

Keegan, Conor; Brick, Aoife; Wren, Maev-Ann

Working Paper

An examination of activity in public and private hospitals in Ireland, 2015

ESRI Working Paper, No. 601

Provided in Cooperation with:

The Economic and Social Research Institute (ESRI), Dublin

Suggested Citation: Keegan, Conor; Brick, Aoife; Wren, Maev-Ann (2018) : An examination of activity in public and private hospitals in Ireland, 2015, ESRI Working Paper, No. 601, The Economic and Social Research Institute (ESRI), Dublin

This Version is available at:

<https://hdl.handle.net/10419/193938>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Working Paper No. 601

October 2018

An examination of activity in public and private hospitals in Ireland, 2015

Conor Keegan^a, Aoife Brick^a, Maev-Ann Wren^a

Abstract: This analysis examines the extent to which activity in public hospitals is privately financed and provides an overview of service delivery across public and private hospitals in Ireland in 2015. This analysis was conducted in light of a Sláintecare proposal to remove private practice from public hospitals and the establishment of an Independent Review group to examine this proposal in detail. Overall we find that just under 16 per cent of cases were privately financed in public hospitals in 2015. Across public and private hospitals, fewer than one-in-four private day patient episodes were estimated to have taken place in public hospitals. In comparison, over 50 per cent of private in-patient bed days were recorded in public hospitals. These findings suggest that the private hospital system appears to have primarily specialised in the delivery of elective care. It is unclear therefore whether the majority of private inpatients in public hospitals, who are emergency in-patients, could access the care they may require in private hospitals. It is acknowledged that a barrier to more detailed comparative analysis is the lack of a centralised administrative system to collect private hospital activity data.

a. Economic and Social Research Institute, Dublin

Table of Contents

EXECUTIVE SUMMARY	1
Introduction	1
Main analysis and findings	1
<i>Activity across public and private hospitals</i>	<i>2</i>
GLOSSARY	5
1 INTRODUCTION	6
2 BACKGROUND	7
2.1 Overview of delivery and financing of hospital care in Ireland	7
3 DATA AND METHODS	10
4 ANALYSIS AND FINDINGS	12
4.1 Public hospital discharge and bed day volumes, 2015	12
4.2 Detailed findings on public and private activity in public hospitals.....	13
4.3 Shares of activity in public and private hospitals.....	15
5 DISCUSSION AND CONCLUSION	20
APPENDIX 1	22
Detailed analysis of activity in public hospitals	22
<i>Day patient discharges (excl. maternity)</i>	<i>22</i>
<i>In-patient discharges and bed days (excl. maternity)</i>	<i>22</i>
<i>Maternity discharges and in-patient bed days</i>	<i>26</i>
REFERENCES.....	27

List of Tables

TABLE E1	Public and Private Hospitals: Shares of Day Patient and In-Patient Bed Day Activity by Public and Private Financing, 2015.....	4
TABLE 1	Public Hospitals: Discharge and In-Patient Bed Day Activity by Sex, 2015.....	13

List of Figures

FIGURE E1	Public and Private Hospitals: Shares of Day-Patient and In-Patient Bed Day Activity by Public and Private Financing, 2015.....	3
FIGURE 1	CSO System of Health Accounts 2015 – Financing of Hospital Care in Ireland	9
FIGURE 2	Public Hospitals: Discharges by Discharge Type and Discharge Status, 2015	14
FIGURE 3	Public Hospitals: In-Patient Bed Days by Discharge Type and Discharge Status, 2015	15
FIGURE 4	Public and Private Hospitals: Shares of Day Patient and In-Patient Bed Day Activity by Public and Private Financing, 2015.....	16
FIGURE 5	Public and Private Hospitals: Day Case Activity Rates for Private Patients, by Age and Sex, 2015	17
FIGURE 6	Public and Private Hospitals: Bed Day Rates for Private Patients, by Age and Sex, 2015	19
FIGURE 7	Public Hospitals: Day Patient Discharges and Rates (Excl. Maternity) by Age and Sex, 2015	22
FIGURE 8	Public Hospitals: In-Patient Discharges and Rates (Excl. Maternity) by Age and Sex, 2015	23
FIGURE 9	Public Hospitals: In-Patient Discharges and Rates (Excl. Maternity) by Patient Type and Age, 2015	24
FIGURE 10	Public Hospitals: In-Patient Bed Days and Rates (Excl. Maternity) by Age and Sex, 2015	25
FIGURE 11	Public Hospitals: In-Patient Bed Days and Rates (Excl. Maternity) by Patient Type and Age, 2015.....	26
FIGURE 12	Public Hospitals: Maternity Discharges and In-Patient Bed Days by Age, 2015.....	26

EXECUTIVE SUMMARY

Introduction

This analysis examines the extent to which activity in public hospitals is privately financed and provides an overview of service delivery across public and private hospitals in Ireland in 2015. This analysis was conducted in light of a Sláintecare proposal to remove private practice from public hospitals and the establishment of an Independent Review group to examine this proposal in detail.

For public hospitals we measure activity in terms of discharges (cases) and in-patient bed days. We separate out day patient, in-patient emergency, in-patient elective, and maternity care. For private hospitals, it is not possible to break down activity beyond day patient cases and in-patient bed days. Definitions of the categories of activity analysed in this report are provided in the Glossary. The next sub-section provides an overview of the main analysis and findings arising from this report.

Main analysis and findings

Overall public hospital activity

- In 2015, nearly 1.7 million cases and over 3.5 million in-patient bed days were recorded in public hospitals.
 - Of these cases, 61 per cent were day patient (excl. maternity), 25 per cent were emergency in-patients and 6 per cent were elective in-patients. The remainder of activity constituted maternity day patient (1 per cent) and maternity in-patient cases (7 per cent).
 - In-patient activity in public hospitals is predominantly emergency in nature. Emergency in-patients accounted for 66 per cent of in-patient cases and 74 per cent of in-patient bed days.

