only available as estimates, and, in any case, inclusion of 2025/26 would have taken the New Zealand time series three years beyond the most recent OECD data, so the 2025/26 year was excluded from the analysis.

COVID-19 years

Most countries experienced significantly higher public health expenditure during the COVID-19 pandemic. As Tenbensel and Lorgelly (2025) note, within the OECD data, it is not possible to separate COVID-19 expenditure. We do not attempt to do so. It appears that some countries reported COVID-19 expenditure separately from other health expenditures, while others were unable to do so. However, our key comparison is based on the 2023 year (2022 for a small number of countries), and our time series data shows that the COVID-19 expenditure bulge had played out by then.

A.11 Comparator country data series

Reporting of TPE, and expenditure on hospitals, ambulatory care providers, preventive care providers, residential care and home-based care in recent years and with time series of at least five years and up to 15 years, were the requirements for comparator OECD countries.

Time series constraints affected each country differently, with the most recent year of data available being 2023 for most countries, but Australia and Norway were limited to 2022 as the most recent year. Time series were constrained by the number of years that TPE was reported. Most countries began reporting TPE in 2009. Portugal began in 2008. But Norway and the United Kingdom only began reporting TPE in 2017.

Countries on the MCNZ comparable country list, which also met the data requirements, are shown in the table below with data time series summary information.

This produces a slightly different list of comparator countries than was used by Tenbensel and Lorgelly (2025), with differences also shown in the table.

The comparator group contains nine tax-financed health systems (Australia, Canada, Denmark, Finland, Italy, Portugal, Spain, Sweden, UK) and seven mandatory insurance systems, of which six are SHI systems (Austria, Belgium, France, Germany, Japan, Netherlands).



Table 5 Comparator country OECD data series

Comparator country	Complete data series	Included in comparison by Tenbense and Lorgelly (2025)
Australia	2014-2022	✓
Canada	2009-2023	✓
Denmark	2010-2023	✓
Finland	2009-2023	✓
Germany	2009-2023	✓
Iceland	2009-2023	Excluded due to small population
South Korea	2009-2023	Excluded due to low % of GDP allocated to publicly mandated health expenditure
Norway	2017-2022	Excluded due to significantly higher GDP per capita
Portugal	2008-2022	✓
Spain	2009-2023	✓
Switzerland	2010-2023	Excluded due to significantly higher GDP per capita
United Kingdom	2017-2023	✓

Source: NZIER, OECD health expenditure data

While our analysis makes some different comparisons from Tenbense and Lorgelly (2025), it is important to note the key difference that Tenbense and Lorgelly focus on health expenditure as a share of GDP, while our report focuses on the shares of health expenditure allocated to different functions. Because our comparison is concerned with how governments prioritise different types of health expenditure, the comparability of the overall size of the health budget or the size of the population is less important.

A.12 Limitations

Our methods are not without limitations.

The most important limitation that we are aware of is the exclusion of some public health expenditure in the New Zealand expenditure data we use. A Ministry of Health report (Ministry of Health 2012) identified that in 2010, other government agencies and local authorities contributed to publicly funded health and disability expenditure, although the magnitude of these contributions was small (2.3 percent of all health and disability expenditure, and only 2.8 percent of publicly funded health and disability expenditure – see Figure 45 below). The report noted that other central government agencies contributing health and health-related expenditure were the Ministries or Departments of:

