ESRI

Working Paper No. 660

May 2020

An analysis of trends in Irish public healthcare expenditure and staffing

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Abstract: This report analyses changes in public current and capital healthcare expenditure (HCE) (2004 to 2017), and its components, along with trends in HSE staffing and pay expenditure (2007 to 2017). This report adopts an inclusive approach to the measurement of HCE and HCE is defined in gross terms which includes any income receipts used to fund public care. Healthcare expenditure trends are adjusted to account for population growth and ageing, and price effects, over the period of analysis. Nominal public current HCE increased by 74.2 per cent between 2004 and 2017, equating to a 4.4 per cent annual average increase. However, with adjustment for demographic and price effects, public current HCE increased by a more modest 0.2 per cent on an annual average basis. Furthermore, the introduction of the Employment Control Framework (in 2009) reduced HSE staffing levels and pay expenditure but was associated with substantial increases in agency pay and HSE superannuation expenditure. Overall, discussion and assessment of HCE would benefit from placing trends into the context of changing prices and demographics. The long-term effects of measures, such as incentivised early retirement schemes, aimed at short-term cost-saving need to be considered as they may, in fact, lead to increased expenditure over time. Insights from this analysis of historic Irish healthcare expenditure trends may prove useful to policymakers' approach to ongoing financing of the Irish healthcare system in the COVID-19 healthcare crisis.

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Executive Summary

This report contains an examination of trends in healthcare expenditure (HCE) and staffing in the Irish public healthcare system between 2004 and 2017. This is an update on analysis previously undertaken in Wren et al. (1). Methods used in that report are replicated, and built on where appropriate, to update the analysis. This report analyses changes in public total HCE over the period from 2004 to 2017. Trends in current and capital spending of the various HSE programmes (e.g. acute, primary care, mental health) between 2005 and 2017, are also examined. Separate to this, trends in HSE staffing and pay expenditure in the period beginning in 2007 and ending in 2017 are analysed.

There are a number of potential measures of public HCE, which differ according to the categories of expenditure included or excluded. The series in this analysis use gross expenditure. Gross expenditure includes expenditure by providers of public services that may be partly funded via income receipts such as private charges to patients. Net expenditure, on the other hand, excludes any expenditure not funded through taxation. In this way, the definition of public HCE used in this report tracks expenditure on public healthcare services, not government financing of these services, though the two are strongly related.

The volume of healthcare, as well as the price, exerts pressure on HCE. Expenditure is adjusted in each year according to demographics and price in order to provide more informative measures of HCE change over time. HCE is expressed in real terms to adjust for changes in prices across years. HCE is presented in per capita terms to control for changes in the size of the population. Finally, HCE is presented in per capita of a relevant age group to account for changes in the age structure of the population.

A key finding of this analysis is summarised in Table E.1. Table E.1 shows that although there was a large increase in nominal public current HCE expenditure during this period, the rate of increase is reduced when adjustments are made for increases in price, population growth and, in particular, population ageing. When adjusted for price and population ageing, growth in public current expenditure, which was nominally 74.2 per cent between 2004 and 2017, becomes a more modest 2.1 per cent increase over this 14-year period. An annual average increase of 4.4 per cent in nominal public current expenditure becomes an annual average increase of 0.2 per cent, with adjustment for price and population ageing. Furthermore, the share of public HCE, which was accounted for by capital expenditure, shrank from 5.1 per cent in 2004 to 3.2 per cent in 2017. This suggests that increases in public current HCE were partially financed through reductions in public capital HCE.

TABLE E.1 Trends in Public Current HCE

	Change 2004-2008 %	Change 2008-2013 %	Change 2013-2017 %	Change 2004-2017 %	Annual Average Increase %
Nominal	60.6	-7.2	16.9	74.2	4.4
Per capita	44.9	-10.4	13.0	46.7	3.0
Per capita (≥ 65 years)	49.3	-21.4	1.4	19.0	1.3
Real (base=2004)	35.7	-4.1	14.8	49.4	3.1
Per capita	22.4	-7.3	10.9	25.8	1.8
Per capita (≥ 65 years)	26.2	-18.7	-0.5	2.1	0.2

Source: Underlying figures in the Appendix Table A.5

Another major finding of this analysis relates to trends in HSE pay expenditure and staffing. HSE pay increased by 4.4 per cent between 2007 and 2017, though there were decreases of 1.6 and 5.6 per cent from 2007 to 2010 and from 2010 to 2013 respectively. The employment control framework, characterised by incentivised early retirement, voluntary redundancy and a moratorium on recruitment, was applied across these two time periods due to the financial crisis. There was an expansion of HSE staff numbers and a resulting increase in HSE pay between 2013 and 2017 when the employment control framework was not in operation. The reduction in HSE WTEs between 2007 and 2013 was associated with a 201.2 per cent increase in agency pay from 2009 to 2017 and an 88.3 per cent increase in HSE superannuation between 2007 and 2017.

Discussion of HCE would benefit by placing trends into the context of changing prices and demographics. Examining HCE in real terms allows for a better measure of value, while understanding changes in HCE in per capita terms is critical in the Irish system given recent and projected large population growth. The impact of population growth versus ageing on demand for various services has been described in Wren et al (2). Relatedly, the long-term effects of measures, such as incentivised early retirement schemes, aimed at short-term cost-saving need to be considered as they may, in fact, lead to increased expenditure over time. Moreover, a failure in healthcare capital investment can have long-term consequences for healthcare system access and performance. Insights from this analysis of historic Irish healthcare expenditure trends may prove useful to policymakers' approach to ongoing financing of the Irish healthcare system in the COVID-19 healthcare crisis.

1 Introduction

This report contains an examination of trends in public Healthcare Expenditure (HCE) and the staffing of healthcare services between 2004 and 2017. This is an update on analysis previously undertaken in Wren et al. (1). Methods used in that report are replicated, and built on where appropriate, to extend the analysis to include the years 2014, 2015, 2016, and 2017. This report examines changes in total public HCE and in its constituents, public current and capital HCE, over the period from 2004 to 2017. Trends in current and capital HSE programme expenditure between 2005 and 2017 are also analysed. Separate to this, trends in HSE staffing and pay expenditure in the period beginning in 2007 and ending in 2017 are examined.

The remainder of the paper is structured as follows. Section 1.1 sets out the definition of public HCE used in the report. Methods used to contextualise expenditure series through time are also introduced in this section. In section 2, the demographic and economic background which underlay the series, are described. Projections of demographic trends, which will likely exert pressure on future HCE, are also reported. Section 2 also includes a brief overview of the relationship between trends in public HCE and trends in national income between 2004 and 2017.

The sources used to construct the series of expenditure and staffing, as well as the methods used to adjust for interruptions in the series, are described in section 3. Section 4 reports results of the analysis of trends in graphical form and in terms of overall and annual average percentage change. This section also discusses the potential causes of these changes and their potential effects. Section 5 summarises and concludes.

1.1 Definition of HCE

There are a number of potential measures of public HCE, which differ according to the categories of expenditure included or excluded. The accounting approach to HCE applied by the OECD in its System of Health Accounts (SHA), for instance, differs from the approach applied by the Department of Health (DoH) in its published HCE series, or the definition applied in Wren et al. (2017)(2) (see detailed discussion in Keegan et al (3)). This report adopts an inclusive approach to maintain consistency over time in the series examined. Consequently, within public HCE for 2017, we include expenditure by the DoH, the HSE, the Department of Children and Youth Affairs and the Department of Employment Affairs and Social Protection. Further details of the approach are described in Section 3.

The series for public HCE, used in this report, spans 2004 to 2017. There have been numerous breaks in the series during this period. For instance, in 2004, the Department of Health and Children (DoHC) had one expenditure vote, whereas in 2017, the DoH had one expenditure vote and Children and Youth Affairs had another. Attempts to reconcile series over time have focused on maintaining expenditure categories included in 2004, rather than on retrospectively removing expenditure that is absent in more recent years. There are similar breaks in the series that are used in this report to analyse trends in Health Service Executive (HSE) programme expenditure, HSE pay expenditure and HSE staffing. The same approach of maintaining what is in the early years and adding to the latter years of a series is applied to reconcile these series. Details of the methods applied to reconcile these four series are reported in sections 3.3 to 3.6.

Gross figures for the series of overall voted expenditure are used in this report. Gross expenditure includes expenditure by public bodies, institutions or providers of services that may be partly funded via income receipts such as private charges to patients. Net expenditure, on the other hand, excludes any expenditure not funded through taxation. Expenditure on HSE programmes contained in this report also follows this definition where possible. In this way, the definition of public HCE used in this report tracks expenditure on public healthcare services, not government financing of these services, though the two are strongly related.

The volume of healthcare demanded, and supplied, as well as the price of healthcare can exert pressure on the amount of expenditure on healthcare. These factors can change from year to year. To aid the analysis of HCE across multiple years, expenditure is adjusted in each year according to demographics and price. HCE is expressed in real terms to control for changes in prices across years. HCE is presented in per capita terms to control for changes in the size of the population. Finally, HCE is presented in per capita over 65[1] and 80[1] and per capita under 18[1] to account for changes in the age structure of the population.

2 Background/Overview

2.1 Demographics

Demographics are one of the major drivers of HCE. As the population of a country grows, so too will the number of people who need to use that country's healthcare services. All members of a population do not necessarily require, or use, the same amount of healthcare over a given period. As can be seen in Wren et al. (2), for instance, older people use many services such as in-patient hospital services and long term residential care at a greater rate than younger people. As such, the size and age structure of a population has an impact on the amount of healthcare that

[1] Per capita over 65 HCE does not refer to HCE exclusively on those aged 65 and over, rather, it refers to total HCE divided by the population aged 65 and over. The same logic holds for per capita over 80 and per capita under 18.

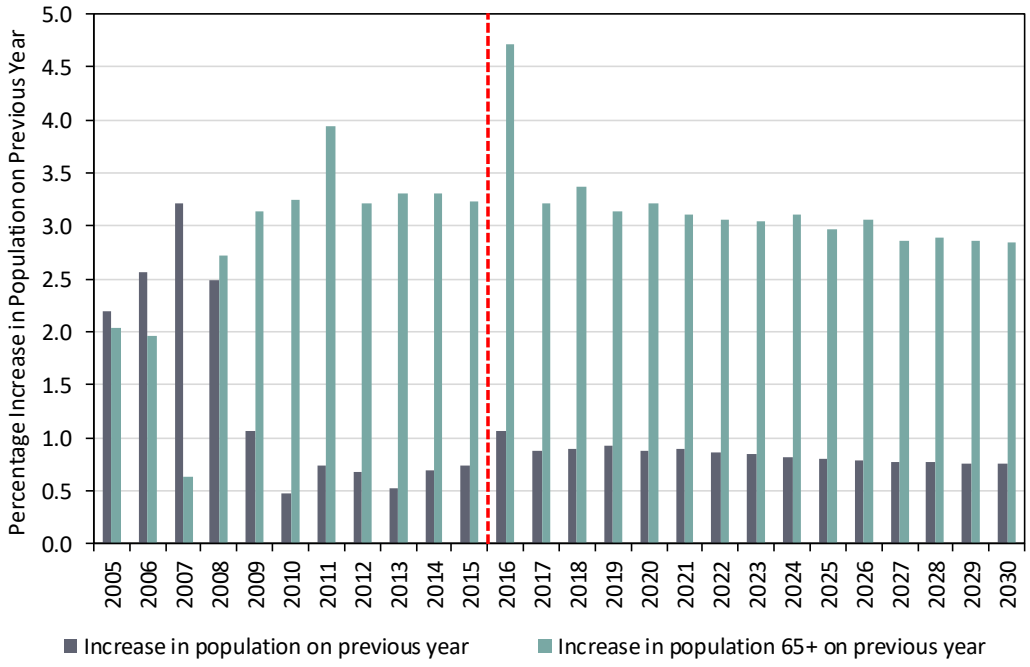
it requires. Meeting the needs of a growing and/or ageing population requires an increase in expenditure, an increase in the efficiency with which healthcare is delivered or a combination thereof.

In 2004, there were 4.05 million people living in Ireland. Of these, 450,000 (11.1 per cent) were aged 65 and over and 43,000 (1.1 per cent) were aged 85 years and older. The population grew by 19 per cent between 2004 and 2017 and is projected to increase by a further 11 per cent between 2017 and 2030. The population aged 65 and over grew by 46 per cent between 2004 and 2017 and is projected to grow by a further 47 per cent between 2017 and 2030. The population aged 85 and over grew by 63 per cent between 2004 and 2017 and is projected to grow by a further 82 per cent between 2017 and 2030.

Figure 1 shows the year on year percentage growth of the population and the population aged 65 and over from 2005 to 2015 and projected population growth from 2016 to 2030. The population increase was two per cent in each year from 2005 to 2008, fell to 1.1 per cent in 2009 and 0.5 per cent in 2010. Population growth remained between 0.5 and 1 per cent for each year up to 2017, except for 2016 when it was 1.1 per cent. The Irish population increased by an annual average rate of 1.3 per cent between 2004 and 2017.

The population aged 65 and over grew by 2 per cent in 2005 and 2006, and by 0.6 per cent in 2007. This was lower than the growth seen in the population as a whole. Growth in the population aged 65 or older (2.7 per cent) outstripped growth in the population as a whole for the first time in this series in 2008. The population aged 65 and older grew by 3.1 per cent in 2009 and did not drop below 3 per cent growth, or the growth in the population as whole, in the period up to 2017. Growth in the population aged 65 and older was highest at 3.9 per cent in 2011 and 4.7 per cent in 2016. The population aged 65 and over underwent annual average increases of 3 per cent between 2004 and 2017.

FIGURE 1 Percentage Increases in Population and Population aged 65 and over (2005-2030)



Note: 2016-2030 are projections of population.
Sources: Population estimates from 1926 by Single Year of Age, Sex and Year (4).
ESRI population projections using the 2006, 2011 and 2016 censuses (2).

Population growth is projected to remain at between 0.7 per cent and 0.9 per cent each year from 2017 to 2030. The population is projected to undergo annual average increases of 0.8 per cent in this time period. Growth in the population aged 65 and older is projected to remain relatively high between 2017 and 2018, peaking at 3.4 per cent in 2018 before decreasing to 2.8 per cent by 2030. The population aged 65 and older is projected to undergo annual average increases of 3 per cent in this time period (2).

2.2 Trends in public HCE relative to trends in national income

In this overview section, we examine the relationship between trends in national income and public HCE from 2004 to 2017. Figure 2 displays nominal public HCE in billions of euro, according to the definitions and methods described in Section 3 below. Figure 2 also displays nominal national income, using the Modified Gross National Income measure (GNI*)[2,3] in tens of billions of euro. Figure 2 further shows nominal public HCE as a percentage of GNI*. All three measures show strong growth in the pre-recession years. GNI* peaked during this period at €166 billion in 2007. Public HCE grew from 7.6 per cent of GNI* in 2004 to 9.1 per cent in 2007. GNI* decreased significantly to €157 billion in 2008 and €135 billion in 2009. Public HCE increased to €16 billion in 2008 and remained at this level in 2009. Due to this

2 GNI* was sourced from the National Income and Expenditure Annual Report for 2017 (5).

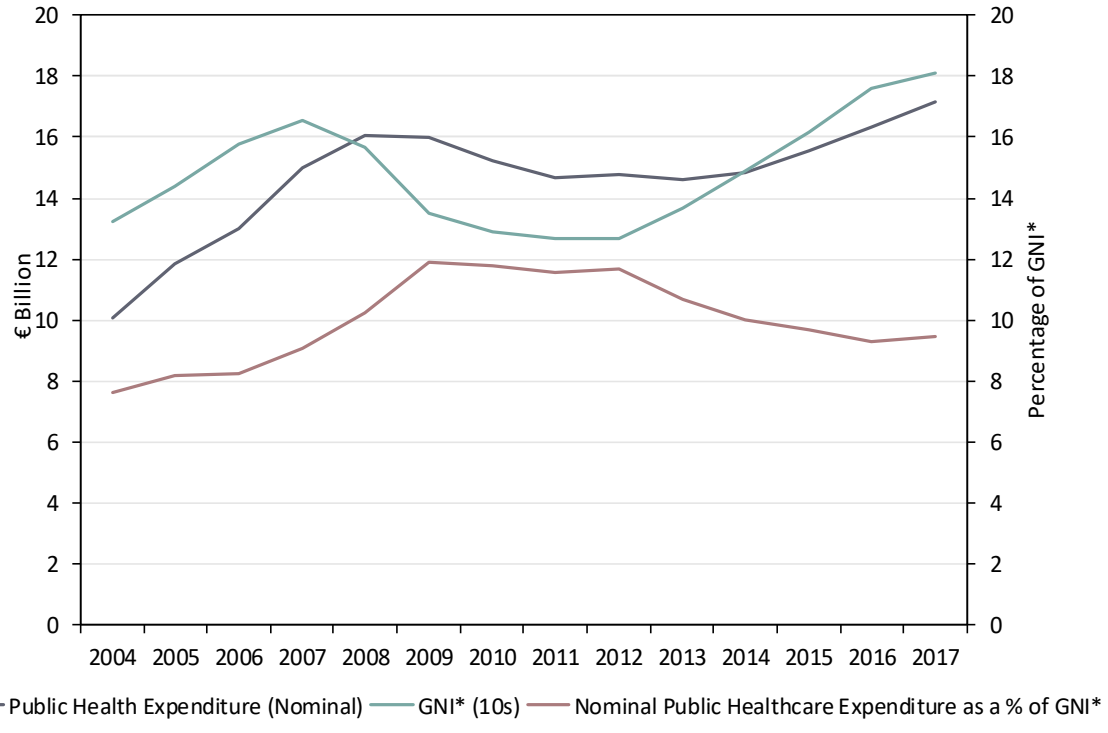
3 GNI* was chosen to represent Ireland's economic performance during the period 2004-2017. This choice was made because more traditional measures of Ireland's economic performance, such as GDP, GNP and GNI, are disrupted by the returns of large multinational firms based in Ireland (6).

lag in the reduction in public HCE, it continued to grow rapidly to 11.9 per cent of GNI* in 2009.

GNI* continued to decrease until 2012, when it measured €126 billion. Public HCE also decreased in 2010 and 2011 before increasing slightly to €14.8 billion in 2012. As a result, public HCE remained fairly steady as a percentage of GNI*, decreasing slightly to 11.7 per cent by 2012. GNI* increased rapidly from 2013, reaching €181 billion by 2017. Public HCE decreased to €14.6 billion in 2013, resulting in a further decrease as a percentage of GNI* to 10.7 per cent. Public HCE increased rapidly from 2014 to €17.1 billion in 2017. Despite these rapid increases in nominal public HCE, it continued to fall to 9.3 per cent of GNI* in 2016. It grew slightly to 9.5 per cent of GNI* in 2017.

Figure 2 shows the relationship between trends in the wider economy and public HCE from 2004 to 2017. It is not unreasonable, however, to suggest that the wider economic position may have differing effects on prices in different sectors or for different types of goods or services. For this reason, two implicit deflators are used in this report – one is used to deflate current HCE, while the other is used to deflate capital HCE. The construction of both of these deflators is discussed in section 3.2.

FIGURE 2 Public Total HCE (€ Billion) and as a percentage of GNI*



Source: Data for this figure are in Appendix Table A.3

3 Data & Methods

3.1 Population

The population figures used for 2004 and 2005 are from the CSO's Population and Migration estimates[4] (7). The population figures used for 2006 to 2030 in this report are generated by the ESRI's cohort component population projection model, informed by the 2006, 2011 and 2016 censuses of population (2). The population projections using the central population growth scenario are used in this analysis. Estimated population change is driven by assumptions[5] regarding fertility rates, net migration, and life expectancy change. Population estimates and projections are made on a de facto basis[6].