Private activity in public hospitals

- The majority of care in public hospitals is publicly-financed. Overall, 16 per cent of total cases in public hospitals were privately financed. However, some variation did exist among discharge categories.
 - Less than 14 per cent of day patient cases (excl. maternity) in public hospitals were privately financed.
 - While 19 per cent of emergency in-patient cases were privately-financed, they accounted for nearly 14 per cent of in-patient bed days.
 - Although 26 per cent of elective in-patient cases in public hospitals were privately financed, they accounted for under 4 per cent of in-patient bed days.

Activity across public and private hospitals

- Public hospitals also provide the majority of both day patient and in-patient care across public and private hospitals combined.
 - Approximately 70 per cent of day patient cases are estimated to have taken place in public hospitals.
 - Approximately 85 per cent of in-patient bed days are estimated to have taken place in public hospitals.
- However, we find substantial variation in the relative role public hospitals played in delivering private care.
 - Less than 25 per cent of private day patient cases were undertaken in public hospitals.
 - In comparison, over 50 per cent of total private in-patient bed days were recorded in public hospitals.

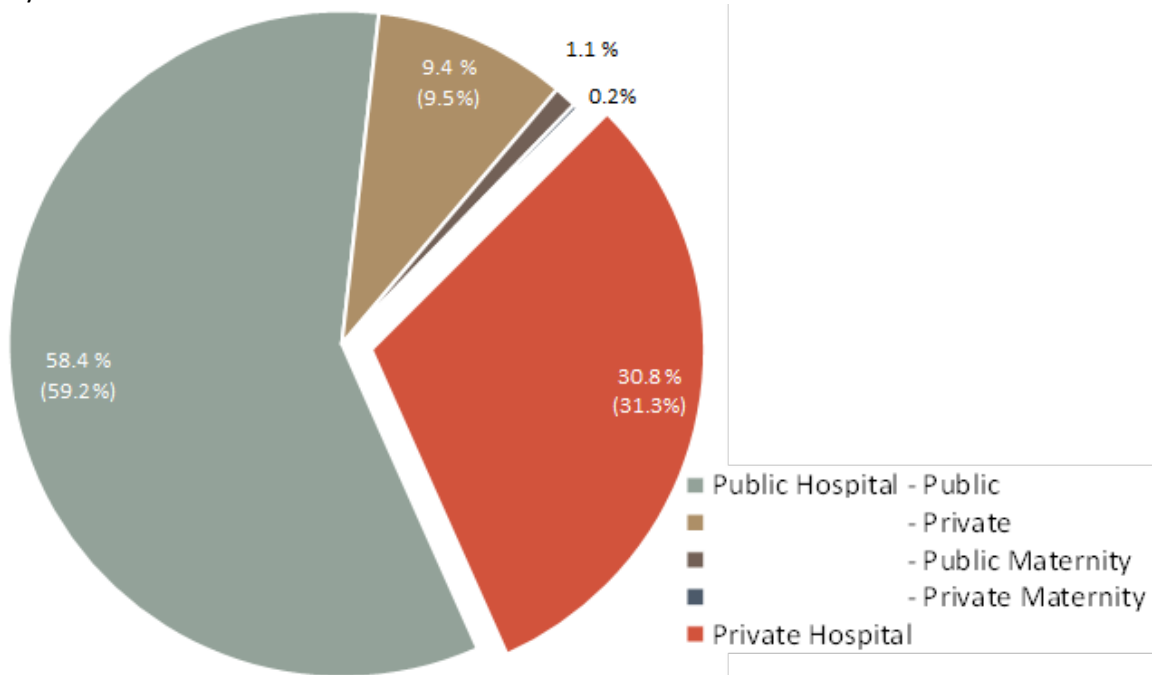
Figure E.1 and Table E.1 below summarise shares of activity by source of financing across public and private hospitals in combination.

As all day patient care is elective by definition, these findings suggest that the private hospital system, as currently structured, appears to have primarily specialised in the delivery of elective care. However, most in-patient care in public hospitals is non-elective and private in-patients, the majority of whom are emergency in-patients, may not be able to access the care they require in private hospitals.

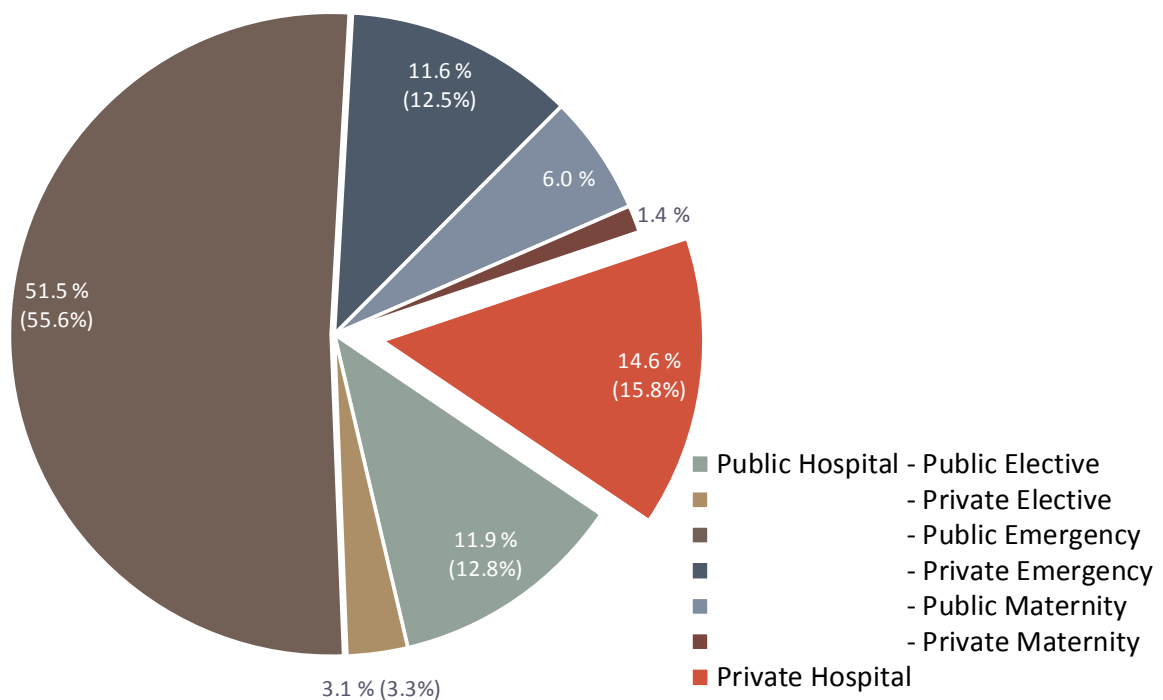
While this research provides new evidence on the relative shares of activity that takes place in public and private hospitals, it is acknowledged that a barrier to more detailed comparative analysis is the lack of a mandated centralised administrative system to collect private hospital activity data.