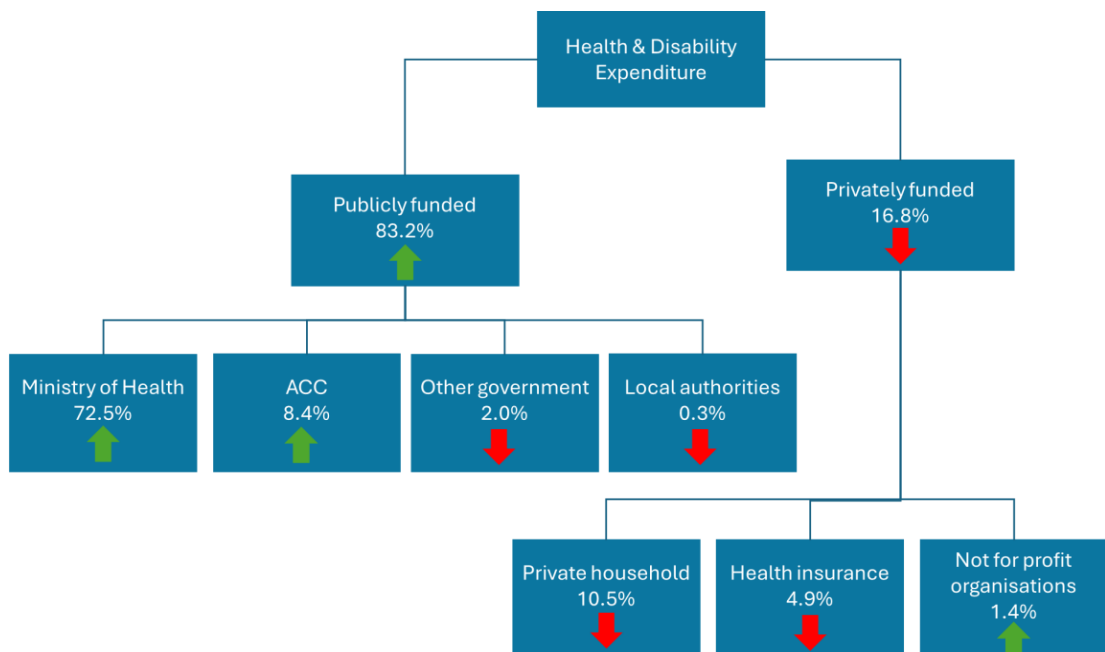
- Agriculture and Forestry
- Education
- Research, Science and Technology
- Defence
- Social Development



- Corrections
- Internal Affairs
- Te Puni Kōkiri (Māori Development)
- Pacific Island Affairs.

Current health and disability-related expenditure by these contributors is not readily identifiable. However, because their share of expenditure was small in 2010, and was declining, likely includes multiple categories of health expenditure (e.g. services and pharmaceuticals), and is expected to still be small currently, this omission is also expected to have a negligible impact on results.

Figure 45 Percentage shares of New Zealand's total health funding in 2010



Source: NZIER, based on Ministry of Health (2012)

Limitations of OECD data comparability

The use of OECD data for comparisons is inherently challenging. Each country reporting to the OECD must consider the recommended definitions and attempt to capture its data consistently with these. However, adjustments are frequently made, and measurement may be inaccurate due to the incompatibility of these shared definitions with each individual country's approach to organising and financing its health system.

Our key concern was regarding the use of the TPE. This concern was three-fold:

- Does the TPE capture the same types of pharmaceutical expenditure as New Zealand's CPB?
- Does the TPE reflect the rebates, discounts, and other price adjustments that overseas pharmaceutical purchasing agencies may also achieve, which are implicitly captured in New Zealand's CPB?



- How can the other components of OECD health expenditure be adjusted to reflect that medicines are counted in the TPE?

Comparability of Total Pharmaceutical Expenditure with the Combined Pharmaceutical Budget

Investigation of the first of question regarding potential limitations of our approach revealed that it was a warranted concern: In its report “Improving data on pharmaceutical expenditure in hospitals and other health care settings” (Morgan and Xiang 2022), the OECD intends for the TPE to capture “any complementary costs covering the processes within the facility prior to the patient receiving the medicines (e.g. preparation, storage, measurement, delivery, salaries, etc.)” (Morgan and Xiang 2022, page 9). These inclusions would pose a problem for comparison with the CPB, as in New Zealand, complementary costs are met by Health NZ. However, the report also noted that “current reporting of TPE tends to be restricted to the inclusion of additional spending on pharmaceuticals in the hospital sector, in addition to “retail pharmaceuticals” (Morgan and Xiang 2022, page 22).