3.2 Price Deflators

Two price deflators are used to present HCE in real terms with 2004 as the base year in this analysis. That is, the application of price deflators allow us to remove the effect of price changes in understanding trends in public HCE over time. Both deflators are constructed using data sourced from the National Income and Expenditure Annual Report for 2017[7] (5). For both deflators, a value of 100 indicates that prices are the same as they were in 2004, the reference year. A value higher than 100 indicates that prices are higher than they were in 2004, while a value lower than 100 indicates that prices are lower than they were in 2004. The magnitude of the difference between 100 and the value for a given year indicates the difference in prices between 2004 and that year in percentage terms. For instance, if the value for a given year is 110 then prices for that year were 10 per cent higher than in 2004, while if the value for a given year is 90 then prices for that year were 10 per cent lower than in 2004.

The first deflator, used to deflate current expenditure, was constructed using the ratio of net expenditure by central and local government on current goods and services in current prices to net expenditure by central and local government on current goods and services in constant (2016) prices as shown in Figure 3. Prices increased from 100 in 2004 to 118.4 in 2008. This constituted an increase in prices of 18.4 per cent over the period. Prices decreased slightly to 113.5 in 2010. By 2017 prices were 16.6 per cent higher than 2004.

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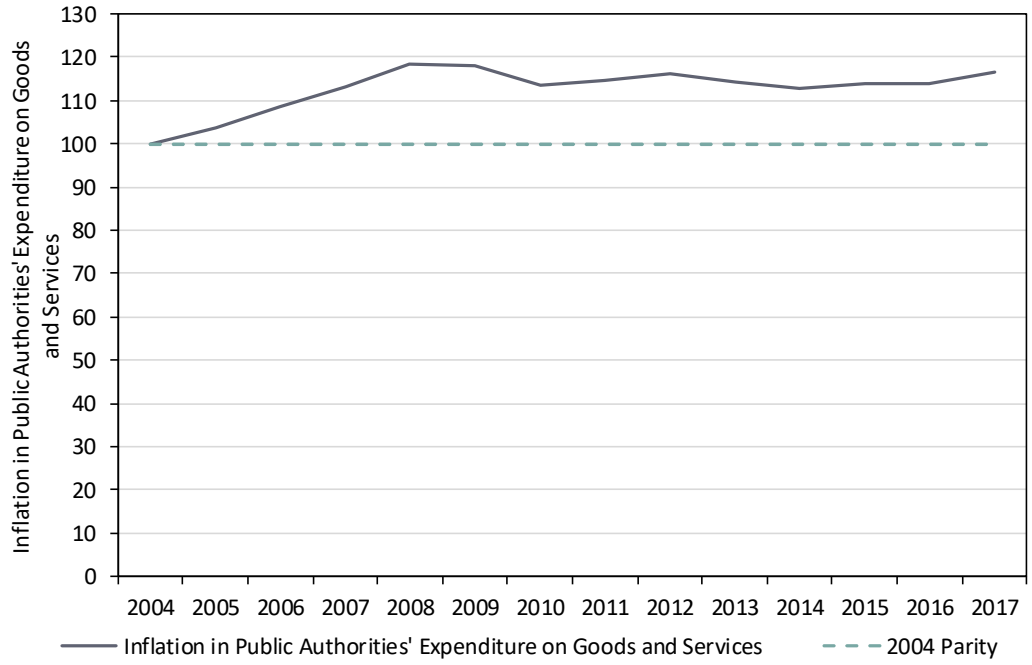
4 The CSO's Population and Migration Estimates were made on a de facto basis up to 2005, but changed to a usual residence basis after this.

5 See Wren et al. (2) for a discussion of the assumptions involved.

6 The population on a de facto basis records the number of people resident on the night of each census. The alternative, the usual residence basis, records the number of people who would normally be resident (8).

7 2017 figures in the National Income and expenditure Annual Report for 2017 were preliminary (5).

FIGURE 3 Inflation in Public Authorities' Expenditure on Goods and Services



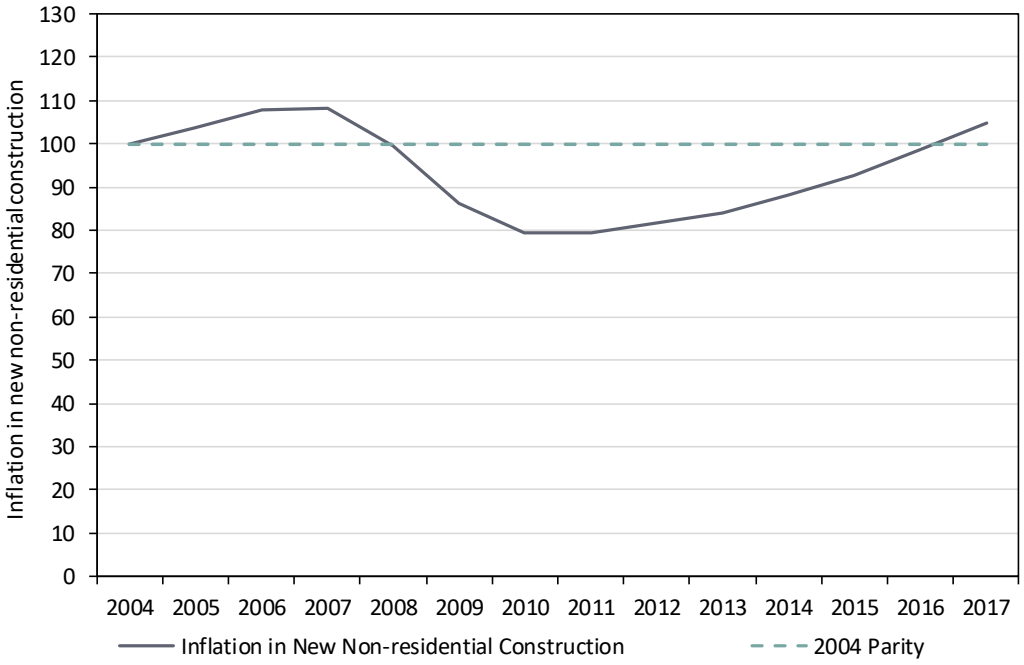
Note: 2004 is the base year
Source: National Income and Expenditure accounts (2005-2017) (5)

The second deflator, used to deflate capital expenditure, was constructed similarly using prices for other building and construction[8]. As shown in Figure 4, capital prices evolved differently to current prices over the period of analysis. Capital prices increased from 100 in 2004 to 108.4 in 2007. Prices then dropped each year from 2008 to 2011, at which point they reached 79.4. They then increased each year to 104.8 in 2017. This was the first year, since 2007, that prices were greater than 100. At their lowest, in 2010 and 2011, capital prices were 20.6 per cent lower than in 2004.

The use of these two deflators, rather than one combined deflator, allows for the greater contextualisation of public HCE trends in this report. Real public total HCE is the sum of real public current HCE and real public capital HCE.

8 Other building and construction includes expenditure on land rehabilitation but excludes expenditure on dwellings and roads (5).

FIGURE 4 Inflation in other building and construction



Note: 2004 is the base year
Source: National Income and Expenditure accounts (2005-2017) (5)

3.3 Public HCE

Public current and capital HCE were sourced from the gross reports of voted expenditure published in an online databank by the Department of Public Expenditure and Reform (DPER) (9). The databank currently contains actual expenditure outturns, per the Auditor General's Appropriation Accounts, for each vote in each year from 1994 to 2017[9]. The actual outturns of the relevant votes, as set out in Table 1, were aggregated for each year from 2004 to 2017. An inclusive approach to reconciliation of the series has been used in this analysis. As such, where votes, which had been included in the series, were split into multiple votes, all resulting votes are included in the series. Also, where specific items of expenditure are moved from an included vote to a vote not included in the series, that item is reintroduced to the series with as much precision as possible.

9 There are some discrepancies as to which expenditures are recorded as current and which are recorded as capital between the online databank and the Appropriation Accounts. All expenditure from the votes for the Office of the Minister for Children, the Office of the Minister for Children and Youth Affairs, and Children and Youth Affairs are recorded as current expenditure in the Appropriation Accounts, while they are split between current and capital expenditure in the online databank. The definition for current and capital public HCE used to compile the online databank is used in this report.

TABLE 1 Health-Related Votes 2004-2017

Years	Votes
2004 - 2005	39 (Health and Children), 40 (HSE)
2006 - 2007	39 (Health and Children), 40 (HSE), 41 (Office of the Minister for Children)
2008 - 2009	39 (Health and Children), 40 (HSE), 41 (Office of the Minister for Children and Youth Affairs)
2010	39 (Health), 40 (HSE), 41 (Office of the Minister for Children and Youth Affairs)
2011	38 (Health), 39 (HSE), 40 (Children and Youth Affairs), 41 (Office of the Minister for Children and Youth Affairs)
2012 - 2014	38 (Health), 39 (HSE), 40 (Children and Youth Affairs)
2015 - 2017	38 (Health), 40 (Children and Youth Affairs)

Note: The names and numbers of votes are taken from the Revised Estimates Volumes, while the dates in which votes were established/disestablished are taken from the online database.

Sources: Gross voted expenditure outturn (2004-2017) (9).
Revised Estimates Volumes 2005-2018 (10-23).

There were seven different combinations of votes in the fourteen years covered by this series. In 2004, the first year in the series, the votes for the DoHC and the HSE were included. By 2010, a new vote encompassing expenditure by the Office of the Minister for Children and Youth Affairs had been established. As expenditure in this new vote had previously been captured in the vote for the DoHC, it was included in the analysis alongside the vote for the HSE and the DoH. The HSE vote was disestablished in 2015. Starting in 2015, the HSE was funded via a grant, which is captured in the vote for the DoH. In 2017, the final year in the series, the vote for the DoH and the vote for Children and Youth Affairs were included. The amounts attributable to each vote, as well as the total appropriations in aid for each year are included in Table 2.

TABLE 2 Make-up of the voted HCE series 2004-2017 (€ Millions)

Vote	2004 (€M)	2005 (€M)	2006 (€M)	2007 (€M)	2008 (€M)	2009 (€M)	2010 (€M)	2011 (€M)	2012 (€M)	2013 (€M)	2014 (€M)	2015 (€M)	2016 (€M)	2017 (€M)
Health and Children	284	335	364	433	502	425								
HSE	9,785	11,486	12,294	13,946	14,893	15,135	14,574	14,003	14,090	13,977	13,654			
Office of the Minister for Children			354	601										
Office of the Minister for Children and Youth Affairs					645	444	335	169						
Health							322	285	244	219	195	14,549	15,246	15,890
Children and Youth Affairs								209	422	407	999	1,029	1,088	1,250
Gross Current Total	9,561	11,297	12,517	14,281	15,356	15,501	14,833	14,323	14,398	14,248	14,417	15,152	15,870	16,653
Gross Capital Total	508	524	496	699	683	503	398	353	358	355	431	427	465	487
Total Appropriations-in-Aid[a]	1,476	2,178	2,310	2,544	2,252	3,236	3,532	1,467	1,507	1,383	1,365	1,640[b]	1,488[b]	1,431[b]

Notes:
a Appropriations-in-Aid consist of all appropriations-in-aid of each included vote in each year.
b In 2015, 2016 and 2017, Appropriations-in-Aid also include: Patient income, Other income, Revenue Funding Applied to Capital Projects, Application of Proceeds of Disposals and Government Departments and Other Sources as reported in the HSE Annual Report and Financial Statements (2016-2017).

Sources: DPER (9); HSE (24, 25)

As stated above, gross expenditure may be partly funded via income receipts such as private charges to patients, while net expenditure excludes any expenditure not funded through taxation. Prior to the disestablishment of the HSE vote, statutory HSE expenditure was included in the vote in gross terms, while voluntary/agency HSE expenditure was included in the vote in net terms. Since the disestablishment of the HSE vote, all HSE expenditure is included in the vote in net terms. Appropriations in aid were also included in the HSE vote prior to its disestablishment. Appropriations in aid consisted of income receipts, such as private charges to patients, to the statutory sector of the HSE.[10] Appropriations in aid to the average nominal value of over two billion euro were included in the HSE vote each year.

In 2014, appropriations in aid to the value of €1.3 billion were reported in the HSE vote, while only €4.7 million of appropriations in aid were reported in the DoH vote. Appropriations in aid in the DoH vote amounted to €528 million in 2015, a significant increase due to the inclusion of certain items of appropriations in aid, such as excise duties on tobacco products, which had previously been counted in the HSE vote. However, the majority of HSE appropriations in aid have not been included in the DoH vote since the disestablishment of the HSE vote. For the sake of consistency and comparability, certain items of current[11] and capital[12] income have been added to the series in 2015, 2016 and 2017 to make up for the missing appropriations in aid.

The Domiciliary Care Allowance (DCA) is a scheme through which monthly payments are made to children aged under 16 who have a severe disability (27). Sole responsibility for the administration of the DCA lay with the HSE until 2009, when it was moved to the Department of Social and Family Affairs on a phased basis. By 2010, sole responsibility for the administration of the DCA lay with the Department of Social and Family Affairs. The movement of the reporting of expenditure on the DCA between votes mirrors this timeline. Expenditure on the DCA was recorded solely in the HSE vote until 2008, partly in the HSE vote and partly in the Department of Social and Family Affairs vote in 2009 and solely in the Department of Employment Affairs and Social Protection vote from 2010. The portion of the relevant vote[13] attributable to the DCA in 2009-2017 was added to the series in each year.

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10 Personal correspondence with the DoH.

11 Patient income and other income are added to the series of current expenditure in 2015, 2016 and 2017 (25, 26).

12 Revenue funding applied to capital projects, application of proceeds of disposals and government departments and other sources were added to the series of capital expenditure in 2015, 2016 and 2017 (25, 26).

13 The name of the vote in which expenditure on the DCA was reported changed multiple times between 2009 and 2017. The vote was named Social and Family Affairs in 2009, Social Protection from 2010 to 2016, and Employment Affairs and Social Protection in 2017.

3.4 HSE Programme Expenditure

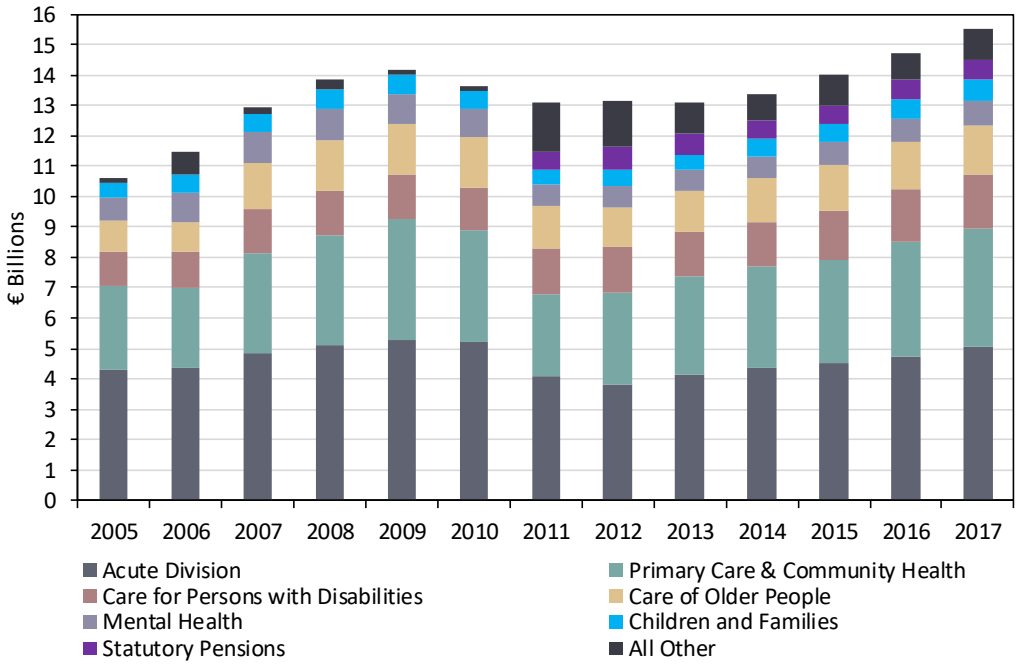
The DoH (28) provides a breakdown of current and capital HSE programme expenditure. Using this source, two series beginning in 2005 and ending in 2017 were constructed for this analysis. Unfortunately, there were changes in the way HSE programmes were financed[14] and to the method[15] used to account for current HSE programme expenditure in 2010. These differences were deemed to be irreconcilable, and as a result, HSE programme expenditures pre- and post-2010 are not directly comparable. The series for current HSE programme expenditure is, therefore, analysed as two related yet distinct series – one series spanning 2005 to 2010 and the other spanning 2011 to 2017.

Figure 5 highlights the break in the series between 2010 and 2011. Note the introduction of Statutory Pensions (purple) and the increase in size of the All Other category (black) in 2011. The All Other category contains Multi Care Group Services, Social Inclusion, Palliative Care & Chronic Illness and Other. These four categories were apportioned across Primary Care & Community Health, Care for Persons with Disabilities, Care of Older People, Mental Health and Children and Families prior to 2011. The All Other category also includes Corporate which was introduced in 2011.

[14] The health contribution was abolished between 2010 and 2011. The effect of this change can most easily be seen in the decrease of over €2 billion in appropriations in aid in Table A.8 (29).

[15] The DoH has explained that in 2012 it was agreed that the Revised Estimates should be aligned with the detail as provided in the HSE's National Service Plan: In previous years, central costs were apportioned across care programmes whereas now these costs have been kept in a corporate heading. A significant issue in this regard relates to pension costs and to assign these costs to the programmes can result in a misleading picture as this funding is not available for the relevant services. For this reason, it was agreed between the Departments of Health and Public Expenditure and Reform that restating the Revised Estimates in line with the National Service Plan was an appropriate approach (29).

FIGURE 5 Components of Current HSE Programme Expenditure (€ Billions)



Notes: The All Other category contains the two Other categories, Multi Care Group Services, Social Inclusion, Corporate, Palliative Care & Chronic Illness, Health and Wellbeing, and Long Term Charges Repayment Scheme from Table A.7.
Other, Multi Care Group Services, Social Inclusion and Palliative Care & Chronic Illness were apportioned across Primary Care & Community Health, Care for Persons with Disabilities, Care of Older People, Mental Health and Children and Families prior to 2011.

Source: Table A.7 in the Appendix

Responsibility for the delivery of the Children and Families programme was transferred from the HSE to the newly established Child and Family Agency under the authority of the Office of the Minister for Children & Youth Affairs in 2014. As such, expenditure on the programme was also transferred to the Office of the Minister for Children & Youth Affairs vote. Gross expenditure on this programme has been added to the current HSE programme expenditure for 2014-2017 for consistency[16].

3.5 HSE Staffing

Whole Time Equivalents (WTEs) sourced from HSE personnel censuses were used to construct series of HSE and section 38[17] staffing levels from 2007 to 2017. This analysis uses WTEs excluding career breaks in December each year that are organised into the HSE's staff categories[18]. The series begins in 2007 due to changes in the methods used by the HSE to compile employment numbers. As a

16 No changes to the figures for Appropriations in aid in Table A.8 have been in respect of the re-introduction of expenditure on the Children and Families programme. As such, net current HSE programme expenditure may be slightly over stated from 2014 to 2017.

17 Section 38 refers to section 38 of the Health Act (2004). Under section 38, the HSE may enter an arrangement with a person or group for the provision of health or personal social services on behalf of the executive (30). Section 38 agencies are largely funded through the HSE, are bound by the DoH's consolidated pay scales and are subject to the employment control framework.

18 The HSE employs six staff categories. These are: Medical/ Dental, Nursing, Health & Social Care Professionals, Management/ Administration, General Support Staff, and Patient & Client Care.

result of this change in methodology, there was an increase of circa 4,000 WTEs reported in 2007 compared to 2006, rendering comparisons pre- and post- 2007 problematic[19].

The HSE series has been adjusted for two changes in HSE staffing that occurred in 2011 and 2014 respectively. The first adjustment concerns the establishment of the Child and Family Agency in 2014, as discussed in section 3.4. The HSE censuses from 2007 to 2013 include the WTEs of those staff working in the Children and Family Services. Staff involved who worked in the Children and Family Services in 2013 were transferred to the newly established Child and Family Agency in 2014. The transfer of these WTEs impacted on the comparability of the series pre- and post- 2014. The WTEs employed by the Child and Family Agency are reported in the Child and Family Agency's annual financial statements. However, the Child and Family Agency WTEs are reported in different staff grades/categories than are used by the HSE[20]. The WTEs in the Child and Family Agency staff grades/categories were mapped to the HSE staff categories as per Table A.1 in the appendix[21,22]. The series was reconciled by adding the mapped Child and Family Agency WTEs to the WTEs in the HSE census from 2014 to 2017.