FIGURE E1 Public and Private Hospitals: Shares of Day-Patient and In-Patient Bed Day Activity by Public and Private Financing, 2015

Day Patients



In-Patient Bed Days



Notes: Percentages excluding maternity in parentheses

In private hospitals, we do not capture any activity exclusively financed out-of-pocket.

In public hospitals, in-patient bed days capture the number of bed days attributable to cases recorded as having a public or private discharge status and do not represent the number of days spent in public or private beds.

TABLE E1 Public and Private Hospitals: Shares of Day Patient and In-Patient Bed Day Activity by Public and Private Financing, 2015

			Activity share (%)
Day Patient	Public Hospital	Public	58.4
		Private	9.4
		Public Maternity	1.1
		Private Maternity	0.2
	Private Hospital		30.8
In-Patient Bed Days	Public Hospital	Public Elective	11.9
		Private Elective	3.1
		Public Emergency	51.5
		Private Emergency	11.6
		Public Maternity	6.0
		Private Maternity	1.4
	Private Hospital		14.6

GLOSSARY

Public hospitals¹	
<i>Discharge</i>	The Hospital In-Patient Enquiry (HIPE) Scheme collects activity data at the discharge level. A discharge record is created when a patient is discharged from (or dies in) a public hospital. At present, in the absence of the roll-out of a unique patient identifier it is not possible to follow activity at the patient level (that is, attribute multiple discharges to the same patient) across hospitals.
<i>Day patient</i>	A day patient is admitted to hospital for treatment on an elective (rather than an emergency) basis and is discharged alive, as scheduled, on the same day. Births are excluded.
<i>In-patient</i>	An in-patient is admitted to hospital for treatment or investigation on an elective (arranged in advance) or emergency ² (unforeseen and urgent) basis. Same day in-patients are admitted as in-patients and discharged on the same day, while overnight in-patients stay at least one night in hospital (2).
<i>In-patient bed day</i>	Each overnight stay reflects one in-patient bed day. However, in this analysis 'same day' in-patients (i.e. in-patients admitted and discharged on the same day) are assigned one bed day. ³ Bed day volumes as a measure of activity better account for variation in resource use compared to discharge volumes.
<i>Maternity</i>	Maternity discharges are those who were admitted in relation to their obstetrical experience (from conception to six weeks post-delivery). Maternity discharges capture both delivery and non-delivery episodes of care. All delivery episodes of care are classified as in-patients and for maternity discharges no distinction is made between elective and emergency in-patients.
<i>Public/Private status</i>	Public or private status relates to whether the hospital patient saw their consultant on a private or public basis. It does not relate to the type of bed occupied nor is it an indicator of possession of private health insurance.
Private hospitals⁴	
<i>Day patient</i>	Refers to privately-insured admissions to hospitals that did not involve an overnight stay in the hospital.
<i>In-patient bed day</i>	A bed day refers to each privately-insured night spent in hospital.

¹ The definitions of activity in public hospitals largely follow the meaning ascribed by the HIPE Scheme which captures administrative information on activity in public hospitals nationally. The definitions are used by the Healthcare Pricing Office (HPO) in their annual reports of activity in acute public hospitals in Ireland and are taken directly from, or based on, those provided in *Quality and Fairness – A Health System for You* (1).

² It is not possible to draw conclusions about Emergency Department (EDs) volumes based on this measure of activity as only a proportion of those visiting EDs will be admitted to hospital.

³ In 2015, same day in-patient bed days accounted for 3.2 per cent of in-patient bed days recorded in HIPE.

⁴ Activity in private hospitals relates to centralised insurer claims data collected by the HIA (Health Insurance Authority). This information is collected for the purposes of contributing to the determination of risk-equalisation credits and not principally for measuring activity. Consequently, the available information on private hospital activity measures and definitions is less detailed than for public hospitals.

1 INTRODUCTION

In May 2017 the Oireachtas Committee on the Future of Healthcare published its report devising a ten-year plan of reform for the future direction of the healthcare service in Ireland (the Sláintecare Report) (3). The Report recommend that “an independent impact analysis should be carried out of the separation of private practice from the public hospital system, with a view to identifying any adverse and unintended consequences that may arise for the public system in the separation” (3). As a result of this Sláintecare Report recommendation, an Independent Review Group was established to examine the proposal to remove private practice from public hospitals (4).

Although the terms of reference are broad, an important remit of the Group is to consider and examine ‘the existing nature, level and the role of private practice in public hospitals’ (4). With this focus in mind, this paper analyses the extent to which activity in public hospitals is privately financed, the level and nature of privately financed activity across the hospital system and shares of activity in public and private hospitals. This research has been undertaken under the ESRI Research Programme in Healthcare Reform, funded by the Department of Health.

This document synthesises research undertaken by the ESRI in the development of the demand phase of the HIPPOCRATES model of healthcare demand and expenditure, which was published in the Wren et al report (5). The report contained new analysis of private hospital activity, which had not hitherto been published for the Irish healthcare system. Additionally, this paper expands on that research by examining the extent to which activity in public hospitals is financed privately by out-of-pocket payments or insurance payments to public hospital consultants and private payments to public hospitals. The year of analysis is 2015, which was chosen due to data availability.