This means that while the comparison of TPE and New Zealand’s CPB may not remain appropriate in the future, it is likely to be very appropriate for the years of expenditure analysed in this report.

Capture of rebates, discounts and other price adjustments

Examination of the rebates and discounts issue reveals that this concern may be warranted, although the extent of the issue is unknown, as the OECD notes that the System of Health Accounts “does not cover the issue of rebates specifically, but additional guidance as to their treatment in health accounts was agreed in 2016” (Morgan and Xiang 2022). That guidance (United Nations 2018) sets out a framework that would support systems of accounts to clearly distinguish between producer prices and the prices facing purchasers, although it does not explicitly refer to pharmaceutical rebates and discounts. Nevertheless, the OECD expected that this would have resulted in reporting consistent with its 2022 recommendation that “pharmaceutical spending should be valued at the final purchaser’s price, net of rebate (e.g. gross prices minus rebates)” (Morgan and Xiang 2022).

Adjustment to avoid double-counting pharmaceutical expenditure in OECD data

Because the OECD’s Total Pharmaceutical Expenditure captures medicines used in hospitals as well as community/retail pharmaceuticals, there is a risk that using this measure of expenditure along with other categories of health expenditure introduces some risk of double-counting. Many countries have been reporting hospital medicines expenditure as a non-separate component of expenditure on Hospitals (and potentially Ambulatory Care and other providers and functions).

The move towards more comprehensive pharmaceuticals expenditure reporting using TPE has not come with a recommendation to adjust Hospitals expenditure as TPE has not been developed as a measure to be used on combination with provider and function categories of expenditure.

Our adjustment to Hospitals expenditure, which involved subtracting the difference between TPE and Prescribed Medicines, is blunt and potentially results in an underestimation of the share of expenditure on hospital services in OECD countries. This is because, although the OECD’s observation that TPE likely reflects hospital and community/retail pharmaceuticals, some hospital pharmaceuticals are used in outpatient



care, and the OECD's System of Health Accounts identifies that outpatient care is provided by both hospital and ambulatory care providers.

An ideal adjustment would break down the non-community-retail component of TPE into the respective hospital and ambulatory service components and subtract them from each type of provider expenditure accordingly. However, the data does not support any such breakdown. However, as comparability with New Zealand expenditure is only possible at a higher level (delivery of health services), Hospitals, Ambulatory care and Preventive care categories are grouped, and this grouping is not expected to be affected by the decision to apply the adjustment only to the Hospital category.

OECD data comes with a margin of error

With vastly different health systems and approaches to capturing resource flows across those systems, reporting data to the OECD consistently with OECD definitions poses challenges for most countries. In many cases, there are inclusions or exclusions that reduce the robustness of cross-country comparisons.

For example, the OECD indicates that some countries cannot break down pharmaceutical expenditure, and their data may include medical non-durables (such as first aid kits, hypodermic syringes and facemasks). The OECD estimates that this typically leads to an overestimation of total pharmaceutical expenditure by five to ten percent, which could mean, for example, that where a country is found to allocate 10 percent to pharmaceuticals, the true allocation may be 9 to 9.5 percent. This means that small differences in resource allocations between countries may not indicate any real difference in allocation, and that comparisons should focus on significant differences only.

Comparability of pharmaceutical expenditure by any measure

Total pharmaceutical expenditure reflects many different aspects of pharmaceutical purchasing, including:

- the basket of pharmaceutical products purchased
- the quantities purchased of each product
- the prices paid for each product
- the rebates and discounts achieved.

Because these factors all vary across different health systems, no conclusions about the value of the investment in pharmaceuticals achieved by different countries or about access to essential medicines can be drawn from comparisons of total pharmaceutical expenditure.