The second adjustment to the series concerns the administration of the Supplementary Welfare Allowance (SWA). The SWA is a weekly allowance paid to people who do not have the means to meet their needs or those of their dependents (31). The SWA has been financed by the Department of Employment and Social Protection since before 2004 and as such is not included in the series of public HCE. However, prior to 2011 the SWA was administered by the HSE. In 2011, the administration of the allowance was transferred to the Department of Social Protection. The HSE staff who were involved in administering the SWA were also transferred to the Department of Social Protection at this time. Circa 1,000 WTEs, mainly community welfare officers, left the HSE as part of this transfer of responsibility[23]. This impacted on the comparability of staffing levels pre- and post-2011. In keeping with the methods used to reconcile breaks in other series used in this analysis, an attempt was made to reintroduce these WTEs into the series for 2011 to 2017.

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19 The main change in methodology was the reporting of all staff on payroll of health service agencies previously excluded. These staff were mainly in the categories of chaplains, student nurses, externally funded posts and a variety of other posts/agencies.

20 Staff grades/categories reported in the Child and Family Agency annual financial statement are: Social Work, Social Care, Psychology and Counselling, Other Support Staff including catering, Other Health Professionals, Nursing, Management VIII+, Family Support, Education and Welfare Officer, and Administration grade III-VII (Child and Family Agency annual financial statement (2015-2017).

21 The mapping of Child and Family Agency staff grades/ categories to HSE staff categories was carried out with reference to HSE staff grades in the HSE census and was confirmed as appropriate via personal correspondence with the HSE.

22 There is an implied assumption in this mapping process that all WTEs in the Child and Family Agency in December 2014 worked in the HSE's Children and Families Service in December 2013.

23 Personal correspondence with the HSE.

Community welfare officers fall into the 'Patient & Client Care' staff category in the HSE. In 2010, 750.18 HSE WTEs were attributable to community welfare officers, while in 2011 only 22.1 HSE WTEs were attributable to community welfare officers. An assumption was made that all 1,000 WTEs that transferred to the Department of Social Protection in 2011 had belonged to the 'Patient & Client Care' staff category. 1,000 WTEs were added to the 'Patient & Client Care' staff category in 2011 to reconcile the number of WTEs in 2011 with those in 2007 to 2010. The 1,000 additional WTEs represented 6.6 per cent of the number of 'Patient & Client Care' WTEs recorded in the HSE Census in 2011. The number of 'Patient & Client Care' WTEs in each year from 2012-2017 was increased by 6.6 per cent to reconcile the series.

3.6 HSE Pay Expenditure

HSE pay, agency pay and superannuation are reported in the HSE annual report and financial statements each year. These figures were used as a base on which to construct series of HSE pay expenditure. HSE pay and agency pay for each HSE staff category are reported in the HSE annual report and financial statements each year[18]. Overall HSE superannuation, not broken down by staff category, is also reported. The series of HSE pay and superannuation begins in 2007 and ends in 2017. 2007 was chosen as the starting point due to the change in methodology used by the HSE to compile employment numbers in this year. The series of agency pay does not begin until 2009 as it was not reported by the HSE until that year. All pay expenditure is presented in nominal terms in this analysis.

As with other series in this report, adjustments needed to be made to facilitate appropriate comparisons across years. The first adjustment involved the transfer of staff from the HSE's Children and Family Services to the Child and Family Agency in 2014, as discussed in section 3.5. The Child and Family Agency annual financial statements (32-34) include a breakdown of pay expenditure into Child and Family Agency pay, agency pay and superannuation. However, they do not apportion these pay expenditures across staff grades/ categories as is done for staff categories in the HSE annual report and financial statements.

An attempt was made to apportion Child and Family Agency pay across the HSE staff categories which Child and Family Agency WTEs were mapped to in section 3.5. This was done by distributing the overall pay expenditure of the Child and Family Agency in each year across the six staff categories according to the proportion of pay-adjusted WTEs in each staff category in each year[24]. The proportion of pay-adjusted WTEs in each staff category in each year was estimated using the number of WTEs employed across six staff categories under the HSE Children and Family services in 2013, the average pay of each of the six staff

[24] A detailed explanation of the methodology used is available on request.

categories in the HSE in each year from 2014 to 2017, and the number of WTEs in the Child and Family Agency in each year from 2014 to 2017[25].

The second adjustment relates to the transfer of staff to the Department of Social Protection in 2011, as discussed in section 3.5. As it was necessary to reintroduce these WTEs to the latter part of the HSE staff series, so too is it necessary to add the pay associated with these staff to the HSE pay series. To reconcile the HSE staff series, WTEs in the 'Patient & Client Care' staff category were increased by 6.6 percent each year from 2011 to 2017. In the absence of any other data on the pay associated with these staff, a similar method was employed with the HSE pay series. The HSE pay reported for 'Patient & Client Care' was increased by 6.6 per cent for each year from 2011 to 2017.

Pay on section 38 and section 39[26] employees is not reported in the HSE annual report and financial statements. However, some section 38 pay expenditure is and has been included in HSE pay expenditure in other HSE reports [27,28]. Section 38 pay expenditure, as defined in this analysis, is calculated by subtracting the total pay expenditure as reported in the HSE annual report and financial statement from the total pay expenditure in the relevant report[28]. Pay for section 39 employees is not included in the HSE pay expenditure series. It is included as a non-pay element in the series of current HSE programme expenditure.

4 Findings & Discussion

4.1 Trends in Public HCE

4.1.1 Trends in Public Current HCE

Table 3 shows the changes in nominal (i.e. incorporating the effect of price changes on expenditure) public current HCE between 2004 and 2017. It also shows changes for public current HCE when it is contextualised for population and prices. Nominal public current HCE increased by 74.2 per cent during this period. This equates to an annual average increase of 4.4 per cent. The increase was not, however uniform across the period. There was high growth in nominal expenditure of 60.6 per cent between 2004 and 2008, a decrease in nominal expenditure between 2008 and 2013 and a return to growth between 2013 and 2017 with an increase of 16.9 per

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25 This estimate relies on various assumptions. It was assumed that the number of WTEs would have remained constant, at 2013 levels, between 2014 and 2017. It was also assumed that the average pay in each staff category across the HSE and within Children and Family Services were identical in 2013 and would have remained so from 2014 to 2017 had Children and Family Services not transferred to the Child and Family Agency.

26 Section 39 refers to section 39 of the Health Act (2004). Under section 39, the HSE may give assistance to any person or body that provides a service similar or ancillary to services provided by the executive (30).

27 Pay Expenditure in these reports include HSE pay costs as in the annual reports and financial Statements as well as the pay costs of the largest 33 of the 39 Section 38 Agencies.

28 Section 38 pay was reported as part of HSE pay in: Performance Monitoring Report (December) (2008), Supplementary Performance Report Data (December) (2009), Supplementary Report (December) (2010-2012), Management Data Report (December) (40-43) (2013, 2014, 2016, 2017).

cent. These periods largely coincided with growth and recession in the Irish economy.

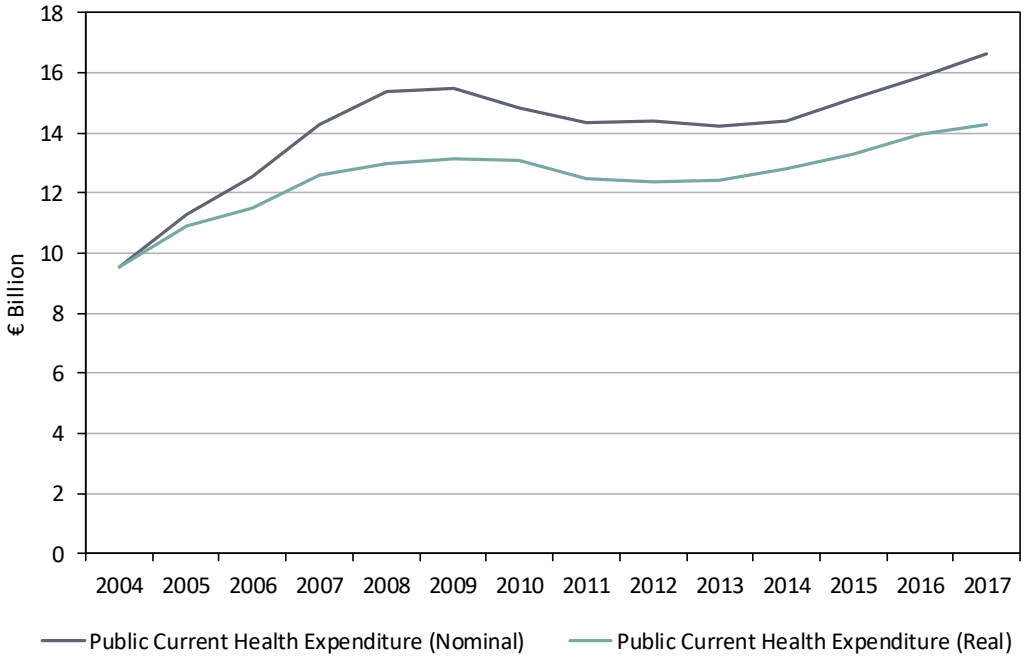
TABLE 3 Trends in Public Current HCE

	Change 2004-2008 %	Change 2008-2013 %	Change 2013-2017 %	Change 2004-2017 %	Annual Average Increase %
Nominal	60.6	-7.2	16.9	74.2	4.4
Per capita	44.9	-10.4	13.0	46.7	3.0
Per capita (≥ 65 years)	49.3	-21.4	1.4	19.0	1.3
Real (base=2004)	35.7	-4.1	14.8	49.4	3.1
Per capita	22.4	-7.3	10.9	25.8	1.8
Per capita (≥ 65 years)	26.2	-18.7	-0.5	2.1	0.2

Source: Underlying figures in the Appendix Table A.5

When adjusted for changes in prices, real public current HCE increased by 49.4 per cent during this period; representing an annual average increase of 3.1 per cent. Again, this increase was not spread evenly across the entire period. Changes in real expenditure within the period were similar to those seen for nominal expenditure, though the magnitude of the changes was diminished. This smoothing effect can be seen in Figure 6, which displays nominal and real public current HCE between 2004 and 2017.

FIGURE 6 Public Current HCE (€ Billions)



Note: 2004 is the reference year for real expenditure
Source: Data for this figure are in Table A.5 in the Appendix

Real public current HCE per capita also grew (by 25.8 per cent) during this period. This is equivalent to an annual average increase of 1.8 per cent. The lower increase in per capita real expenditure compared to real expenditure is an effect of increases in population size as seen in Section 2.1. Real public current expenditure per capita on healthcare follows a familiar pattern of increase and decrease in the periods from 2004 to 2008, 2008 to 2013 and 2013 to 2017.

As discussed above, to examine trends in public current HCE relative to trends in population ageing, we divide real expenditure by the population aged 65 and over. Real public current expenditure per capita over 65 on healthcare increased by 2.1 per cent between 2004 and 2017; representing an annual average increase of 0.2 per cent. Real per capita over 65 expenditure grew by 26.2 per cent, slightly more than real per capita expenditure, between 2004 and 2008. This was due to the more rapid growth in the size of the population compared to the age of the population between 2004 and 2008, as discussed in section 2.1. Real per capita over 65 expenditure decreased by 18.7 per cent and 0.5 per cent from 2008 to 2013 and from 2013 to 2017 respectively. This represents a decrease of 11.4 per cent compared to real per capita expenditure in the respective periods. This was due to the more rapid growth in population age as compared to population size described in section 2.1.

This analysis, summarised in Table 3, shows that although there was a large increase in nominal public current HCE during this period, the rate of increase is reduced when adjustments are made for increases in price, population growth and, in particular, population ageing. When adjusted for price and population ageing, growth in expenditure, which was nominally 74.2 per cent between 2004 and 2017, becomes a more modest 2.1 per cent increase over this 14-year period. An annual average increase of 4.4 per cent in nominal expenditure becomes an annual average increase of 0.2 per cent, with adjustment for price and population ageing.

4.1.2 Trends in Public Capital HCE

Table 4 shows changes in nominal public capital HCE between 2004 and 2017. It also shows changes in public capital HCE after it has been adjusted for changes in the population and prices. Nominal public capital HCE decreased by 4.2 per cent between 2004 and 2017. This is equivalent to an annual average decrease of 0.3 per cent. This decrease was not spread evenly throughout the period. Nominal public capital expenditure actually increased by 34.3 per cent and 37.2 per cent from 2004 to 2008 and from 2013 to 2017. Growth in nominal expenditure in that final period, however, started from a low point due to decreases amounting to 48 per cent between 2008 and 2013.

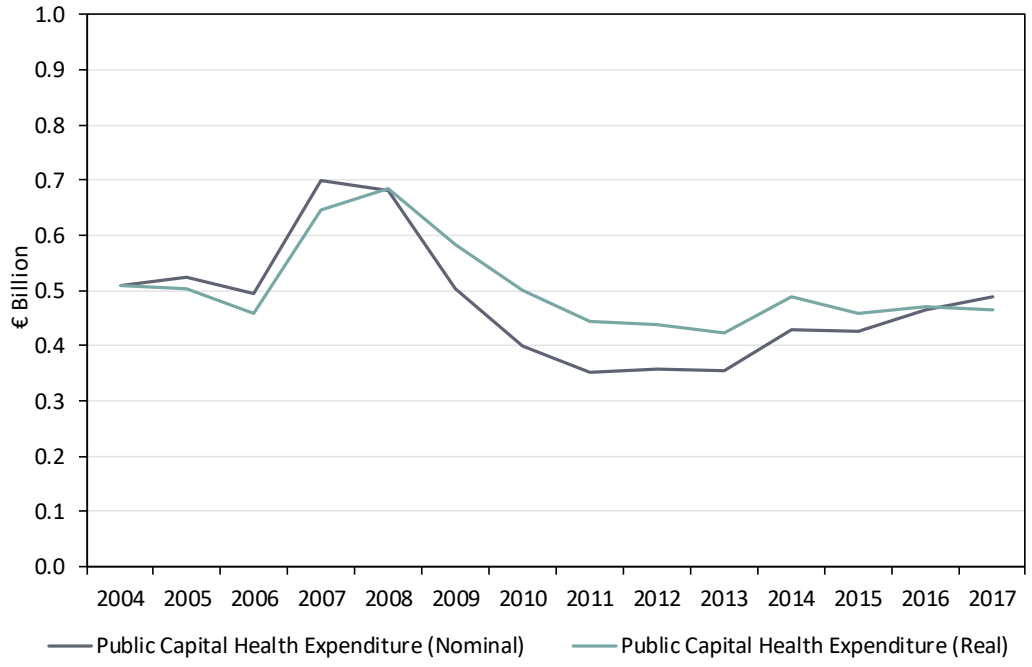
TABLE 4 Trends in Public Capital HCE

	Change 2004-2008 %	Change 2008-2013 %	Change 2013-2017 %	Change 2004-2017 %	Annual Average Increase %
Nominal	34.3	-48.0	37.2	-4.2	-0.3
Per capita	21.2	-49.8	32.7	-19.3	-1.6
Per capita (≥ 65 years)	24.9	-56.0	19.1	-34.5	-3.2
Real (base=2004)	34.9	-38.4	10.1	-8.5	-0.7
Per capita	21.7	-40.5	6.4	-23.0	-2.0
Per capita (≥ 65 years)	25.4	-47.8	-4.5	-37.5	-3.6

Source: Underlying figures in Table A.6 in the Appendix

Real public capital expenditure decreased by 8.5 per cent between 2004 and 2017; an annual average decrease of 0.7 per cent. The increase (34.9 per cent) in real public capital HCE was very similar to that seen in nominal capital expenditure between 2004 and 2008. Real nominal capital HCE decreased by 38.4 per cent from 2008 to 2013. This considerably smaller decrease, compared to the decrease seen in nominal capital expenditure, can be explained by the very large reduction in capital prices during this period, as can be seen in Figure 4. Real public capital HCE increased by 10.1 per cent between 2013 and 2017. This slower rate of growth, as compared to nominal capital expenditure, can be explained by the slow recovery in capital prices. Figure 7 shows the changes in nominal and real public capital HCE between 2004 and 2017.

FIGURE 7 Public Capital HCE (€ Billions)



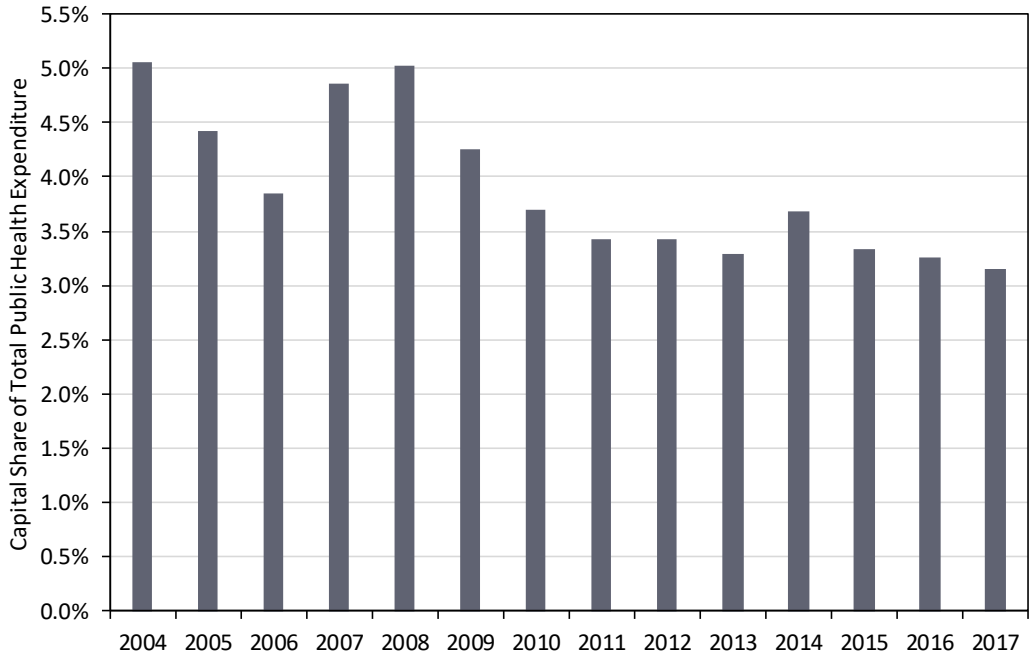
Note: 2004 is the reference year for real expenditure
Source: Data for this figure are in Table A.6 in the Appendix

Real public capital expenditure per capita decreased by 23 per cent between 2004 and 2017. This equates to an annual average decrease of 2 per cent. The more marked decrease, as compared to nominal and real capital expenditure, is due to the growth in the size of the population during this period. The even greater increases in the size of the population aged 65 and over during the period explains the larger decrease of 37.5 per cent in public capital expenditure per capita over 65 on healthcare. This decrease is the equivalent of an annual average decrease of 3.6 per cent.

Table 4 highlights that the low levels of capital investment in healthcare in recent times are of even more concern when adjusting for price, population growth and ageing. This lack of capital expenditure has shaped a public healthcare system defined by high levels of unmet need for services and long waiting times for care. A curative public hospital bed occupancy rate of 95 per cent further highlights a system where available capacity struggles to keep pace with demand (44).

Increased capital investment is therefore crucial in order to address the current under-capacity that has developed within the system but also in the context of large projected increases in population size and ageing between 2017 and 2030 (as discussed in section 2.1) which will further increase the demand for care. For instance, Wren et al. (2017) projects that demand for in-patient bed days in public hospitals will increase by between 32.2 and 36.7 per cent between 2015 and 2030. Estimates of the number of extra acute care beds that will be needed to meet this increased demand vary somewhat. Keegan et al. (45) project the need for between 3,500 and 5,600 extra acute public hospital beds by 2030, while PA Consulting (46) forecast that between 2,590 and 7,150 extra acute hospital beds by 2031. The National Development Plan (47) includes a commitment to increase acute public bed capacity by 2,600 beds by 2027, as well as the construction of additional primary care centres and community diagnostic facilities. The National Development plan also commits to additional ICT infrastructure as recommended in the Sláintecare report. Marked increases in public capital HCE will be required to increase service capacity in this time frame.