Due to data limitations, this analysis could not include a like-with-like comparison of public and private hospital activity at the level of diagnoses and procedures and in respect of whether in-patient care was emergency or elective. The comparative analysis is therefore limited to aggregated categories of activity, specifically, day patient cases and in-patient bed days.

For public hospitals, the following categories of activity are examined: day patient discharges, emergency in-patient discharges and bed days, elective in-patient discharges and bed days, maternity discharges and in-patient bed days. For private hospitals, the following categories of activity are examined: day patient admissions and in-patient bed days. While public hospital data refer to episodes of care as discharges, our measure of private hospital day patient use refers to episodes of

care as admissions. When discussed in aggregate we therefore refer to episodes of care as cases.

The next section (Section 2) provides a contextual overview to delivery and financing of hospital care in Ireland. Section 3 introduces the data and methods applied in this analysis. Section 4 provides detailed analysis and new findings on the role of private activity within public hospitals and across public and private hospitals. Section 5 discusses the findings and concludes.

2 BACKGROUND

2.1 Overview of delivery and financing of hospital care in Ireland

Hospitals in Ireland account for over a third of all healthcare expenditure, the largest of all provider categories (6). Three main sub-categories of acute hospital provision exist in Ireland: public, voluntary, and private. Acute public hospitals can either be owned and operated by the Health Service Executive (HSE) or owned by voluntary organisations (e.g. religious orders) and funded under service-level agreements. In 2016, there were 54 voluntary and non-voluntary public hospitals returning information to the Hospital In-Patient Enquiry (HIPE) Scheme (7). Independently-funded acute private hospitals also exist. There are currently 18 members of the Private Hospitals Association (PHA) (8). The greater supply of public hospitals is reflected in provision of acute beds. Recent estimates put public hospital capacity at approximately 10,500–10,600 acute in-patient beds compared to between 1,900–2,000 acute in-patient beds in private hospitals (5, 9).

While many healthcare systems fund and deliver care both publicly and privately, Ireland is unusual given the overlap that exists between funding and delivery of care. Most hospital care that takes place in Ireland is publicly financed (see Figure 1) and delivered in public hospitals (either owned or operated by the HSE). Individuals who qualify for medical cards receive public hospital care free of charge while the remainder of the population pay €80 euro per night for an overnight stay up to a maximum of €800 per person per year.⁵ A varying amount of publicly funded care has also taken place in private hospitals. This has been largely funded by the National Treatment Purchase Fund (NTPF). The NTPF was established in 2002 to reduce waiting lists in the public hospital sector by purchasing private care for public patients among other functions. In 2011, this commissioning function was suspended until 2016 when it was re-activated. In the last full year for which information on purchasing activity exists (2010), the NTPF funded private treatment for over 20,000 in-patients and referred just fewer than 10,000 cases for private outpatient appointments. Public hospitals or hospital groups can also

⁵ Some exemptions exist, see Wren et al (5).

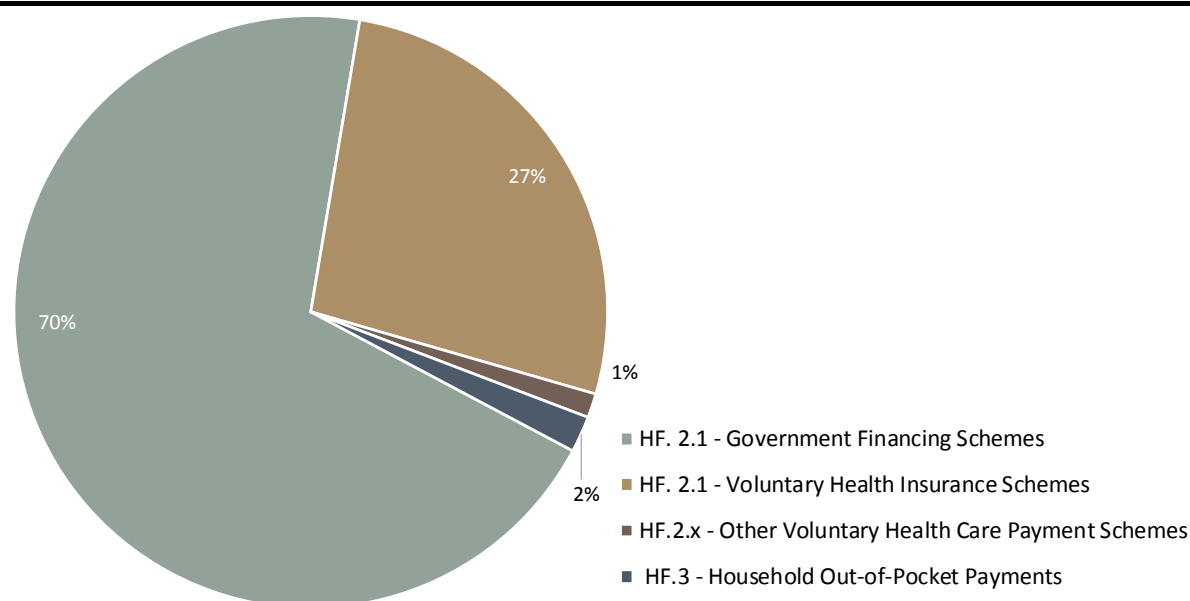
contract directly with private hospitals to address specific backlogs in treatment (10).

Individuals can also choose to purchase private hospital services in Ireland and are responsible for meeting the cost of treatment and accommodation (11). In Ireland, privately financed hospital care can be delivered in both public and private hospitals. Public hospitals currently charge per diem rates that differ between hospital room occupancy status (i.e. single occupancy, multiple occupancy, or day case occupancy) and hospital category (12). Private hospitals tend to offer fixed price procedures and treatments. Private patients, in public and private hospitals, must also pay the fees for consultant services.

While individuals may opt to pay out-of-pocket for their private care, given its expensive nature, private care is largely financed through voluntary private health insurance (see Figure 1). In 2015, private health insurance covered approximately 46 per cent of the population (13).⁶ A recent Health Insurance Authority (HIA) survey found that the three most cited reasons for holding private health insurance were; the high cost of medical treatment and accommodation (cited by 40 per cent of those with health insurance), inadequate standard of public services (30 per cent) and lack of access to public services (24 per cent) (15).

⁶ Where healthcare expenses are not reimbursed from another source (e.g. HSE, health insurer, through compensation), individuals can also claim tax relief on some of these expenses (14).

FIGURE 1 CSO System of Health Accounts 2015 – Financing of Hospital Care in Ireland



Note: The numbering system shown relates to the OECD System of Health Accounts. Other voluntary payment schemes relate to own resource income of the providers (e.g. car-park income) and donations received

Source: Central Statistics Office (6)

Traditionally the Irish State has supported private healthcare through, for instance, 20 per cent tax relief on private health insurance premia and public hospitals charging below the true economic cost of care for private beds. However, in Budget 2014 some unwinding of state subsidisation of the private market took place (16). These measures include capping of tax relief on private health insurance premia and an increase in private bed charges. Moreover, since January 2014 public hospitals now levy private patient bed rates for private care regardless of whether the care took place in a bed which is designated as private.⁷ Prior to 2014, public hospitals did not charge⁸ insurers if care took place in a public (or a non-designated) bed (16). As noted, recently the cross-party Sláintecare report on reform of the Irish healthcare system recommended the elimination of private practice in public hospitals (3) and an Independent Review Group has been established to examine this proposal in detail (4).

Data limitations have restricted analysis of private hospital activity to date. Whereas public and voluntary hospitals return detailed data to the HIPE system on each individual discharge, there is no such centralised data collection system for private hospitals. However, based on centralised health insurance data, analysis in Wren et al (5) found that private hospitals accounted for an estimated 31 per cent of day patient admissions and 15 per cent of in-patient bed days. In general, private

⁷ A system of bed designation was introduced in 1991 with the intention of limiting the proportion of public hospital beds that could be occupied by patients paying private fees (17). The levying of private bed charges for private patients' accommodation in public-designated beds from 2014 could be interpreted as implicit recognition that this policy had not achieved its intention.

⁸ That is, above the statutory charge which was €75 at the time of the policy change (16).

hospitals appear to play a significant role in the provision of elective care services (which includes all day patient activity). Private hospitals may also provide some forms of emergency care, with the PHA estimating that there are Emergency Departments and/or Medical Assessment Units in half of private hospitals (10). No data have been available to this analysis to assess the extent of such emergency care provision.

3 DATA AND METHODS

Data on public hospital activity in 2015 are sourced from the HIPE database. HIPE collects clinical and administrative data on discharges from, and deaths in, acute public hospitals in Ireland. In 2015, 99.96 per cent of the discharges reported from hospital systems were coded and returned for inclusion in the national HIPE data set (7).

For public hospitals, this analysis will largely examine day patient (excl. maternity), in-patient (excl. maternity), and maternity day patient and in-patient activity separately. We consider it important in the context of this analysis to separate out maternity care. Since the closure of Mount Carmel as a private maternity hospital in early 2014, all maternity deliveries in Ireland take place in public hospitals.⁹ Furthermore, all maternity discharges are female and are within a narrow age range. Maternity discharges also report a very narrow range of diagnoses and procedures and tend to have a shorter in-patient average length of stay compared to non-maternity discharges (2). Importantly for this analysis, HIPE also collects information on the public or private status of all discharges. As noted above, private status of a discharge in HIPE refers to whether the patient was seen privately by their consultant. The public or private status of a discharge does not relate to the type of bed occupied nor is it an indicator of possession of private health insurance. Whether a bed is classified as public or private has less relevance for understanding public and private activity since from 2014 private patients in public hospitals can be charged private fees regardless of the type of bed they occupy (see Section 2.1).

Unlike activity that takes place in public hospitals, no centralised system exists for reporting of activity in private hospitals in Ireland and private hospitals are not currently required to make returns to HIPE. As a consequence, for the purposes of the analysis in Wren et al (5) estimates of private hospital activity were derived as a residual through combining information on administrative insurer hospital claims data centrally collected by the Health Insurance Authority and information on

⁹ A small number of domiciliary births (planned home births) take place each year (206 in 2015) and these are registered to public maternity hospitals through the National Perinatal Reporting System (NPRS) and are not included in this analysis.

privately insured activity in public hospitals reported to HIPE. A detailed description of the method involved is provided in Wren et al (5).

Based on the available information, it was only possible to derive two measures of activity in private hospitals, the volume of day patient admissions and the volume of in-patient bed days.¹⁰ It was not possible to examine activity in private hospitals by whether the care was elective or emergency, or by the diagnostic or procedural characteristics of patients. However, it was possible to disaggregate our measures across the entire age distribution (by single-year-of-age) and by sex.

Since this information is based on insurer administrative claims data, it does not capture any non-insurer financed care in private hospitals, although it will capture part-insurer financed care. Therefore, while the CSO (for 2014) estimate that health insurance accounted for 92 per cent of private hospital financing, a higher proportion of private hospital activity will be captured in the dataset (given any part-insurer financed care is captured).¹¹

Population for 2015 employed in this analysis to calculate rates of activity (per 1,000 population) has been estimated (from the 2016 Census) in the ESRI at the level of single-year of age and sex (for details see Wren et al (5)).

This analysis will build on work carried out as part of Wren et al (5) which mapped activity in both public and private hospital in Ireland. Similar to the analysis in Wren et al (5), activity will be analysed in aggregate and across the age and sex distribution. However, with the remit of the Review Group in mind, this analysis will augment that undertaken in Wren et al (5). First, private activity in public hospitals will be examined in detail – no separation of activity by public or private activity status took place as part of the Wren et al (5) analysis. Second, a more detailed, comparative analysis of shares of activity across public and private hospitals will be included in this analysis.