FIGURE 8 Capital share of Total Public Health Expenditure



Source: Data for this figure are in Tables A.5 and A.6 in the Appendix

Viewed from another perspective, (see Figure 8) the share of total public health expenditure assigned to capital expenditure has decreased from a high of 5.1 per cent in 2004 to a low of 3.2 per cent in 2017. In 2015, OECD countries allocated 9 per cent of GDP to current health expenditure and 0.5 per cent to capital health expenditure on average (48, 49). These figures included both public and private expenditure. This means that on average in 2015 in the OECD, capital expenditure accounted for 5.2 per cent of total expenditure on health. According to this source, capital expenditure accounted for 5 per cent of total HCE in Ireland in 2015. It is possible that the gap between this figure and the 2015 figure of 3.3 per cent as shown in Figure 8 reflects private capital expenditure. It is reported that public capital expenditure accounted for only 44.5 per cent of capital HCE in Ireland in 2013[29] (50).

4.1.3 Trends in Public Total HCE

Table 5 shows changes in nominal public HCE between 2004 and 2017. Over this period, public current HCE accounted for between 95 and 96.8 per cent of all public HCE. As a consequence, trends in overall public HCE reflect closely those presented in Table 3. Nominal public HCE increased by 70.2 per cent during the period. This equates to an annual average increase of 4.2 per cent. Real public health expenditure increased by 46.5 per cent between 2004 and 2017; an annual average increase of 3 per cent. Real public expenditure per capita on healthcare increased by 23.3 per cent between 2004 and 2017; an annual average increase of 1.6 per cent. Real public health expenditure per capita over 65 increased by 0.1 per cent

[29] 2013 was the only year in which the public and private breakdown of capital HCE was reported by the OECD.

during the period. This is equivalent to an annual average increase of 0.007 per cent. This suggests that public HCE kept pace with the increases in price and in the size of the population aged 65 and over in Ireland between 2004 and 2017. Increases in public HCE were not, however, evenly distributed across this time period. The increase in public HCE was front loaded with an increase in real public HCE per capita over 65 of 26.1 per cent between 2004 and 2008, followed by decreases of 20.2 per cent and 0.6 per cent in the two following time periods.

TABLE 5 Trends in Public Total HCE

	Change 2004-2008 %	Change 2008-2013 %	Change 2013-2017 %	Change 2004-2017 %	Annual Average Increase %
Nominal	59.3	-9.0	17.4	70.2	4.2
Per capita	43.7	-12.1	13.5	43.3	2.8
Per capita (≥ 65 years)	48.1	-22.9	1.8	16.3	1.2
Real (base=2004)	35.7	-5.8	14.6	46.5	3.0
Per capita	22.3	-9.0	10.8	23.3	1.6
Per capita (≥ 65 years)	26.1	-20.2	-0.6	0.1	0.0

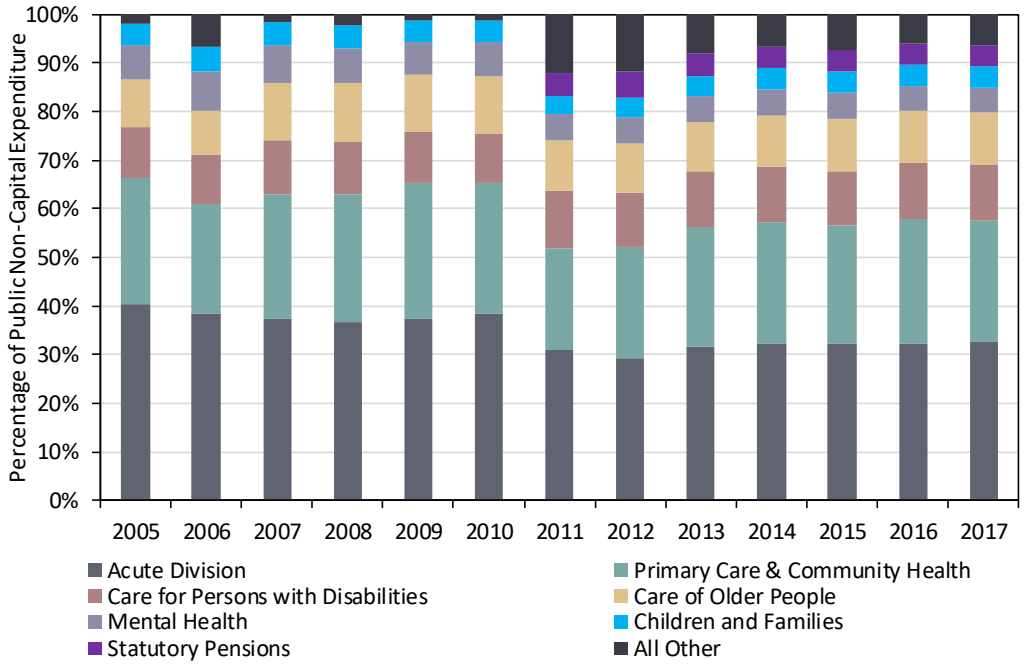
Note: 2004 is the reference year for real expenditure
Source: Figures and indexing methods in Table A.2 in the Appendix

4.2 Trends in HSE Programme Expenditure

4.2.1 Trends in Current HSE Programme Expenditure

Figure 10 shows the share of real current expenditure received by each of the HSE programmes. A statutory pensions category was introduced in 2011 and received a similar proportion of current HSE programme expenditure in each year up to 2017. Funding of centralised services, such as corporate services, and smaller community programmes such as social inclusion were extracted from the expenditure of the larger programmes in 2011. These programmes are captured in the all other category from 2011. The proportion of HSE programme expenditure which this category received shrank between 2011 and 2017. As explained above, due to irreconcilable inconsistencies, these series break between 2010 and 2011 so that trends in the pre and post-2010 periods are discussed separately here.

FIGURE 9 Share of Components of Current HSE Programme Expenditure



Notes: Nominal Expenditure
Other contains the two other categories, Multi Care Group Services, Social Inclusion, Corporate, Palliative Care & Chronic Illness, Health and Wellbeing, and Long Term Charges Repayment Scheme from Table A.7
Source: Table A.7 in the Appendix

Table 6 shows the trends in current expenditure of the care of older people programme from 2005 to 2010 and from 2011 to 2017. Expenditure on the care of older people programme increased considerably across all measures between 2005 and 2010 but then reduced in per capita aged over 65 and 80 terms over the period 2011-2017. From 2005-2010, the increases ranged from 25.4 per cent in real terms per capita aged over 80, to 55.8 per cent in nominal terms. These figures equate to annual average increases of 4.6 and 9.3 per cent respectively. From 2011-2017, expenditure on the care of older people programme also increased in nominal and real terms, with increases of 18.1 and 16.1 per cent respectively. These figures equate to annual average increases of 2.8 and 2.5 per cent respectively. However, nominal and real expenditure per capita aged over 65 decreased by 3.9 and 5.6 per cent respectively during this period. Nominal and real expenditure per capita aged over 80 also decreased by 1.4 and 3.1 per cent. These figures equate to annual average decreases of 0.2 and 0.5 per cent during the period.

TABLE 6 Trends in Current Expenditure on the Care of Older People Programme

	Change 2005-2010 %	Annual Average Increase 2005-2010 %	Change 2011-2017 %	Annual Average Increase 2011-2017 %
Nominal	55.8	9.3	18.1	2.8
Per capita (≥ 65 years)	38.8	6.8	-3.9	-0.7
Per capita (≥ 80 years)	37.3	6.5	-1.4	-0.2
Real (base=2004)	42.3	7.3	16.1	2.5
Per capita (≥ 65 years)	26.8	4.9	-5.6	-1
Per capita (≥ 80 years)	25.4	4.6	-3.1	-0.5

Source: Underlying figures in Table A.8 in the Appendix

Table 7 shows the trends in current expenditure of the children and families programme from 2005 to 2010 and from 2011 to 2017. Expenditure on the children and families programme increased across all measures between 2005 and 2010 and again from 2011 to 2017. In 2005-2010, the increases ranged from 7 per cent in real terms per capita, to 29.1 per cent in nominal terms. These figures equate to annual average increases of 1.4 and 5.2 per cent. The increase in expenditure per capita aged under 18 was marginally higher than the increase per capita. This is a result of a slightly lower growth in the population aged under 18 between 2005 and 2010 when compared to the overall population. In 2011-2017, current expenditure on the children and families programme also increased across all measures. The increases ranged from 20 per cent in real terms per capita to 27.8 per cent in nominal terms. These figures equate to annual average increases of 3.1 and 4.2 per cent respectively. The increase in expenditure per capita aged under 18 was, again, marginally higher than the increase per capita. As with the previous period, this is a result of a slightly lower growth in the population aged under 18 between 2011 and 2017 when compared to the overall population.

TABLE 7 Trends in Current Expenditure on the Children and Families Programme

	Change 2005-2010 %	Annual Average Increase 2005-2010 %	Change 2011-2017 %	Annual Average Increase 2011-2017 %
Nominal	29.1	5.2	27.8	4.2
Per capita	17.2	3.2	22.1	3.4
Per capita (<18)	17.3	3.2	22.5	3.4
Real (base=2004)	17.9	3.4	25.6	3.9
Per capita	7	1.4	20	3.1
Per capita (<18)	7.1	1.4	20.3	3.1

Source: Underlying figures in Table A.9 in the Appendix

Table 8 shows the trends in current expenditure of the care for persons with disabilities programme from 2005 to 2010 and from 2011 to 2017. Expenditure on the programme increased across all measures between 2005 and 2010 and again from 2011 to 2017. In 2005-2010, the increases ranged from 5.5 per cent in real

terms per capita, to 27.3 per cent in nominal terms. These figures equate to annual average increases of 1.1 and 4.9 per cent. In 2011-2017, current expenditure on the programme also increased across all measures. The increases ranged from 10.6 per cent in real terms per capita to 17.9 per cent in nominal terms. These figures equate to annual average increases of 1.7 and 2.8 per cent respectively.

TABLE 8 Trends in Current Expenditure on the Care for Persons with Disabilities Programme

	Change 2005-2010 %	Annual Average Increase 2005-2010 %	Change 2011-2017 %	Annual Average Increase 2011-2017 %
Nominal	27.3	4.9	17.9	2.8
Per capita	15.5	2.9	12.7	2
Real (base=2004)	16.3	3.1	15.8	2.5
Per capita	5.5	1.1	10.6	1.7

Source: Underlying figures in Table A.10 in the Appendix

Table 9 shows the trends in current expenditure of the mental health programme from 2005 to 2010 and from 2011 to 2017. Expenditure on the programme increased across all measures between 2005 and 2010 but decreased in real terms relative to the older population in the 2011-2017 period. In 2005-2010, the increases ranged from 1.2 per cent in real terms per capita aged 65 and over to 24.4 per cent in nominal terms. These figures equate to annual average increases of 0.2 and 4.5 per cent. In 2011-2017, current expenditure on the programme also increased across nominal, nominal per capita, real and real per capita expenditure. The increases ranged from 13.3 per cent in real terms per capita to 20.8 per cent in nominal terms. These figures equate to annual average increases of 2.1 and 3.2 per cent respectively. However, nominal and real per capita aged 65 and over expenditure decreased by 1.7 and 3.5 per cent respectively during this period. These figures equate to annual average decreases of 0.3 and 0.6 per cent.

TABLE 9 Trends in Current Expenditure on the Mental Health Programme

	Change 2005-2010 %	Annual Average Increase 2005-2010 %	Change 2011-2017 %	Annual Average Increase 2011-2017 %
Nominal	24.4	4.5	20.8	3.2
Per capita	12.9	2.5	15.4	2.4
Per capita (≥ 65 years)	10.8	2.1	-1.7	-0.3
Real (base=2004)	13.6	2.6	18.7	2.9
Per capita	3.1	0.6	13.3	2.1
Per capita (≥ 65 years)	1.2	0.2	-3.5	-0.6

Source: Underlying figures in Table A.11 in the Appendix

Table 10 shows the trends in current expenditure of the primary care & community health programme from 2005 to 2010 and from 2011 to 2017. Expenditure on the programme increased across all measures between 2005 and 2010 and again from 2011 to 2017. In 2005-2010, the increases ranged from 7.6 per cent in real terms per capita aged over 65, to 32.1 per cent in nominal terms. These figures equate to

annual average increases of 1.5 and 5.7 per cent. In 2011-2017, the increases ranged from 13 per cent in real terms per capita aged over 65 to 41.4 per cent in nominal terms. These figures equate to annual average increases of 2.1 and 6 per cent respectively.

TABLE 10 Trends in Current Expenditure on the Primary Care & Community Health Programme

	Change 2005-2010 %	Annual Average Increase 2005-2010 %	Change 2011-2017 %	Annual Average Increase 2011-2017 %
Nominal	32.1	5.7	41.4	6
Per capita	19.9	3.7	35.1	5.1
Per capita (≥ 65 years)	17.7	3.3	15	2.4
Real (base=2004)	20.7	3.8	38.9	5.6
Per capita	9.6	1.8	32.7	4.8
Per capita (≥ 65 years)	7.6	1.5	13	2.1

Source: Underlying figures in Table A.12 in the Appendix

Table 11 shows the trends in current expenditure of the acute hospital division from 2005 to 2010 and from 2011 to 2017. Expenditure on the acute hospital division increased across all measures, except when expressed relative to the population aged 65 and over, between 2005 and 2010; and again from 2011 to 2017. In 2005-2010, the increases ranged from 1.4 per cent in real terms per capita to 22.3 per cent in nominal terms. These figures equate to annual average increases of 0.3 and 4.1 per cent. However, real expenditure per capita aged over 65 decreased by 0.5 per cent during this period, with an annual average decrease of 0.1 per cent. In 2011 to 017, the increases ranged from 1.4 per cent in nominal per capita expenditure to 24.6 per cent in nominal terms. These figures equate to annual average increases of 0.2 and 3.7 per cent respectively. Real per capita aged 65 and over expenditure decreased by 0.4 per cent during this period, with an annual average decrease of 0.1 per cent.

TABLE 11 Trends in Current Expenditure on the Acute Hospital Division

	Change 2005-2010 %	Annual Average Increase 2005-2010 %	Change 2011-2017 %	Annual Average Increase 2011-2017 %
Nominal	22.3	4.1	24.6	3.7
Per capita	11	2.1	19	2.9
Per capita (≥ 65 years)	8.9	1.7	1.4	0.2
Real (base=2004)	11.7	2.2	22.4	3.4
Per capita	1.4	0.3	16.9	2.6
Per capita (≥ 65 years)	-0.5	-0.1	-0.4	-0.1

Source: Underlying figures in Table A.13 in the Appendix

Table 12 shows the proportion of real current expenditure received by the six HSE programmes analysed above from 2005 to 2010 and from 2011 to 2017. Between 2005 and 2010, the share of real current expenditure received by the care of older people programme and the primary care & community health programme

increased from 10 and 26.7 per cent respectively to 12 and 27.3 per cent respectively. The increased share of real expenditure for these two programmes was offset by small decreases in the share of expenditure received by the care for persons with disabilities and mental health programmes, as well as a larger decrease, from 41.1 per cent to 38.8 per cent, in the share of expenditure received by the acute hospital division.

In the later period from 2011-1017, the share of real current expenditure received by the primary care & community health programme increased from 25.1 per cent to 27.9 per cent. There was also a small increase in the share received by the children and families programme, from 4.8 to 4.9 per cent. The shares of the other four HSE programmes in Table 12 decreased during this period, with the largest decrease of 1 percentage point for the care for persons with disabilities programme.

TABLE 12 Share of Real Current Expenditure Received by HSE Programmes

	2005 share (%)	2010 Share (%)	2011 share (%)	2017 share (%)
Care of Older People	10.0	12.0	12.7	11.8
Children and Families	4.5	4.5	4.8	4.9
Care for Persons with Disabilities	10.6	10.4	13.9	12.9
Mental Health	7.2	6.9	6.3	6.0
Primary Care & Community Health	26.7	27.3	25.1	27.9
Acute Hospital Division	41.1	38.8	37.2	36.5

Note: Excludes statutory pensions, the two other categories, Multi Care Group Services, Social Inclusion, Corporate, Palliative Care & Chronic Illness, Health and Wellbeing, and Long Term Charges Repayment Scheme from Table A.7

Source: Underlying figures in Table A.7 in the Appendix

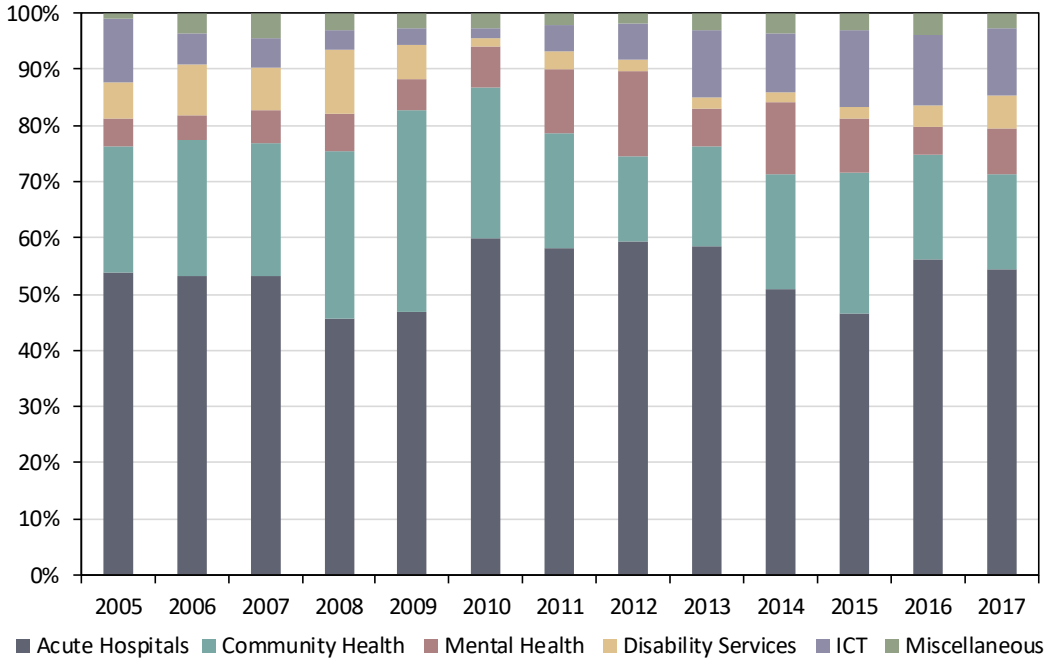
The primary care & community health programme is the only programme which received an increase in its share of real expenditure in both periods. The care for persons with disabilities programme, the mental health programme and the acute hospital division, on the other hand, each received a decrease in their share of real expenditure in both periods. The changes to the share of current expenditure received by the primary care & community health programme and the acute hospital division may indicate that attempts were made to transfer care from hospitals to communities during these periods.

4.2.2 Trends in Real Capital HSE Programme Expenditure

Figure 11 shows the proportion of real HSE capital expenditure that was received by the six programmes discussed above between 2005 and 2017. In this case, the price deflator used to convert nominal to real expenditure was constructed using prices for other building and construction. The trend in total real HSE capital expenditure is similar to that seen in real public capital HCE in Figure 7. This is to be expected as HSE capital expenditure accounts for a large portion of public capital HCE. The share of capital expenditure received by each programme varied

more from year to year than did the shares of current expenditure as seen in Table 12. Combined, capital expenditure on acute hospitals and community health accounted for more than 70 per cent of capital expenditure in each year, reaching a high of 86.6 per cent in 2010. Acute hospitals accounted for 53.9 per cent of HSE capital expenditure in 2005 and 54.4 per cent in 2017, though there was considerable variation, from 45.7 per cent to 60 per cent, between these years. Community health accounted for 22.4 per cent of capital expenditure in 2005 and decreased to 17 per cent in 2017, though it reached as high as 36 per cent in 2009.