¹⁰ Underlying this approach is the assumption that alignment exists in the classifications of in-patients and day patients across HIPE and HIA datasets.

¹¹ This information was based on a presentation given by the CSO at the CSO Health Accounts Seminar on 10 November 2016, at the Royal College of Physicians in Ireland, Dublin. The remainder of financing constituted out of pocket (5 per cent), other voluntary payments (2 per cent) and government financing (1 per cent).

4 ANALYSIS AND FINDINGS

4.1 Public hospital discharge and bed day volumes, 2015

This section examines discharge and in-patient bed day activity, by sex, in public hospitals in 2015, as shown in Table 1. In total 1,661,990 public hospital discharges were reported to HIPE in 2015.¹² Of these, 1,010,022 (60.8 per cent) were recorded as (non-maternity) day patient discharges; 417,325 (25.1 per cent) were recorded as emergency in-patient discharges; 97,015 (5.8 per cent) were elective in-patient discharges; 117,790 (7.1 per cent) were in-patient maternity discharges and 19,838 (1.2 per cent) were day patient maternity discharges. In-patient activity in public hospitals is predominantly emergency in nature. Emergency in-patient discharges represented 66.0 per cent of all in-patient discharges when maternity in-patients are included, and 81.1 per cent of in-patient discharges when maternity in-patients are excluded.

This dominance of emergency cases in public hospitals' in-patient activity is reflected also in bed day usage. In 2015, there were 3,581,945 in-patient bed days recorded in total and emergency discharges accounted for 73.9 per cent of these in-patient bed days. If maternity in-patient bed days are excluded, the share of emergency in-patient bed days rises to 80.9 per cent.

In total 54.1 per cent of discharges were recorded as female. However, once maternity discharges are excluded, there is a fairly even split in activity volumes between males and females across day patient discharges and in-patient discharge and bed days. While 50.6 per cent of emergency in-patient discharges were male, 51.1 per cent of emergency in-patient bed days were recorded by male discharges. Similarly, while 49.3 per cent of elective in-patient discharges were male, 50.4 per cent of elective in-patient bed days were recorded by male discharges.

Appendix 1 at the end of this report provides a more detailed analysis of activity volumes and rates in public hospitals across the age distribution.

¹² This differs slightly from the 1,664,066 discharges reported in the 2015 HIPE Annual Report (7) but matches the figure reported in Wren et al (5). In this analysis we follow the approach in Wren et al (5) and exclude a small number of hospice discharges reported to HIPE in 2015 along with discharges from two-long stay hospitals.

TABLE 1 Public Hospitals: Discharge and In-Patient Bed Day Activity by Sex, 2015

			Discharges		In-Patient Bed Days	
			N	%	N	%
Total	Male		762,809	45.9	-	-
	Female		899,181	54.1	-	-
	Total		1,661,990	100	-	-
Day Patient ^a	Male		503,648	49.9	-	-
	Female		506,374	50.1	-	-
	Total		1,010,022	100	-	-
In-Patient ^a	Emergency	Male	211,350	50.6	1,351,610	51.1
		Female	205,975	49.4	1,294,847	48.9
		Total	417,325	100	2,646,457	100
	Elective	Male	47,811	49.3	315,941	50.4
		Female	49,204	50.7	310,552	49.6
		Total	97,015	100	626,493	100
Maternity	Day Patient	Female	19,838	100	-	-
	In-Patient		117,790	100	308,995	100

Note: a Excludes maternity

4.2 Detailed findings on public and private activity in public hospitals

This section examines the public/private status of discharges and attributable in-patient bed days in public hospitals in 2015. It is important to highlight that private (public) bed days reflect the number of bed days recorded by private (public) discharges and do not capture number of days spent in a private (public) bed.

Overall, 15.9 per cent of all discharges were recorded as private discharges (i.e. were seen by their consultant on a private basis) while the remainder were public discharges (i.e. were seen by their consultant on a public basis). However, variation was observed in public/private discharge status across discharge type, as presented in Figure 2. Proportionately, only 13.8 per cent of day patient (excl. maternity) were seen on a private basis in 2015, with the remainder seen on a public basis. In contrast, 18.8 per cent of emergency in-patient discharges were seen on a private basis with the remainder seen on a public basis. Elective in-patient discharges recorded the highest proportion of private discharges at 25.9 per cent (with the remainder public discharges). In terms of maternity discharges, 17.9 per cent of the small volume of maternity day patient discharges (see Table 1), and 15.2 per cent of in-patient maternity discharges, were seen on a private basis.

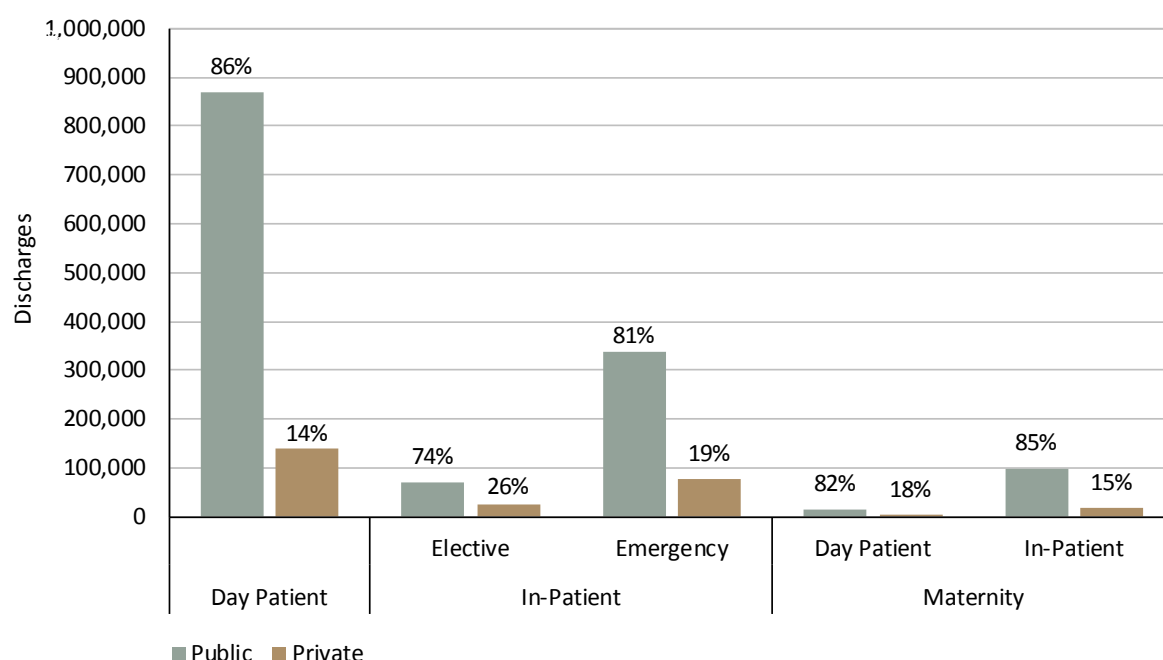
Although not presented in Figure 2, almost all (93.7 per cent) of those who recorded a private discharge status, were reported to have private health insurance in 2015, with relatively little variation across categories of activity.