FIGURE 10 Share of Public Capital HCE on Components



Note: Real Expenditure with 2004 as the base year
Source: Table 6.3 in Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

The proportion of HSE capital expenditure that went to ICT increased from 1.8 per cent in 2010 to 11.8 per cent in 2013, and varied between 10.6 and 13.8 per cent between then and 2017. Disability services received more than 6 per cent of the HSE capital spend in each year between 2005 and 2009. It then received less than 2 per cent in each year to 2015, before increasing to 3.8 and 5.6 per cent in 2016 and 2017 respectively.

4.3 Trends in HSE Pay Expenditure and Staffing

In this section, we examine HSE pay expenditure and staffing over the period 2007-2017. This section starts with a brief overview of expenditure attributable to statutory HSE pay, section 38 pay, agency pay and HSE superannuation. Trends in HSE pay and section 38 pay are examined in the following section. This is followed by an examination of trends in HSE and section 38 staffing of six staff categories. Trends in the average pay of these six staff categories are briefly examined in

subsection 4.3.4. In the final two subsections, trends in agency pay and HSE superannuation are examined.

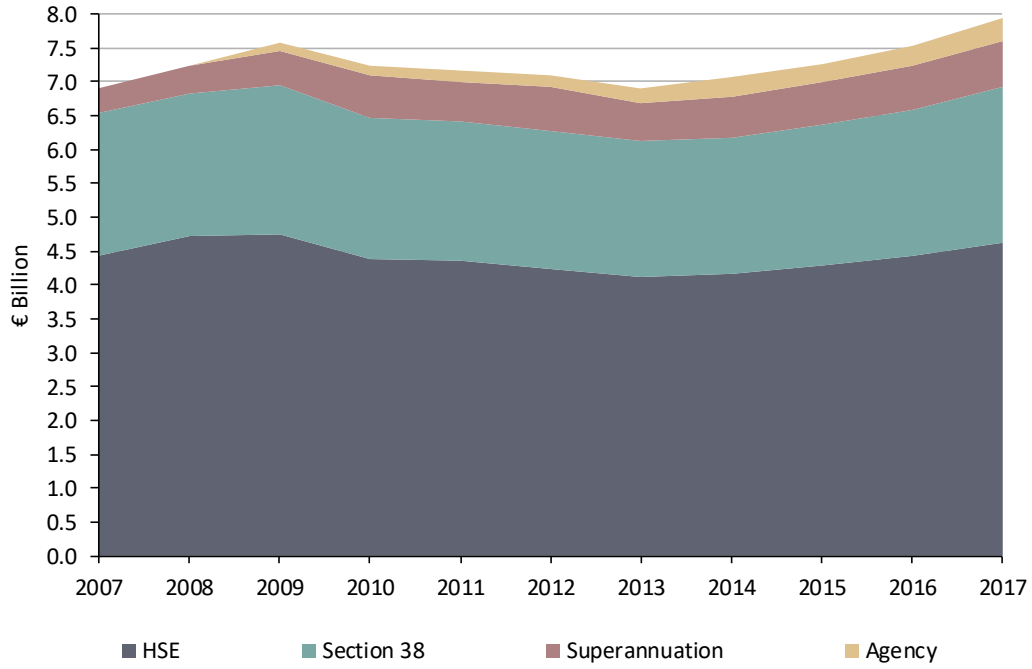
The fiscal crisis which began in 2008 presented an enormous challenge to the HSE in terms of pay expenditure and staffing. A scheme for incentivised early retirements ran from May to September in 2009 (59). The intended purpose of the scheme was to contribute to a permanent reduction in staff numbers and restructuring of the HSE without impinging on essential service provision in order to reduce pay expenditure borne by the exchequer. This scheme did not apply to some staff grades[30] which were exempt from the moratorium on recruitment and promotions under the 2009 Employment Control Framework (ECF) for the Public Health Sector. A second scheme for incentivised early retirements and voluntary redundancies was in operation in 2010 (60). This scheme was designed to permanently reduce staff numbers in the management/admin and general support staff categories and to contribute to public health reform. These schemes had an impact on staffing, pay expenditure, agency pay and superannuation.

4.3.1 Overview of HSE pay, pension and agency staffing costs 2007-2017

Figure 12 shows changes in the contribution of four components of nominal pay expenditure in the HSE between 2007 and 2017 in billions of euro. HSE pay is the largest contributor throughout this period, reaching a high of €4.7 billion in 2009. HSE pay then reduced to a low of €4.1 billion in 2013, before increasing again to €4.6 billion in 2017. Pay for section 38 employees is the second highest contributor in the period, reaching a high of €2.3 billion in 2017. Prior to this, however, section 38 pay expenditure followed a similar pattern as HSE pay, that is, it increased to 2009, then decreased to 2013 before increasing once again to 2017.

30 Staff grades which were exempt from the incentivised early retirement scheme in 2009: Medical Consultants, Speech and Language Therapists, Occupational Therapists, Physiotherapists, Clinical Psychologists, Behavioural Therapists, Counsellors, Social Workers and Emergency Medical Technicians.

FIGURE 11 Trends in HSE Pay Related Nominal Expenditure (€ Billions)



Note: Section 38 pay in 2007 and 2015 estimated using annual average increases
Sources: Annual Report and Financial Statements (2008-2017) (24-26, 61-67)
HSE Management Data Reports (2013, 2014, 2016, 2017) (40-43)
HSE Supplementary Report to National Service Plan 2012 (39)
HSE supplementary Performance Report (2009-2011) (36-38)
HSE Performance Monitoring Report 2008 (35)

In general, HSE and section 38 pay expenditure increased with increased staff numbers and decreased with decreased staff numbers. During the same period, expenditure on HSE superannuation increased from €368 million in 2007 to €577 million in 2017, with a peak of €618 million in 2010. Agency pay costs more than trebled from €108 million in 2009 to €326 million in 2017. In the following subsections, these trends will be explained with reference to changes in pay scales, moratoriums on recruitment and incentivised retirement as a result of the fiscal crisis which began in 2008.

4.3.2 Trends in HSE and Section 38 pay, 2007-2017

Table 13 shows trends in HSE pay for the six staff categories between 2007 and 2017. Changes in HSE pay expenditure for these categories varied widely between 2007 and 2017, ranging from a 22 per cent decrease for general support staff to a 30.7 per cent increase for health & social care professionals. Pay expenditure for half of the staff categories decreased between 2007 and 2010, while pay expenditure increased for the other half. Health & social care professionals was the only staff category for which pay expenditure did not decrease between 2010 and 2013. Pay expenditure increased for all staff categories between 2013 and 2017. Pay expenditure decreased by 5.1 and 22 per cent for the nursing and general support staff categories respectively between 2007 and 2017.

The effect of the ECF may be seen in the reduction of HSE pay expenditure of 7.7 per cent between 2009 and 2010, though the introduction of the FEMPI No. 2 Act 2009 (68) would also have contributed to this decrease. This act reduced the pay of public servants by between 5 and 20 per cent as of January 2010. Further reductions in pay for the management/admin and general support staff categories in subsequent years reflect the impact of the schemes of incentivised early retirement and voluntary redundancy.

TABLE 13 Trends in HSE Pay Expenditure (Nominal, Excluding Voluntary Sector)

	Change 2007-2010 %	Change 2010-2013 %	Change 2013-2017 %	Change 2007-2017 %	Annual Average Increase %
Medical/ Dental	-0.6	-2.9	12.5	8.6	0.8
Nursing	-4.4	-8.9	9.0	-5.1	-0.5
Health & Social Care Professional	5.9	1.7	21.3	30.7	2.7
Clinical Subtotal	-1.4	-5.2	12.7	5.4	0.5
Management/ Admin	2.2	-5.8	14.6	10.3	1
General Support	-22.8	-13.5	16.7	-22.0	-2.5
Non-Clinical Subtotal	-8.9	-8.7	15.3	-4.1	-0.4
Patient & Client Care	11.4	-2.6	6.0	15.0	1.4
Total	-1.6	-5.6	12.3	4.4	0.4

Note: Includes pay of all staff who are directly employed by the HSE
Source: Based on Table A.14 in the Appendix

Overall HSE pay expenditure decreased from 2007 to 2010 and from 2010 to 2013, before increasing between 2013 and 2017. Section 38[17] pay expenditure did not change between 2007 and 2010. It decreased by 5.2 per cent between 2010 and 2013, before increasing by 14.3 per cent between 2013 and 2017. Overall pay for section 38 employees increased by 8.4 per cent between 2007 and 2017, an annual average increase of 0.8 per cent. These trends can be seen in Table A.17 in the appendix. It is clear that there were different trends in pay amongst the different staff categories. However, whether these differences were due to changes in pay rates, skill mix, staffing levels or a combination of all three cannot be discerned using the information in Tables 13 and A.17 alone.

4.3.3 Trends in HSE and Section 38 staffing levels, 2007-2017

Table 14 shows trends in the staffing levels in the six staff categories in the HSE between 2007 and 2017. Overall, there was a very small increase of 0.02 per cent in the number of WTEs employed by the HSE between 2007 and 2017. The number of WTEs in the nursing and general support staff categories decreased between 2007 and 2017. These were the only staff categories for which this was true. This is reflected by the trends seen in HSE pay expenditure for the six staff categories in Table 13. The number of WTEs in the medical/dental staff category increased by 28.6 per cent between 2007 and 2017, an annual average increase of 2.6 per cent. Medical/dental was the only staff category for which WTEs increased in each

period from 2007 to 2010, from 2010 to 2013 and from 2013 to 2017. This was the only category to which the ECF was not applied during the period of austerity.

TABLE 14 Trends in Staffing Levels in the HSE

	Change 2007-2010 %	Change 2010-2013 %	Change 2013-2017 %	Change 2007-2017 %	Annual Average Increase %
Medical/ Dental	2.0	3.2	22.2	28.6	2.6
Nursing	-8.1	-7.4	8.4	-7.7	-0.8
Health & Social Care Professional	6.2	-2.9	18.2	21.9	2
Clinical Subtotal	-3.5	-4.8	13.0	3.8	0.4
Management/ Admin	-3.9	-11.1	20.6	3.0	0.3
General Support	-14.5	-14.9	-1.7	-28.4	-3.3
Non-Clinical Subtotal	-8.1	-12.5	12.7	-9.3	-1
Patient & Client Care	-1.7	-5.8	11.8	3.5	0.3
Total	-4.3	-7.0	12.7	0.2	0.02

Note: Includes all staff who are directly employed by the HSE
Source: Table A.21 in the Appendix

The number of WTEs in the nursing staff category decreased by 7.7 per cent between 2007 and 2017, an annual average decrease of 0.8 per cent. Reflecting the application of the ECF followed by the gradual restoration of staffing from 2014, the number of WTEs in this category decreased from 2007 to 2010 and from 2010 to 2013, before increasing from 2013 to 2017. The effect of the schemes for incentivised early retirement and voluntary redundancies can be seen in the reduction in WTEs of the management/admin and general support staff categories of 8.1 and 8.2 per cent respectively between 2010 and 2011. The long term effectiveness of these schemes is mixed. The number of general support staff have remained low in the wake of the schemes – the number of WTEs in this category was 20.4 per cent lower in 2017 than it was in December 2009, before these schemes came into effect. The number of management/admin WTEs, however, were 5.5 per cent higher in 2017 than they were in December 2009. This seems to contradict the stated aim of the schemes – to permanently reduce the number of management/admin staff.

The Public Service Pension Rights Order 2011 (69) set the 29th of February 2012 as the date after which public pensions would be based on salaries as set out in the Financial Emergency Measures in the Public Interest (No. 2) Act 2009 (68). Over 4,700 HSE staff retired over the course of 2011 and 2012, prior to this date (65). 1,759 of these left in 2011 (64). HSE WTEs reduced by 2.7 per cent and 3.5 per cent in 2011 and 2012 respectively. There was a large increase in HSE WTEs in the wake of the ECF between 2013 and 2017. Tables 13 and 14 appear to be quite strongly related, that is, the number of WTEs in staff categories in which pay increased between 2007 and 2017 also increased. The opposite is also true – the number of WTEs in staff categories in which pay decreased between 2007 and 2017 also decreased.

Table 15 shows trends in the staffing levels of the six staff categories in section 38 organisations between 2007 and 2017. The overall change in each staff category is in the same direction as was seen in Table 14 for trends in HSE staffing. The magnitude of the change in section 38 staffing was smaller in every staff category except patient & client care, which saw an increase of 29.6 per cent between 2007 and 2017. With that said, there was an increase of 5.6 per cent in section 38 WTEs between 2007 and 2017, while the number of HSE WTEs remained fairly stagnant.

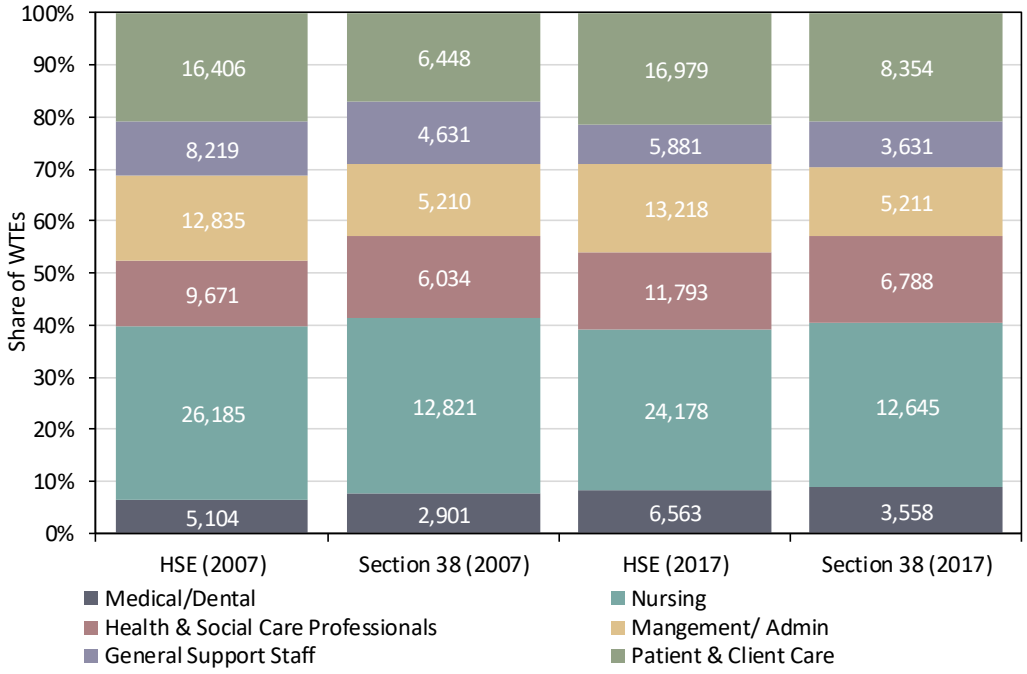
TABLE 15 Staffing Levels in Section 38 Organisations

	Change 2007-2010 %	Change 2010-2013 %	Change 2013-2017 %	Change 2007-2017 %	Average Annual Increase %
Medical/ Dental	-0.4	3.2	19.3	22.7	2.1
Nursing	-3.0	-4.4	6.4	-1.4	-0.1
Health & Social Care Professional	0.9	-3.6	15.7	12.5	1.2
Clinical Subtotal	-1.6	-3.2	10.9	5.7	0.6
Management/ Admin	-4.6	-8.6	14.8	0.02	0.002
General Support	-5.1	-15.4	-2.4	-21.6	-2.4
Non-Clinical Subtotal	-4.8	-11.8	7.1	-10.1	-1.1
Patient & Client Care	-0.6	-2.5	33.6	29.6	2.6
Total	-2.3	-5.2	14.0	5.6	0.6

Note: Includes staff who are employed by Section 38 organisations
Source: Table A.22 in the Appendix

Figure 13 shows HSE and section 38 WTEs by staff category in 2007 and 2017. It can be seen the composition of WTEs in the HSE and section 38 organisations were largely similar in both years. There do appear to be some differences in the changes in composition between the two years, though if anything these differences have made the compositions more similar in 2017 than they were in 2007. The exception to this is in the management/admin staff category which made up a higher proportion of HSE WTEs in 2007 and experienced greater growth up to 2017.

FIGURE 12 HSE and Section 38 WTEs in 2007 and 2017



Sources: Tables A.21 and A.22 in the Appendix

4.3.4 Trends in average HSE pay by major staff category, 2007-2017

Table 16 shows trends in the average pay of the six staff categories in the HSE between 2007 and 2017. This was calculated by dividing the total pay expenditure of each staff category by the number of WTEs in that staff category for each year. Average pay in the medical/dental staff category decreased by 15.5 per cent between 2007 and 2017. This staff category was the only one in which average pay decreased in each of the three time periods. The average pay of staff in the nursing category increased by 2.8 per cent between 2007 and 2017. The average pay of staff in the health & social care professionals category increased by 7.1 per cent between 2007 and 2017. Overall, the average pay in the clinical category increased by 1.5 per cent between 2007 and 2017.

TABLE 16 Trends in Average Pay in the HSE

	Change 2007-2010 %	Change 2010-2013 %	Change 2013-2017 %	Change 2007-2017 %	Annual Average Increase %
Medical/ Dental	-2.5	-5.9	-7.9	-15.5	-1.7
Nursing	4.0	-1.7	0.5	2.8	0.3
Health & Social Care Professional	-0.3	4.7	2.6	7.1	0.7
Clinical Subtotal	2.1	-0.4	-0.3	1.5	0.1
Management/ Admin	6.4	5.9	-5.0	7.1	0.7
General Support	-9.6	1.6	18.7	8.9	0.9
Non-Clinical Subtotal	-0.9	4.3	2.3	5.7	0.6
Patient & Client Care	13.3	3.4	-5.2	11.1	1.1
Total	2.9	1.5	-0.4	4.1	0.4

Note: Includes all staff who are directly employed by the HSE
Source: Table A.23 in the Appendix

The average pay in the management/admin staff category increased by 7.1 per cent between 2007 and 2017. Average pay in the general support staff category increased by 8.9 per cent between 2007 and 2017. Overall, average pay in the non-clinical category increased by 5.7 per cent between 2007 and 2017. Average pay in the patient & client care category increased by 11.1 per cent between 2007 and 2017. Average pay throughout the HSE increased by 4.1 per cent between 2007 and 2017, an annual average increase of 0.4 per cent. Average pay increased from both 2007 to 2010 and 2010 to 2013 before decreasing between 2013 and 2017. This trend in average pay may be partially explained by the ECF. The ECF was in operation during the first two periods, resulting in freezes in staff recruitment. This would have prevented the HSE from hiring more junior staff. As a result, the incumbent staff would have grown more senior on average, leading to an increase in average pay. More junior staff could then have been recruited in the latter period after the ECF, reducing the average seniority of HSE staff.

Both the number of WTEs and pay increased in the medical/dental staff category between 2007 and 2017. Average pay in that category, however, decreased during this period. This occurred because the increase in the number of WTEs outstripped that of pay. This indicates that pay rates decreased or that there was an increase in the proportion of more junior staff in this category. Both the number of WTEs and pay also increased in the health & social care professionals staff category between 2007 and 2017. Unlike for the medical/dental category, however, average pay also increased. This occurred because the increase in pay outstripped that of the number of WTEs, indicating that pay rates increased or that there was an increase the proportion of more senior staff in this category. Similar trends to this are seen in the management/admin and patient & client care staff categories. Both the number of WTEs and pay decreased in the nursing staff category between 2007 and 2017. However, average pay in that category increased during this period. This occurred because the percentage decrease in the number of WTEs outstripped that of pay. This indicates that pay rates may have increased or, perhaps more likely, that reductions in the WTEs in this category may have been focused among more junior staff, resulting in nurses having greater seniority, on average, in 2017 than in 2007. A similar trend occurred in the general support staff category.

4.3.5 Trends in agency pay costs by staff category, 2007-2017

Table 17 shows trends in agency pay costs for the six staff categories between 2007 and 2017. Pay for all staff categories increased in each time period. The most dramatic increase in agency pay costs was observed in the medical/dental category, where pay increased by 656.7 per cent between 2009 and 2017. This equates to an annual average increase of 28.8 per cent. Much of this growth was front loaded in 2010 which saw a 186.3 per cent increase in pay, from €14 million to €40 million, compared to 2009. Pay for the nursing category increased by a relatively modest amount of 46.6 per cent between 2009 and 2017, an annual

average increase of 4.9 per cent. Pay for the health & social care category increased by 314.3 per cent between 2009 and 2017, an annual average increase of 19.4 per cent. Overall, clinical agency pay costs increased by 209.7 per cent between 2009 and 2017, an annual average increase of 15.2 per cent.

TABLE 17 Trends in Agency Pay Expenditure (Nominal)

	Change 2009-2013 %	Change 2013-2017 %	Change 2009-2017 %	Annual Average Increase %
Medical/ Dental	360.0	64.5	656.7	28.8
Nursing	30.2	12.7	46.6	4.9
Health & Social Care Professional	227.1	26.7	314.3	19.4
Clinical Subtotal	125.4	37.4	209.7	15.2
Management/ Admin	16.5	94.2	126.3	10.8
General Support	101.5	119.6	342.6	20.4
Non-Clinical Subtotal	51.4	108.0	214.9	15.4
Patient & Client Care	48.5	82.7	171.3	13.3
Total	96.6	53.2	201.2	14.8

Source: Based on Table A.15 in the Appendix

Pay for the management/admin category increased by 126.3 per cent between 2009 and 2017, an annual average increase of 10.8 percent. Pay for the general support category increased by 342.6 per cent between 2009 and 2017, an annual average increase of 20.4 per cent. Overall, non-clinical agency pay costs increased by 214.9 per cent between 2009 and 2017, an annual average increase of 15.4 per cent. The increases in agency pay costs for non-clinical staff may well have been an effect of the schemes for incentivised early retirement and voluntary redundancy, which targeted these staff categories between 2010 and 2012. Pay for the patient & client care category increased by 171.3 per cent between 2009 and 2017, an annual average increase of 13.3 per cent. Overall, agency pay costs increased by 201.2 per cent between 2009 and 2017, with much of this growth occurring prior to 2015. There was a decrease of 5.1 per cent in agency pay costs in 2015 and more modest increases of 7.1 and 10.2 per cent in 2016 and 2017. This perhaps reflects the increases in HSE and section 38 staff in more recent years.

4.3.6 Trends in HSE superannuation costs, 2007-2017

Superannuation increased by 67.8 per cent between 2007 and 2010 before decreasing by 8.3 per cent between 2010 and 2013. Expenditure on superannuation then increased again by 22.4 per cent between 2013 and 2017. Overall, between 2007 and 2017, expenditure on superannuation increased by 88.3 per cent, an annual average increase of 6.5 per cent. These trends can be seen in Table A.17 in the appendix. Under the scheme for incentivised early retirement in 2009, staff who took early retirement received their pension and ten per cent of their lump sum[31] immediately. As such, the scheme had an immediate effect on

[31] The other ninety per cent of the lump sum was payable when that person reached normal pensionable age.

superannuation. Superannuation increased by 28.2 per cent in this year compared to 2008.

Staff who availed of the early retirement scheme between 2010 and 2012 received their pension and full lump sum immediately, while staff who availed of the voluntary redundancy scheme in the same time period received a maximum severance payment of two years salary and their full lump sum and pension once they reached normal pension age. This led to an immediate impact on superannuation in 2010. Lump sums associated with these schemes amounting to €73 million were included in superannuation in 2010. Superannuation increased by 17.8 per cent in 2010. These retirements added €152 million in lump sums to superannuation in 2011 and 2012. Superannuation decreased by 9 per cent in 2011 and increased by 14.1 per cent in 2012. These schemes and pay agreements contributed to the large increase in superannuation between 2007 and 2017. In 2007, HSE superannuation accounted for 5.3 per cent of HSE pay expenditure and 2.6 per cent of public current HCE. By 2017, the share of HSE pay expenditure and public current HCE accounted for by HSE superannuation had risen to 8.7 per cent and 4.2 per cent respectively[32].

5 Summary & Conclusion

Over the period 2004 to 2007 there was a large increase of 74.2 per cent observed in nominal public current HCE in Ireland, translating into an annual average increase of 4.4 per cent. This increase occurred in the context of rising prices for public authorities' expenditure on goods and services, and a growing and ageing population. When adjusted for inflation and population increases, this translates into a 1.8 per cent annual average increase. When further expressed relative to population aged 65 and over, the annual average increase in real public current HCE is 0.2 per cent for the period 2004-2017.

Trends in nominal public capital HCE were more variable than trends in nominal public current HCE. Over the period 2004-2017, annual average decreases in public capital HCE ranged from 0.3 per cent in nominal terms to 3.6 per cent in real terms per capita aged over 65. The share of public HCE, which was accounted for by capital expenditure, shrank from 5.1 per cent in 2004 to 3.2 per cent in 2017. This suggests that increases in public current HCE were partially financed through reductions in public capital HCE. In effect, it appears that efforts to meet increasing needs for services during a difficult financial period were prioritised over building capacity in the health system to meet future increases in need. Trends in public total HCE mirror those of public current HCE between 2004 and 2017. This is unsurprising given that between 94.9 and 96.8 per cent of public total HCE was

[32] A year by year breakdown of the contribution of HSE pay, agency pay, superannuation and section 38 pay to HSE pay expenditure and public current HCE can be seen in Tables A6.19z and A6.19y.

accounted for by public current HCE during the period. Annual average increases in public HCE ranged from 4.2 per cent in nominal terms to 0.007 per cent in real terms per capita aged over 65.

Nominal current expenditure on the six largest HSE programmes increased by between 17.9 per cent, on the care for persons with disabilities programme, and 41.4 per cent, on the primary care & community health programme, between 2011 and 2017. Due to a series break at 2011, trends over the longer 2004-2017 period could not be examined for programme expenditures. The appropriate measure of population need differs from service to service; for instance, expenditure was expressed per capita aged 80 and over for the care of older people programme, while it was expressed per capita aged under 18 for the children and families programme. Over the period 2011-2017, changes in current HSE programme expenditure adjusting for prices and population ranged from an annual average decrease of 1 per cent in real expenditure per capita aged 65 and over, for the care of older people programme, to an annual average increase of 4.8 per cent in real expenditure per capita, for the primary care & community health programme.

Capital expenditure on HSE programmes was dominated by expenditure on the acute hospital division and the community health programme between 2005 and 2017. These two programmes accounted for over 70 per cent of all capital expenditure on HSE programmes in each year of this period. The share of HSE capital expenditure accounted for by ICT grew by 17.7 per cent in real terms between 2011 and 2017.

HSE pay increased by 4.4 per cent between 2007 and 2017, though this varied across the three time periods 2007-2010, 2010-2013 and 2013-2017. HSE pay decreased by 1.6 per cent from 2007 to 2010 and by 5.6 per cent between 2010 and 2013. The ECF, characterised by incentivised early retirement, voluntary redundancy and a moratorium on recruitment, was employed across these two time periods due to the financial crisis. The ECF was not in operation during the final period of 2013-2017. There was an expansion of HSE WTEs and a resulting increase in HSE pay during this final period. These trends did vary slightly across the six HSE staff categories. The health & social care professionals category experienced the largest annual average increase of 2.7 per cent during this period, while the general support category saw the largest annual average decrease of 2.5 per cent.

In response to the fiscal crisis, schemes designed to reduce expenditure on HSE pay between 2009 and 2012 had some success. The proportion of HSE pay expenditure that was accounted for by HSE pay decreased from 64.3 per cent in 2007 to 58.4 per cent in 2017. This equated to a decrease in its proportion of public current HCE

from 31.1 per cent in 2007 to 27.8 per cent in 2017. However, due to reduced staffing and incentivised early retirement, there was an increase in the proportions of HSE pay expenditure accounted for by HSE agency pay and superannuation. The proportion of HSE pay expenditure and public current HCE accounted for by superannuation increased from 5.3 and 2.6 per cent respectively in 2007 to 8.7 and 4.2 per cent respectively in 2017. As such, savings in HSE pay, made by reducing the number of staff and thereby reducing service availability, were offset to a degree by increases in expenditure that could not add to service availability in the case of superannuation, or delivered services at a higher cost, in the case of agency pay. The proportion of HSE pay expenditure and public current health expenditure accounted for by HSE agency pay increased from 1.4 and 0.7 per cent respectively in 2009 to 4.1 and 2 per cent respectively in 2017.

Insights from this analysis of historic Irish healthcare expenditure trends may prove useful to policymakers' approach to ongoing financing of the Irish healthcare system in the COVID-19 healthcare crisis.

Appendix

TABLE A.1 Mapping of Child and Family Agency Staff Grades/Categories to HSE Staff Categories

HSE staff Categories	Child and Family Agency staff grades/ categories
Medical/ Dental	-
Nursing	Nursing
Health & Social Care Professionals	Social Work Social Care Psychology and Counselling Other Health Professionals
Management/ Admin	Management VIII+ Administration grade III-VII
General Support	Other Support Staff including catering
Patient & Client Care	Family Support Education and Welfare Officer

Notes: No Child and Family Agency staff grade/ category maps to the HSE staff category Medical/ Dental. There were 0.5 Medical/ Dental WTEs in the HSEs Children and Families Service in 2013.

Sources: HSE Annual Report and Financial Statements (26)
Child and Family Agency Annual Financial Statement (32)

TABLE A.2 Trends in Public Total HCE (€ Thousands)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	10,069,085	11,820,694	13,012,276	14,980,005	16,039,443	16,003,977	15,230,937	14,675,639	14,756,545	14,603,312	14,847,493	15,578,410	16,334,650	17,140,154
Increase on previous year %		17.4	10.1	15.1	7.1	-0.2	-4.8	-3.6	0.6	-1.0	1.67	4.92	4.85	4.93
Per-capita	2.5	2.9	3.1	3.4	3.6	3.5	3.3	3.2	3.2	3.1	3.2	3.3	3.4	3.6
Increase on previous year %		14.9	7.3	11.5	4.5	-1.3	-5.3	-4.3	-0.1	-1.6	0.96	4.15	3.75	4.01
Per-capita (>=65 years)	22.4	25.8	27.8	31.8	33.2	32.1	29.6	27.4	26.7	25.6	25.2	25.6	25.6	26.0
Increase on previous year %		15.0	8.0	14.4	4.2	-3.3	-7.8	-7.3	-2.6	-4.2	-1.58	1.63	0.13	1.66
Real	10,069,085	11,398,865	11,966,746	13,260,421	13,658,718	13,695,453	13,568,739	12,948,340	12,829,648	12,869,051	13,284,364	13,779,329	14,420,620	14,748,410
Increase in real terms %		13.2	5.0	10.8	3.0	0.3	-0.9	-4.6	-0.9	0.3	3.2	3.7	4.7	2.3
Per-capita	2.5	2.8	2.8	3.0	3.0	3.0	3.0	2.8	2.8	2.8	2.8	2.9	3.0	3.1
Increase on previous year %		10.8	2.4	7.4	0.5	-0.8	-1.4	-5.3	-1.6	-0.2	2.5	3.0	3.5	1.4
Per-capita (>=65 years)	22.4	24.8	25.6	28.2	28.2	27.5	26.3	24.2	23.2	22.5	22.5	22.6	22.6	22.4
Increase on previous year %		10.9	3.0	10.1	0.3	-2.8	-4.0	-8.2	-4.0	-2.9	-0.1	0.5	-0.1	-0.9

Notes: Includes gross expenditure of DoHC, DoH, HSE, Office of the Minister for Children and Children and Youth Affairs votes in relevant years
Current expenditure adjusted for Inflation in public authorities' spending on goods and services. Source: Central Statistics Office (2017)
Capital expenditure adjusted for inflation in gross physical capital formation in other building and construction. Source: Central Statistics Office (2017)

Source: DPER, databank (9)

TABLE A.3 Trends in Public Total HCE (€ Millions)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GNI*	132,446	144,016	157,896	165,560	156,906	134,841	128,949	126,621	126,444	136,906	148,628	161,382	175,827	181,182
Public Total HCE	10,069	11,821	13,012	14,980	16,039	16,004	15,231	14,676	14,757	14,603	14,847	15,578	16,335	17,140
As a % of GNI*	7.60	8.21	8.24	9.05	10.22	11.87	11.81	11.59	11.67	10.67	9.99	9.65	9.29	9.46

Note: Nominal Total Public HCE and GNI*
Sources: DPER, databank (9)
National Income and Expenditure (5)

TABLE A.4 Trends in Public Total HCE as a percentage of GNI*

	2004-2008 %	2008-2013 %	2013-2017 %	2004-2017 %	Annual Average Increase %
GNI*	18.5	-12.7	32.3	36.8	2.4
Public Total HCE	59.3	-9.0	17.4	70.2	4.2
As a % of GNI*	34.5	4.3	-11.3	24.4	1.7

Source: Based on Table A.3

TABLE A.5 Trends in Public Current HCE (€ Thousands)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	9,560,606	11,297,188	12,516,623	14,281,008	15,356,395	15,500,823	14,832,812	14,323,035	14,398,231	14,248,264	14,416,810	15,151,754	15,870,027	16,652,853
Increase on previous year %		18.2	10.8	14.1	7.5	0.9	-4.3	-3.4	0.5	-1.0	1.18	5.10	4.74	4.93
Per-capita	2.4	2.7	3.0	3.3	3.4	3.4	3.3	3.1	3.1	3.1	3.1	3.2	3.3	3.5
Increase on previous year %		15.6	8.0	10.5	4.9	-0.1	-4.8	-4.1	-0.2	-1.6	0.48	4.32	3.63	4.01
Per-capita (>=65 years)	21.3	24.6	26.7	30.3	31.7	31.1	28.8	26.8	26.1	25.0	24.4	24.9	24.9	25.3
Increase on previous year %		15.8	8.7	13.4	4.7	-2.1	-7.3	-7.1	-2.6	-4.2	-2.06	1.80	0.02	1.66
Real	9,560,606	10,894,570	11,506,723	12,615,710	12,972,726	13,112,946	13,067,746	12,504,197	12,390,939	12,446,561	12,794,880	13,319,709	13,949,577	14,283,400
Increase in real terms %		14.0	5.6	9.6	2.8	1.1	-0.3	-4.3	-0.9	0.4	2.8	4.1	4.7	2.4
Per-capita	2.4	2.6	2.7	2.9	2.9	2.9	2.9	2.7	2.7	2.7	2.7	2.8	2.9	3.0
Increase on previous year %		11.5	3.0	6.2	0.3	0.0	-0.8	-5.0	-1.6	-0.1	2.1	3.3	3.6	1.5
Per-capita (>=65 years)	21.3	23.7	24.6	26.8	26.8	26.3	25.4	23.4	22.4	21.8	21.7	21.9	21.9	21.7
Increase on previous year %		11.7	3.6	8.9	0.1	-2.0	-3.5	-7.9	-4.0	-2.8	-0.5	0.8	0.0	-0.8

Note: Includes gross current expenditure of DoHC, DoH, HSE, Office of the Minister for Children and Children and Youth Affairs votes in relevant years
Includes gross current expenditure associated with provision of the Domiciliary Care Allowance
Current expenditure adjusted for Inflation in public authorities' spending on goods and services. Source: Central Statistics Office (2017)

Source: DPER, databank (9)

TABLE A.6 Trends in Public Capital HCE (€ Thousands)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	508,479	523,506	495,653	698,997	683,048	503,154	398,125	352,604	358,314	355,048	430,683	426,656	464,623	487,301
Increase on previous year %		3.0	-5.3	41.0	-2.3	-26.3	-20.9	-11.4	1.6	-0.9	21.30	-0.94	8.90	4.88
Per-capita	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Increase on previous year %		0.7	-7.7	36.6	-4.7	-27.1	-21.2	-12.1	0.9	-1.4	20.46	-1.67	7.75	3.96
Per-capita (>=65 years)	1.1	1.1	1.1	1.5	1.4	1.0	0.8	0.7	0.6	0.6	0.73	0.70	0.73	0.74
Increase on previous year %		0.9	-7.1	40.1	-4.9	-28.6	-23.4	-14.8	-1.5	-4.1	17.42	-4.04	3.99	1.61
Real	508,479	504,295	460,023	644,711	685,993	582,507	500,993	444,143	438,709	422,490	489,484	459,620	471,043	465,011
Increase in real terms %		-0.8	-8.8	40.1	6.4	-15.1	-14.0	-11.3	-1.2	-3.7	15.9	-6.1	2.5	-1.3
Per-capita	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Increase on previous year %		-2.9	-11.1	35.8	3.8	-16.0	-14.4	-12.0	-1.9	-4.2	15.1	-6.8	1.4	-2.1
Per-capita (>=65 years)	1.1	1.1	1.0	1.4	1.4	1.2	1.0	0.8	0.8	0.7	0.8	0.8	0.7	0.7
Increase on previous year %		-2.8	-10.5	39.3	3.6	-17.7	-16.7	-14.7	-4.3	-6.8	12.1	-9.0	-2.1	-4.4

Notes: Includes gross capital expenditure of DoHC, DoH, HSE, Office of the Minister for Children and Children and Youth Affairs votes in relevant years
Capital expenditure adjusted for inflation in gross physical capital formation in other building and construction. Source: Central Statistics Office (2017)

Source: DPER, databank (9)

TABLE A.7 HSE Real Non-Capital Voted Expenditure by Programme (€ Millions)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Care of Older People	1,042	1,017	1,519	1,677	1,677	1,624	1,382	1,317	1,318	1,416	1,513	1,562	1,633
Children and Families	473	584	613	630	619	611	528	549	521	593	632	639	674
Care for Persons with Disabilities	1,102	1,156	1,452	1,494	1,466	1,403	1,520	1,499	1,480	1,499	1,595	1,710	1,792
Mental Health	747	949	1,005	1,007	971	929	687	686	711	727	752	775	829
Primary Care & Community Health	2,781	2,624	3,322	3,625	3,980	3,676	2,734	3,017	3,232	3,339	3,381	3,753	3,866
Multi Care Group Services		605					469	465	109				
Palliative Care & Chronic Illness		72					78	70	69	72	75		
Social Inclusion							115	111			124		
Other							76	78					
Health and Wellbeing									220	206	178	184	203
Primary, Community and Continuing Care Total	6,146	7,007	7,911	8,432	8,712	8,241	7,588	7,791	7,661	7,259	7,619	7,985	8,325
Acute hospital division	4,281	4,379	4,825	5,084	5,280	5,235	4,057	3,836	4,133	4,336	4,533	4,753	5,056
Long Term Charges Repayment Scheme		16	127	228	77	19	10	2	8	8	4	2	2
Corporate							414	362	235				
Statutory Pensions							584	711	654	576	604	646	662
Other	208	63	90	97	105	165	433	458	389	606	643	683	783
HSE Gross Non-Capital Vote Total	10,635	11,465	12,953	13,841	14,175	13,661	13,085	13,160	13,079	13,376	14,036	14,708	15,500
Total Appropriations-in-Aid	2,122	2,225	2,407	2,170	3,121	3,418	1,389	1,432	1,306	1,006	1,037	1,023	1,016
HSE Net Non-Capital Vote Total	8,514	9,239	10,546	11,671	11,054	10,243	11,697	11,728	11,773	12,370	12,999	13,685	14,484