Overall, 18.7 per cent of in-patient bed days recorded were attributable to private discharges.¹³ As is evident from Figure 3, the majority of private in-patient bed days were emergency in-patient bed days (72.4 per cent), followed by elective (19.1 per cent) and maternity in-patient bed days (8.5 per cent). When private maternity in-patient bed days are excluded, private emergency in-patient bed days accounted for 79.1 per cent of private in-patient bed days.

Private elective in-patient discharges accounted for 20.4 per cent of elective in-patient bed days (versus 25.9 per cent of discharge activity, see Figure 2). Private emergency in-patient discharges accounted for 18.3 per cent of emergency in-patient bed days (versus 18.8 per cent of discharge activity, see Figure 2). In contrast, private maternity in-patient discharges accounted for 18.5 per cent of maternity in-patient bed days and 15.2 per cent of in-patient maternity discharge activity.

Private emergency in-patient bed days accounted for 13.6 per cent of overall public hospital in-patient bed days while private elective in-patient bed days accounted for 3.6 per cent of overall public hospital in-patient bed days.

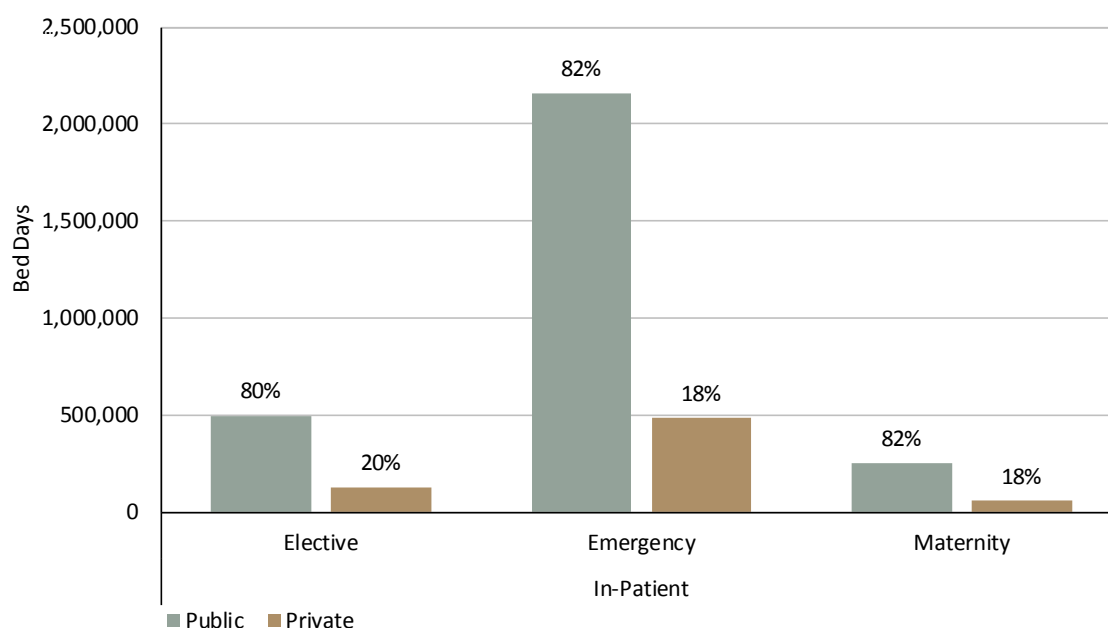
FIGURE 2 Public Hospitals: Discharges by Discharge Type and Discharge Status, 2015



Note: The maternity discharge category includes day patient and in-patient maternity discharges

¹³ This compares to 19.2 per cent of total in-patient discharges recording a private discharge status.

FIGURE 3 Public Hospitals: In-Patient Bed Days by Discharge Type and Discharge Status, 2015



Note: In public hospitals, in-patient bed days capture the number of bed days attributable to discharges recorded as having a public or private discharge status and do not represent the number of days spent in public or private beds.