Notes: Expenditure in 2011-2017 not comparable with expenditure in previous years
2004 is reference year for real expenditure
Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.8 Care for Older People Programme Expenditure (€ Thousands)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	1,080,561	1,054,748	1,574,791	1,739,128	1,738,659	1,683,637	1,433,000	1,365,608	1,366,273	1,468,000	1,569,000	1,620,000	1,693,000
Increase on previous year %		-2.4	49.3	10.4	0.0	-3.2		-4.7	0.0	7.4	6.9	3.3	4.5
Per capita (≥ 65 years)	2.3	2.2	3.3	3.5	3.4	3.1	2.6	2.4	2.3	2.4	2.5	2.5	2.5
Increase on previous year %		-3.0	45.4	7.1	-3.2	-6.8		-7.7	-3.2	4.1	2.1	0.0	1.1
Per capita (≥ 80 years)	9.9	9.3	13.7	14.8	14.4	13.5	11.1	10.4	10.1	10.5	10.9	10.9	11.0
Increase on previous year %		-5.2	46.7	7.8	-2.7	-6.0		-7.0	-2.4	4.3	3.7	-0.3	0.8
Real (base=2004)	1,042,051	969,646	1,391,156	1,469,175	1,470,821	1,483,289	1,251,028	1,175,225	1,193,507	1,302,846	1,379,287	1,423,962	1,452,111
Increase in real terms %		-6.9	43.5	5.6	0.1	0.8		-6.1	1.6	9.2	5.9	3.2	2.0
Per capita (≥ 65 years)	2.3	2.1	3.0	3.0	2.9	2.9	2.3	2.1	2.1	2.2	2.3	2.2	2.2
Increase on previous year %		-8.7	42.6	2.8	-2.9	-2.3		-9.0	-1.7	5.7	2.5	-1.4	-1.2
Per capita (≥ 80 years)	9.5	8.6	12.1	12.5	12.2	11.9	9.7	8.9	8.8	9.4	9.6	9.6	9.4
Increase on previous year %		-9.6	41.0	3.1	-2.5	-2.1		-8.3	-1.0	5.9	2.7	-0.3	-1.6

Note: Expenditure in 2011-2017 not comparable with expenditure in previous years
Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.9 Children and Families Expenditure (€ Thousands)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	490,423	605,627	635,692	653,477	641,951	633,064	547,000	569,034	540,321	614,472	655,827	662,942	699,133
Increase on previous year %		23.5	5.0	2.8	-1.8	-1.4		4.0	-5.0	13.7	6.7	1.1	5.5
Per-capita	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Increase on previous year %		20.4	1.7	0.3	-2.8	-1.9		3.3	-5.5	12.9	5.9	0.0	4.5
Per capita (<18)	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Increase on previous year %		22.3	2.8	-0.3	-3.6	-3.0		2.6	-6.0	12.7	6.1	1.4	4.7
Real	472,945	556,762	561,564	552,042	543,059	557,731	477,538	489,704	471,997	545,342	576,529	582,719	599,657
Increase in real terms %		17.7	0.9	-1.7	-1.6	2.7		2.5	-3.6	15.5	5.7	1.1	2.9
Per-capita	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Increase on previous year %		14.8	-2.3	-4.1	-2.7	2.2		1.8	-4.1	14.7	4.9	0.0	2.0
Per capita (<18)	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Increase on previous year %		16.6	-1.3	-4.6	-3.4	1.1		1.2	-4.6	14.5	5.1	1.4	2.2

Note: Expenditure in 2011-2017 not comparable with expenditure in previous years
Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.10 Care for Persons with Disabilities Expenditure (€ Thousands)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	1,142,858	1,198,410	1,505,627	1,548,718	1,520,003	1,454,537	1,576,000	1,554,000	1,535,000	1,554,000	1,654,000	1,773,000	1,858,000
Increase on previous year %	8.1	4.9	25.6	2.9	-1.9	-4.3	8.4	-1.4	-1.2	1.2	6.4	7.2	4.8
Per-capita	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Increase on previous year %	5.8	2.2	21.7	0.4	-2.9	-4.8	7.6	-2.1	-1.7	0.5	5.6	6.1	3.9
Per-capita (>=65 years)	2.5	2.6	3.2	3.2	3.0	2.8	2.9	2.8	2.7	2.6	2.7	2.8	2.8
Increase on previous year %	5.9	2.8	24.8	0.1	-4.8	-7.3	4.2	-4.5	-4.4	-2.0	3.1	2.4	1.5
Real	1,102,128	1,101,717	1,330,057	1,308,321	1,285,849	1,281,451	1,375,869	1,337,353	1,340,898	1,379,171	1,454,010	1,558,447	1,593,634
Increase in real terms %	4.2	0.0	20.7	-1.6	-1.7	-0.3	7.4	-2.8	0.3	2.9	5.4	7.2	2.3
Per-capita	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Increase on previous year %	2.0	-2.5	17.0	-4.0	-2.8	-0.8	6.6	-3.5	-0.3	2.1	4.6	6.1	1.4
Per-capita (>=65 years)	2.4	2.4	2.8	2.7	2.6	2.5	2.6	2.4	2.3	2.3	2.4	2.4	2.4
Increase on previous year %	2.1	-2.0	20.0	-4.2	-4.7	-3.5	3.3	-5.8	-2.9	-0.4	2.1	2.4	-0.9

Note: Expenditure in 2011-2017 not comparable with expenditure in previous years
Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.11 Mental Health Expenditure (€ Thousands)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	774,685	984,494	1,042,357	1,043,816	1,006,682	963,324	712,000	711,000	737,000	754,000	780,000	804,000	860,000
Increase on previous year %		27.1	5.9	0.1	-3.6	-4.3		-0.1	3.7	2.3	3.4	3.1	7.0
Per-capita	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Increase on previous year %		23.9	2.6	-2.3	-4.6	-4.8		-0.8	3.1	1.6	2.7	2.0	6.0
Per-capita (>=65 years)	1.7	2.1	2.2	2.2	2.0	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Increase on previous year %		24.6	5.2	-2.5	-6.5	-7.3		-3.3	0.3	-1.0	0.2	-1.6	3.6
Real	747,076	905,060	920,808	881,791	851,604	848,691	621,585	611,878	643,806	669,173	685,688	706,707	737,635
Increase in real terms %		21.1	1.7	-4.2	-3.4	-0.3		-1.6	5.2	3.9	2.5	3.1	4.4
Per-capita	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Increase on previous year %		18.1	-1.4	-6.6	-4.4	-0.8		-2.2	4.7	3.2	1.7	2.0	3.5
Per-capita (>=65 years)	1.6	1.9	2.0	1.8	1.7	1.6	1.2	1.1	1.1	1.1	1.1	1.1	1.1
Increase on previous year %		18.8	1.1	-6.8	-6.4	-3.5		-4.6	1.9	0.6	-0.7	-1.6	1.1

Note: Expenditure in 2011-2017 not comparable with expenditure in previous years
Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.12 Primary Care & Community Health Expenditure (€ Thousands)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	2,884,229	2,720,550	3,444,962	3,758,772	4,126,705	3,811,438	2,835,000	3,128,613	3,351,756	3,462,000	3,506,000	3,892,000	4,009,000
Increase on previous year %	14.2	-5.7	26.6	9.1	9.8	-7.6	-25.6	10.4	7.1	3.3	1.3	11.0	3.0
Per-capita	0.7	0.6	0.8	0.8	0.9	0.8	0.6	0.7	0.7	0.7	0.7	0.8	0.8
Increase on previous year %	11.7	-8.0	22.7	6.5	8.6	-8.1	-26.2	9.6	6.6	2.6	0.5	9.8	2.1
Per-capita (>=65 years)	6.3	5.8	7.3	7.8	8.3	7.4	5.3	5.7	5.9	5.9	5.8	6.1	6.1
Increase on previous year %	11.9	-7.5	25.8	6.2	6.4	-10.5	-28.4	6.9	3.7	0.0	-1.9	6.0	-0.2
Real	2,781,439	2,501,043	3,043,247	3,175,323	3,490,993	3,357,887	2,474,992	2,692,446	2,927,924	3,072,516	3,082,079	3,421,025	3,438,579
Increase in real terms %	10.1	-10.1	21.7	4.3	9.9	-3.8	-26.3	8.8	8.7	4.9	0.3	11.0	0.5
Per-capita	0.7	0.6	0.7	0.7	0.8	0.7	0.5	0.6	0.6	0.7	0.7	0.7	0.7
Increase on previous year %	7.7	-12.3	17.9	1.8	8.8	-4.3	-26.8	8.0	8.2	4.2	-0.4	9.8	-0.4
Per-capita (>=65 years)	6.1	5.3	6.5	6.6	7.0	6.5	4.6	4.9	5.1	5.2	5.1	5.4	5.2
Increase on previous year %	7.9	-11.8	20.9	1.6	6.6	-6.8	-29.1	5.4	5.3	1.6	-2.8	6.0	-2.6

Note: Expenditure in 2011-2017 not comparable with expenditure in previous years
Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.13 Acute Hospital Division Expenditure (€ Thousands)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nominal	4,010,576	4,439,673	4,540,711	5,003,530	5,272,179	5,475,000	5,428,000	4,207,000	3,978,000	4,286,000	4,496,000	4,701,000	4,929,000	5,243,000
Increase on previous year %		10.7	2.3	10.2	5.4	3.8	-0.9		-5.4	7.7	4.9	4.6	4.9	6.4
Per-capita	1.0	1.1	1.1	1.1	1.2	1.2	1.2	0.9	0.9	0.9	1.0	1.0	1.0	1.1
Increase on previous year %		8.3	-0.3	6.8	2.8	2.7	-1.3		-6.1	7.2	4.2	3.8	3.7	5.4
Per-capita (>=65 years)	8.9	9.7	9.7	10.6	10.9	11.0	10.5	7.9	7.2	7.5	7.6	7.7	7.7	8.0
Increase on previous year %		8.5	0.3	9.5	2.6	0.7	-4.0		-8.4	4.3	1.5	1.3	0.1	3.1
Real	4,010,576	4,281,449	4,174,345	4,420,072	4,453,814	4,631,585	4,782,082	3,672,766	3,423,417	3,744,032	3,990,188	4,132,588	4,332,536	4,496,999
Increase in real terms %		6.8	-2.5	5.9	0.8	4.0	3.2		-6.8	9.4	6.6	3.6	4.8	3.8
Per-capita	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.7	0.8	0.9	0.9	0.9	0.9
Increase on previous year %		4.5	-4.9	2.6	-1.7	2.9	2.8		-7.4	8.8	5.8	2.8	3.7	2.9
Per-capita (>=65 years)	8.9	9.3	8.9	9.4	9.2	9.3	9.3	6.9	6.2	6.6	6.8	6.8	6.8	6.8
Increase on previous year %		4.6	-4.4	5.2	-1.9	0.8	0.0		-9.7	5.9	3.2	0.3	0.1	0.6

Note: Expenditure in 2011-2017 not comparable with expenditure in previous years
2004 is reference year for real expenditure

Source: Health in Ireland: Key Trends (2009-2018) (28, 29, 51-58)

TABLE A.14 HSE Nominal Pay Expenditure (€ Thousands)

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical/ Dental	702,496	812,863	789,208	698,522	692,994	717,539	678,183	656,067	691,764	717,637	763,220
Increase on previous year %		15.7	-2.9	-11.5	-0.8	3.5	-5.5	-3.3	5.4	3.7	6.4
Nursing	1,559,693	1,613,653	1,631,562	1,491,497	1,462,071	1,389,080	1,358,040	1,361,886	1,390,245	1,434,482	1,479,754
Increase on previous year %		3.5	1.1	-8.6	-2.0	-5.0	-2.2	0.3	2.1	3.2	3.2
Health & Social Care Professional	559,114	605,406	605,058	592,160	611,409	602,928	602,273	645,392	659,186	701,046	730,515
Increase on previous year %		8.3	-0.1	-2.1	3.3	-1.4	-0.1	7.2	2.1	6.4	4.2
Clinical Subtotal	2,821,303	3,031,922	3,025,828	2,782,179	2,766,474	2,709,547	2,638,496	2,663,346	2,741,194	2,853,165	2,973,490
Increase on previous year %		7.5	-0.2	-8.1	-0.6	-2.1	-2.6	0.9	2.9	4.1	4.2
Management/ Admin	586,407	616,250	634,146	599,328	574,759	570,113	564,367	540,023	568,064	598,479	646,588
Increase on previous year %		5.1	2.9	-5.5	-4.1	-0.8	-1.0	-4.3	5.2	5.4	8.0
General Support Staff	469,813	502,644	433,877	362,782	345,392	322,798	313,856	321,970	305,310	322,115	366,220
Increase on previous year %	7.7	7.0	-13.7	-16.4	-4.8	-6.5	-2.8	2.6	-5.2	5.5	13.7
Non-Clinical Subtotal	1,056,220	1,118,894	1,068,023	962,110	920,151	892,911	878,223	861,993	873,374	920,594	1,012,808
Increase on previous year %	2.8	5.9	-4.5	-9.9	-4.4	-3.0	-1.6	-1.8	1.3	5.4	10.0
Other Patient & Client Care	565,346	566,998	644,760	629,572	662,193	639,541	613,286	633,936	665,930	658,531	650,095
Increase on previous year %	25.9	0.3	13.7	-2.4	5.2	-3.4	-4.1	3.4	5.0	-1.1	-1.3
Total	4,442,869	4,717,814	4,738,611	4,373,861	4,348,818	4,241,999	4,130,005	4,159,275	4,280,498	4,432,290	4,636,393
Increase on previous year %	9.5	6.2	0.4	-7.7	-0.6	-2.5	-2.6	0.7	2.9	3.5	4.6

Notes: Relates to HSE only. Does not include costs associated with superannuation, agency, section 38 or section 39 staff
Pay for Child and Family Services is included in HSE pay from 2007-2013. However, this service, and the related pay, was transferred to the Child and Family Agency in 2014. As such, Child and Family Agency Pay were added from 2014-2017 using ESRI calculations and WTE and Pay information in Child and Family Agency Annual Financial Statements
Circa 1,000 WTEs were transferred from the HSE to the Department of Social Protection to administer the Supplementary Welfare Allowance in 2011. Pay for these staff is included in HSE pay from 2007-2010. ESRI calculations were used to attempt to add pay for these staff from 2011-2017.

Sources: HSE Annual Report and Financial Statements (24-26, 61-67)
Child and Family Agency Financial Statements (32-34)
Personal communication with HSE

TABLE A.15 Agency Nominal Pay Expenditure (€ Thousands)

Staff Category	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical/ Dental	13,959	39,970	53,702	37,041	64,217	109,880	103,095	106,340	105,624
Increase on previous year %		186.3	34.4	-31.0	73.4	71.1	-6.2	3.1	-0.7
Nursing	44,118	51,257	49,901	55,176	57,427	63,357	57,757	57,900	64,698
Increase on previous year %		16.2	-2.6	10.6	4.1	10.3	-8.8	0.2	11.7
Health & Social Care Professional	9,099	18,162	21,840	23,777	29,759	39,056	32,736	30,323	37,697
Increase on previous year %		99.6	20.3	8.9	25.2	31.2	-16.2	-7.4	24.3
Clinical Subtotal	67,176	109,389	125,443	115,994	151,403	212,293	193,588	194,563	208,020
Increase on previous year %		62.8	14.7	-7.5	30.5	40.2	-8.8	0.5	6.9
Management/ Admin	8,913	4,690	5,683	6,153	10,388	17,584	14,520	15,202	20,170
Increase on previous year %		-47.4	21.2	8.3	68.8	69.3	-17.4	4.7	32.7
General Support Staff	6,181	17,992	11,770	10,968	12,457	13,709	16,375	22,034	27,355
Increase on previous year %		191.1	-34.6	-6.8	13.6	10.1	19.4	34.6	24.1
Non-Clinical Subtotal	15,094	22,682	17,453	17,121	22,845	31,294	30,895	37,236	47,524
Increase on previous year %		50.3	-23.1	-1.9	33.4	37.0	-1.3	20.5	27.6
Other Patient & Client Care	26,061	21,306	33,674	31,680	38,694	47,524	51,823	64,159	70,696
Increase on previous year %		-18.2	58.0	-5.9	22.1	22.8	9.0	23.8	10.2
Total	108,331	153,377	176,570	164,795	212,942	291,111	276,306	295,957	326,240
Increase on previous year %		41.6	15.1	-6.7	29.2	36.7	-5.1	7.1	10.2

Source: HSE Annual Report and Financial Statements (24-26, 61-67)

TABLE A.16 Nominal Superannuation and Section 38 Pay Expenditure (€ Thousands)

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Superannuation	368,101	408,803	524,052	617,563	567,184	656,375	566,203	602,683	629,482	661,547	693,110
Increase on previous year %		11.06	28.19	17.84	-8.16	15.73	-13.74	6.44	4.45	5.09	4.77
Section 38	2,101,965	2,119,040	2,205,397	2,102,475	2,075,836	2,037,768	1,992,466	2,027,383	2,086,515	2,147,371	2,277,763
Increase on previous year %		0.81	4.08	-4.67	-1.27	-1.83	-2.22	1.75	2.92	2.92	6.07

Source: HSE Annual Report and Financial Statements (24-26, 61-67)
HSE Management Data Reports (40-43)
HSE Supplementary Report to National Service Plan 2012 (39)
HSE supplementary Performance Reports (36-38)
HSE Performance Monitoring Report 2008 (35)

TABLE A.17 Trends in HSE Superannuation and Section 38 Pay Expenditure (Nominal)

	Change 2007-2010 %	Change 2010-2013 %	Change 2013-2017 %	Change 2007-2017 %	Annual Average Increase %
Superannuation	67.8	-8.3	22.4	88.3	6.5
Section 38	0.0	-5.2	14.3	8.4	0.8

Source: Based on Table A.16

TABLE A.18 Components of Nominal HSE pay expenditure (€ Thousands)

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
HSE Pay	4,442,869	4,717,814	4,738,611	4,373,861	4,348,818	4,241,999	4,130,005	4,159,275	4,280,498	4,432,290	4,636,393
Per cent of Total	64.3	65.1	62.5	60.4	60.7	59.7	59.8	58.7	58.9	58.8	58.4
Agency Pay			108,331	153,377	176,570	164,795	212,942	291,111	276,306	295,957	326,240
Per cent of Total			1.4	2.1	2.5	2.3	3.1	4.1	3.8	3.9	4.1
Superannuation	368,101	408,803	524,052	617,563	567,184	656,375	566,203	602,683	629,482	661,547	693,110
Per cent of Total	5.3	5.6	6.9	8.5	7.9	9.2	8.2	8.5	8.7	8.8	8.7
Section 38 Pay	2,101,965	2,119,040	2,205,397	2,102,475	2,075,836	2,037,768	1,992,466	2,027,383	2,086,515	2,147,371	2,277,763
Per cent of Total	30.4	29.2	29.1	29.0	29.0	28.7	28.9	28.6	28.7	28.5	28.7
Total HSE Pay Expenditure	6,912,935	7,245,657	7,576,391	7,247,276	7,168,408	7,100,937	6,901,616	7,080,452	7,272,801	7,537,165	7,933,506
Per cent of Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Agency Pay was only reported starting in 2009
Source: Tables A6.19, A6.19a, A6.19b

TABLE A.19 Components of HSE Pay Expenditure (€ Thousands) and as a Percentage of Public Current HCE

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
HSE Pay	4,442,869	4,717,814	4,738,611	4,373,861	4,348,818	4,241,999	4,130,005	4,159,275	4,280,498	4,432,290	4,636,393
Per cent of Current HCE	31.1	30.7	30.6	29.5	30.4	29.5	29.0	28.9	28.3	27.9	27.8
Agency Pay			108,331	153,377	176,570	164,795	212,942	291,111	276,306	295,957	326,240
Per cent of Current HCE			0.7	1.0	1.2	1.1	1.5	2.0	1.8	1.9	2.0
Superannuation	368,101	408,803	524,052	617,563	567,184	656,375	566,203	602,683	629,482	661,547	693,110
Per cent of Current HCE	2.6	2.7	3.4	4.2	4.0	4.6	4.0	4.2	4.2	4.2	4.2
Section 38 Pay	2,101,965	2,119,040	2,205,397	2,102,475	2,075,836	2,037,768	1,992,466	2,027,383	2,086,515	2,147,371	2,277,763
Per cent of Current HCE	14.7	13.8	14.2	14.2	14.5	14.2	14.0	14.1	13.8	13.5	13.7
HSE Pay Expenditure	6,912,935	7,245,657	7,576,391	7,247,276	7,168,408	7,100,937	6,901,616	7,080,452	7,272,801	7,537,165	7,933,506
Per cent of Current HCE	48.4	47.2	48.9	48.9	50.0	49.3	48.4	49.1	48.0	47.5	47.6
Public Current HCE	14,281,008	15,356,395	15,500,823	14,832,812	14,323,035	14,398,231	14,248,264	14,416,810	15,151,754	15,870,027	16,652,853
Per cent of Current HCE	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Agency Pay was only reported starting in 2009
Source: Tables A6.6, A6.19, A6.19a, A6.19b

TABLE A.20 Staffing levels in the HSE and Section 38 organisations

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical/ Dental	8,005	8,109	8,083	8,096	8,331	8,320	8,353	8,817	9,336	9,723	10,121
Increase on previous year %	3.8	1.3	-0.3	0.2	2.9	-0.1	0.4	5.6	5.9	4.1	4.1
Nursing	39,006	38,108	37,466	36,503	35,902	34,637	34,178	34,555	35,403	35,885	36,823
Increase on previous year %	6.2	-2.3	-1.7	-2.6	-1.6	-3.5	-1.3	1.1	2.5	1.4	2.6
Health & Social Care Professional	15,705	15,980	15,973	16,355	16,217	15,717	15,844	16,227	17,137	17,974	18,581
Increase on previous year %	5.3	1.8	0.0	2.4	-0.8	-3.1	0.8	2.4	5.6	4.9	3.4
Clinical Subtotal	62,716	62,197	61,522	60,955	60,451	58,673	58,375	59,599	61,876	63,582	65,525
Increase on previous year %	5.6	-0.8	-1.1	-0.9	-0.8	-2.9	-0.5	2.1	3.8	2.8	3.1
Management/Admin	18,044	17,967	17,611	17,301	15,983	15,726	15,503	15,618	16,713	17,392	18,429
Increase on previous year %	3.3	-0.4	-2.0	-1.8	-7.6	-1.6	-1.4	0.7	7.0	4.1	6.0
General Support Staff	12,851	12,574	11,906	11,421	10,450	9,978	9,700	9,484	9,557	9,511	9,513
Increase on previous year %	-0.2	-2.2	-5.3	-4.1	-8.5	-4.5	-2.8	-2.2	0.8	-0.5	0.0
Non-Clinical Subtotal	30,895	30,541	29,517	28,722	26,433	25,704	25,202	25,103	26,269	26,902	27,942
Increase on previous year %	1.8	-1.1	-3.4	-2.7	-8.0	-2.8	-2.0	-0.4	4.6	2.4	3.9
Other Patient & Client Care	22,853	23,017	23,025	22,529	22,753	21,825	21,440	22,765	23,597	24,387	25,333
Increase on previous year %	12.4	0.7	0.0	-2.2	1.0	-4.1	-1.8	6.2	3.7	3.4	3.9
Total	116,464	115,755	114,064	112,206	109,637	106,203	105,017	107,467	111,742	114,871	118,800
Increase on previous year %	5.8	-0.6	-1.5	-1.6	-2.3	-3.1	-1.1	2.3	4.0	2.8	3.4

Note: Includes WTEs of all staff employed by the HSE or Section 38 organisations
Source: HSE personnel censuses (72-82)

TABLE A.21 Staffing levels in the HSE

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical/ Dental	5,104	5,182	5,173	5,207	5,401	5,392	5,371	5,612	6,077	6,301	6,563
Increase on previous year %	2.8	1.5	-0.2	0.6	3.7	-0.2	-0.4	4.5	8.3	3.7	4.2
Nursing	26,185	25,484	24,853	24,071	23,400	22,458	22,297	22,548	23,349	23,555	24,178
Increase on previous year %	6.1	-2.7	-2.5	-3.1	-2.8	-4.0	-0.7	1.1	3.6	0.9	2.6
Health & Social Care Professional	9,671	9,727	9,764	10,269	10,144	9,824	9,976	10,254	11,001	11,419	11,793
Increase on previous year %	4.0	0.6	0.4	5.2	-1.2	-3.2	1.5	2.8	7.3	3.8	3.3
Clinical Subtotal	40,960	40,393	39,791	39,546	38,945	37,674	37,644	38,413	40,427	41,274	42,534
Increase on previous year %	5.2	-1.4	-1.5	-0.6	-1.5	-3.3	-0.1	2.0	5.2	2.1	3.1
Management/Admin	12,835	12,691	12,535	12,332	11,339	11,162	10,963	10,977	11,930	12,458	13,218
Increase on previous year %	4.7	-1.1	-1.2	-1.6	-8.1	-1.6	-1.8	0.1	8.7	4.4	6.1
General Support Staff	8,219	7,963	7,389	7,024	6,446	6,105	5,981	5,828	5,927	5,836	5,881
Increase on previous year %	-1.3	-3.1	-7.2	-4.9	-8.2	-5.3	-2.0	-2.6	1.7	-1.5	0.8
Non-Clinical Subtotal	21,054	20,654	19,924	19,356	17,786	17,267	16,943	16,805	17,856	18,294	19,100
Increase on previous year %	2.3	-1.9	-3.5	-2.9	-8.1	-2.9	-1.9	-0.8	6.3	2.4	4.4
Other Patient & Client Care	16,406	16,377	16,409	16,121	16,237	15,443	15,189	15,968	16,342	16,496	16,979
Increase on previous year %	14.3	-0.2	0.2	-1.8	0.7	-4.9	-1.6	5.1	2.3	0.9	2.9
Total	78,419	77,425	76,123	75,023	72,967	70,384	69,777	71,185	74,625	76,064	78,612
Increase on previous year %	6.1	-1.3	-1.7	-1.4	-2.7	-3.5	-0.9	2.0	4.8	1.9	3.3

Notes: Includes WTEs of all staff directly employed by the HSE
WTEs for Child and Family Services are included in the HSE personnel census from 2007-2013. However, this service, and the related staff, was transferred to the Child and Family Agency in 2014. As such, Child and Family Agency WTEs were added from 2014-2017 using ESRI calculations and WTE and Pay information in Child and Family Agency Annual Financial Statements
Circa 1,000 WTEs were transferred from the HSE to the Department of Social Protection to administer the Supplementary Welfare Allowance in 2011. These WTEs are included in the HSE personnel census from 2007-2010. ESRI calculations were used to attempt to reintroduce these WTEs from 2011-2017.

Sources: HSE personnel censuses (70-80)
Child and Family Agency Financial Statements (32-34)
Personal communication with HSE

TABLE A.22 Staffing levels in Section 38 organisations

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical/ Dental	2,901	2,928	2,910	2,889	2,930	2,927	2,982	3,205	3,259	3,422	3,558
Increase on previous year %		0.9	-0.6	-0.7	1.4	-0.1	1.9	7.5	1.7	5.0	4.0
Nursing	12,821	12,624	12,613	12,432	12,503	12,179	11,880	12,008	12,054	12,330	12,645
Increase on previous year %		-1.5	-0.1	-1.4	0.6	-2.6	-2.4	1.1	0.4	2.3	2.6
Health & Social Care Professional	6,034	6,253	6,209	6,087	6,073	5,893	5,868	5,973	6,135	6,555	6,788
Increase on previous year %		3.6	-0.7	-2.0	-0.2	-3.0	-0.4	1.8	2.7	6.8	3.6
Clinical Subtotal	21,756	21,804	21,731	21,408	21,506	20,999	20,731	21,186	21,449	22,308	22,991
Increase on previous year %		0.2	-0.3	-1.5	0.5	-2.4	-1.3	2.2	1.2	4.0	3.1
Management/Admin	5,210	5,276	5,076	4,969	4,644	4,564	4,540	4,641	4,783	4,934	5,211
Increase on previous year %		1.3	-3.8	-2.1	-6.5	-1.7	-0.5	2.2	3.1	3.2	5.6
General Support Staff	4,631	4,611	4,517	4,397	4,003	3,873	3,719	3,657	3,630	3,675	3,631
Increase on previous year %		-0.4	-2.0	-2.7	-8.9	-3.3	-4.0	-1.7	-0.7	1.2	-1.2
Non-Clinical Subtotal	9,841	9,887	9,593	9,366	8,648	8,437	8,259	8,298	8,413	8,609	8,842
Increase on previous year %		0.5	-3.0	-2.4	-7.7	-2.4	-2.1	0.5	1.4	2.3	2.7
Other Patient & Client Care	6,448	6,640	6,617	6,409	6,517	6,383	6,251	6,797	7,255	7,891	8,354
Increase on previous year %		3.0	-0.3	-3.1	1.7	-2.1	-2.1	8.7	6.7	8.8	5.9
Total	38,045	38,331	37,941	37,183	36,670	35,819	35,240	36,281	37,117	38,807	40,187
Increase on previous year %		0.8	-1.0	-2.0	-1.4	-2.3	-1.6	3.0	2.3	4.6	3.6

Note: Includes WTEs of all staff employed in Section 38 organisations
Source: HSE personnel censuses (72-82)

TABLE A.23 Average Pay in the HSE (€ Thousands)

Staff Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medical/ Dental	138	157	153	134	128	133	126	117	114	114	116
Increase on previous year %	7.8	14.0	-2.7	-12.1	-4.4	3.7	-5.1	-7.4	-2.6	0.1	2.1
Nursing	60	63	66	62	62	62	61	60	60	61	61
Increase on previous year %	1.8	6.3	3.7	-5.6	0.8	-1.0	-1.5	-0.8	-1.4	2.3	0.5
Health & Social Care Professional	58	62	62	58	60	61	60	63	60	61	62
Increase on previous year %	7.4	7.7	-0.4	-6.9	4.5	1.8	-1.6	4.3	-4.8	2.5	0.9
Clinical Subtotal	69	75	76	70	71	72	70	69	68	69	70
Increase on previous year %	4.0	9.0	1.3	-7.5	1.0	1.2	-2.5	-1.1	-2.2	1.9	1.1
Management/Admin	46	49	51	49	51	51	51	49	48	48	49
Increase on previous year %	4.8	6.3	4.2	-3.9	4.3	0.8	0.8	-4.4	-3.2	0.9	1.8
General Support Staff	57	63	59	52	54	53	52	55	52	55	62
Increase on previous year %	9.2	10.4	-7.0	-12.0	3.7	-1.3	-0.8	5.3	-6.8	7.1	12.8
Non-Clinical Subtotal	50	54	54	50	52	52	52	51	49	50	53
Increase on previous year %	6.4	8.0	-1.0	-7.3	4.1	0.0	0.2	-1.0	-4.6	2.9	5.4
Other Patient & Client Care	34	35	39	39	41	41	40	40	41	40	38
Increase on previous year %	10.1	0.5	13.5	-0.6	4.4	1.5	-2.5	-1.7	2.6	-2.0	-4.1
Total	57	61	62	58	60	60	59	58	57	58	59
Increase on previous year %	4.7	7.6	2.2	-6.3	2.2	1.1	-1.8	-1.3	-1.8	1.6	1.2

Note: Average pay refers to the nominal pay in each staff category in Table A.14 divided by WTEs in each staff category in Table A.21
Source: Table A.14 and A6.20b

REFERENCES

1. Wren MA, Connolly S, Cunningham N. An Examination of the Potential Costs of Universal Health Insurance in Ireland. Dublin: ESRI, 2015.
2. Wren MA, Keegan C, Walsh B, Bergin A, Eighan J, Brick A, et al. Projections of Demand for Healthcare in Ireland, 2015-2030. First Report from the Hippocrates Model. Dublin: Economic and Social Research Institute 2017.
3. Keegan C, Connolly S, Wren MA. Measuring healthcare expenditure: different methods, different results. Irish journal of medical science. 2018;187(1):13-23. Epub 2017/06/02.
4. CSO. PEA11 Population estimates from 1926 by Single Year of Age, Sex and Year In: CSO, editor. Dublin: Central Statistics Office; 2018.
5. CSO. National Income and Expenditure 2017: Tables 1-22 and Annex 1 for 1995-2017. Dublin: Central Statistics Office, 2018.
6. Fitzgerald J. Problems Interpreting National Accounts in a Globalised Economy - Ireland. ESRI. 2015:10.
7. CSO. PEA01 Population Estimates by Age Group, Sex and Year. In: CSO, editor. Dublin: Central Statistics Office; 2018.
8. CSO. Census 2016 Summary Results - Part 1. Dublin: Central Statistics Office; 2017.
9. Databank [database on the Internet]. Department of Public Expenditure and Reform. 2018 [cited 10/12/2018]. Available from: http://databank.per.gov.ie/.
10. Department of Finance. 2005 Revised Estimates for Public Expenditure. Dublin: 2005.
11. Department of Finance. 2006 Revised Estimates for Public Expenditure. Dublin: 2006.
12. Department of Finance. 2007 Revised Estimates for Public Expenditure. Dublin: 2007.
13. Department of Finance. 2008 Revised Estimates for Public Expenditure. Dublin: 2008.
14. Department of Finance. 2009 Revised Estimates for Public Expenditure. Dublin: 2009.
15. Department of Finance. 2010 Revised Estimates for Public Expenditure. Dublin: 2010.
16. Department of Public Expenditure and Reform. 2011 Revised Estimates for Public Expenditure. Dublin: 2011.
17. Department of Public Expenditure and Reform. 2012 Revised Estimates for Public Expenditure. Dublin: 2012.
18. Department of Public Expenditure and Reform. 2013 Revised Estimates for Public Expenditure. Dublin: 2013.
19. Department of Public Expenditure and Reform. 2014 Revised Estimates for Public Expenditure. Dublin: 2014.
20. Department of Public Expenditure and Reform. 2015 Revised Estimates for Public Expenditure. Dublin: 2015.
21. Department of Public Expenditure and Reform. 2016 Revised Estimates for Public Expenditure. Dublin: 2016.
22. Department of Public Expenditure and Reform. 2017 Revised Estimates for Public Expenditure. Dublin: 2017.
23. Department of Public Expenditure and Reform. 2018 Revised Estimates for Public Expenditure. Dublin: 2018.
24. HSE. Annual Report and Financial Statements 2015. Dublin: HSE, 2016.
25. HSE. Annual Report and Financial Statements 2016. Dublin: HSE, 2017.
26. HSE. Annual Report and Financial Statements 2017. Dublin: HSE, 2018.
27. Department of Employment Affairs and Social Protection. Domiciliary Care Allowance. Dublin: Department of Employment Affairs and Social Protection,; 2018; Available from: http://www.welfare.ie/en/Pages/1078_Domiciliary-Care-Allowance.aspx.
28. Department of Health. Health in Ireland: Key Trends 2018. Dublin: Department of Health, 2018.
29. Department of Health. Health in Ireland: Key Trends 2014. Dublin: Department of Health, 2014.
30. Ireland. Health Act 2004. Dublin: Stationary Office; 2004.
31. Department of Employment Affairs and Social Protection. Supplementary Welfare Allowance Scheme. Dublin: Department of Employment Affairs and Social Protection,; 2018; Available from: http://www.welfare.ie/en/Pages/Supplementary-Welfare-Allowance-Scheme-SWA.aspx.

32. Child and Family Agency. Annual Financial Statements: For the Year Ending 31st December 2017. Dublin: Child and Family Agency, 2018.
33. Child and Family Agency. Annual Financial Statements: For the Year Ending 31st December 2016. Dublin: Child and Family Agency, 2017.
34. Child and Family Agency. Annual Financial Statements: For the Year Ending 31st December 2015. Dublin: Child and Family Agency, 2016.
35. HSE. Performance Monitoring Report - December 2008. Dublin: HSE, 2009.
36. HSE. Supplementary PR Data - December 2009. Dublin: HSE, 2010.
37. HSE. Supplementary Report December 2010. Dublin: HSE, 2011.
38. HSE. Supplementary Report December 2011. Dublin: HSE, 2012.
39. HSE. Supplementary Report December 2012. Dublin: HSE, 2013.
40. HSE. Health Service Management Data Report December 2013. Dublin: HSE, 2014.
41. HSE. Health Service Management Data Report December 2014. Dublin: HSE, 2015.
42. HSE. Management Data Report December 2016. Dublin: HSE, 2017.
43. HSE. Management Data Report December 2017. Dublin: HSE, 2018.
44. Health Care Utilisation [database on the Internet]. OECD. 2019 [cited 13/02/2019]. Available from: http://stats.oecd.org/OECDStat_Metadata/ShowMetadata.ashx?Dataset=HEALTH_PROC&ShowOnWeb=true&Lang=en.
45. Keegan C, Brick A, Walsh B, Bergin A, Eighan J, Wren MA. How many beds? Capacity implications of hospital care demand projections in the Irish hospital system, 2015-2030. The International journal of health planning and management. 2018. Epub 2018/10/03.
46. PA Consulting. Health Service Capacity Review 2018 Dublin, Ireland: Department of Health, 2018.
47. Department of Public Expenditure and Reform. National Development Plan 2018-2027. Dublin: Government of Ireland; 2019.
48. Health expenditure and financing [database on the Internet]. OECD. 2019 [cited 14/03/2019]. Available from: http://stats.oecd.org/OECDStat_Metadata/ShowMetadata.ashx?Dataset=HEALTH_PROC&ShowOnWeb=true&Lang=en.
49. OECD. Health at a Glance 2017. Paris: 2017.
50. OECD. Health at a Glance 2015. Paris: 2015.
51. Department of Health. Health in Ireland: Key Trends 2010. Dublin: Department of Health, 2010.
52. Department of Health. Health in Ireland: Key Trends 2011. Dublin: Department of Health, 2011.
53. Department of Health. Health in Ireland: Key Trends 2012. Dublin: Department of Health, 2012.
54. Department of Health. Health in Ireland: Key Trends 2013. Dublin: Department of Health, 2013.
55. Department of Health. Health in Ireland: Key Trends 2015. Dublin: Department of Health, 2015.
56. Department of Health. Health in Ireland: Key Trends 2016. Dublin: Department of Health, 2016.
57. Department of Health. Health in Ireland: Key Trends 2017. Dublin: Department of Health, 2017.
58. Department of Health. Health in Ireland: Key Trends 2009. Dublin: Department of Health, 2009.
59. HSE HR Circular 016-2009: Incentivised Scheme of Early Retirement (ISER), (2009).
60. HSE HR Circular 011/2010: Targeted Voluntary Early Retirement (VER) and Voluntary Redundancy Schemes (VRS) in order to achieve a targeted reduction in employment numbers in the Public Health Sector, (2010).
61. HSE. Annual Report and Financial Statements 2008. Dublin: HSE, 2009.
62. HSE. Annual Report and Financial Statements 2009. Dublin: HSE, 2010.
63. HSE. Annual Report and Financial Statements 2010. Dublin: HSE, 2011.
64. HSE. Annual Report and Financial Statements 2011. Dublin: HSE, 2012.
65. HSE. Annual Report and Financial Statements 2012. Dublin: HSE, 2013.
66. HSE. Annual Report and Financial Statements 2013. Dublin: HSE, 2014.

67. HSE. Annual Report and Financial Statements 2014. Dublin: HSE, 2015.
68. Financial Emergency Measures in the Public INTEREST (NO. 2) Act 2009, Stat. 41/2009 (2009).
69. Public Service Pension Rights Order 2011, Stat. 80/2011 (2011).
70. Citizens Information. Public Health Measures for COVID-19. Available at https://www.citizensinformation.ie/en/health/covid19/public_health_measures_for_covid19.html (10th April 2020)
71 Government of Ireland. Press Release - Minister Donohoe publishes Stability Programme Update 2020. Available at https://www.gov.ie/en/news/d2ec5b-minister-donohoe-publishes-stability-programme-update-2020/
72. HSE. HSE Personnel Census 2007. In: HSE, editor. 2008.
73. HSE. HSE Personnel Census 2008. In: HSE, editor. 2009.
74. HSE. HSE Personnel Census 2009. In: HSE, editor. 2010.
75. HSE. HSE Personnel Census 2010. In: HSE, editor. 2011.
76. HSE. HSE Personnel Census 2011. In: HSE, editor. 2012.
77. HSE. HSE Personnel Census 2012. In: HSE, editor. 2013.
78. HSE. HSE Personnel Census 2013. In: HSE, editor. 2014.
79. HSE. HSE Personnel Census 2014. In: HSE, editor. 2015.
80. HSE. HSE Personnel Census 2015. In: HSE, editor. 2016.
81. HSE. HSE Personnel Census 2016. In: HSE, editor. 2017.
82. HSE. HSE Personnel Census 2017. In: HSE, editor. 2018.