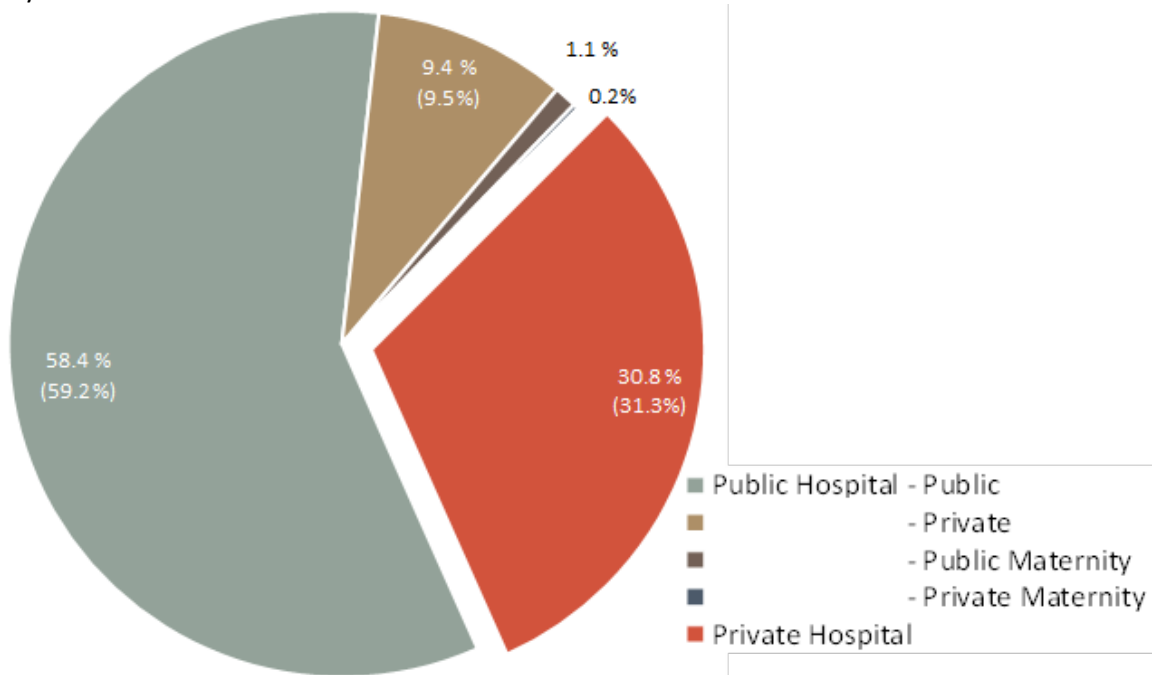
4.3 Shares of activity in public and private hospitals

We estimate that over 1,489,000 day patient cases were recorded in the Irish hospital system in 2015. As shown in Figure 4, of these, 30.8 per cent were recorded in the private hospital system and the remaining 69.2 per cent in the public hospital system. Combining maternity and non-maternity care, public day patient cases from public hospitals accounted for 59.5 per cent of day patient cases across the hospital sector. In contrast, combining maternity and non-maternity care, private day patient cases from public hospitals accounted for 9.6 per cent of day patient cases across the hospital sector. Maternity day patient cases account for a very small proportion of day patient activity in the hospital sector (approximately 1.3 per cent).

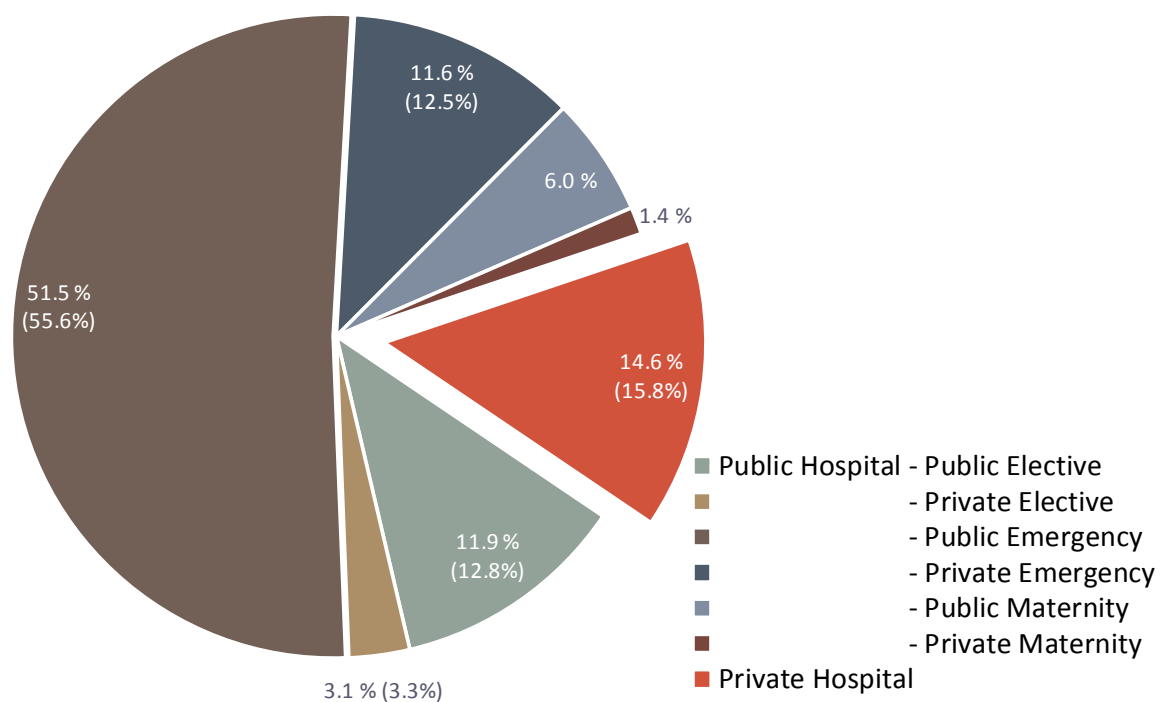
We estimate that over 4,194,500 in-patient bed days were recorded in the Irish hospital system in 2015. As shown in Figure 4, of these, 14.6 per cent were recorded in the private hospital system with the remaining 85.4 per cent recorded in the public hospital system. Emergency bed days recorded by public cases in public hospitals represent the largest single category of bed day activity, accounting for over half (51.5 per cent) of bed days in the hospital sector. Elective in-patient bed days recorded by public cases in public hospitals accounted for 11.9 per cent of bed days in the hospital sector. Elective and emergency in-patient bed days recorded by private cases in public hospitals accounted for 14.6 per cent of bed days across the hospital sector. However, just over a fifth of these bed days were recorded by elective private cases in public hospitals.

FIGURE 4 Public and Private Hospitals: Shares of Day Patient and In-Patient Bed Day Activity by Public and Private Financing, 2015

Day Patients



In-Patient Bed Days



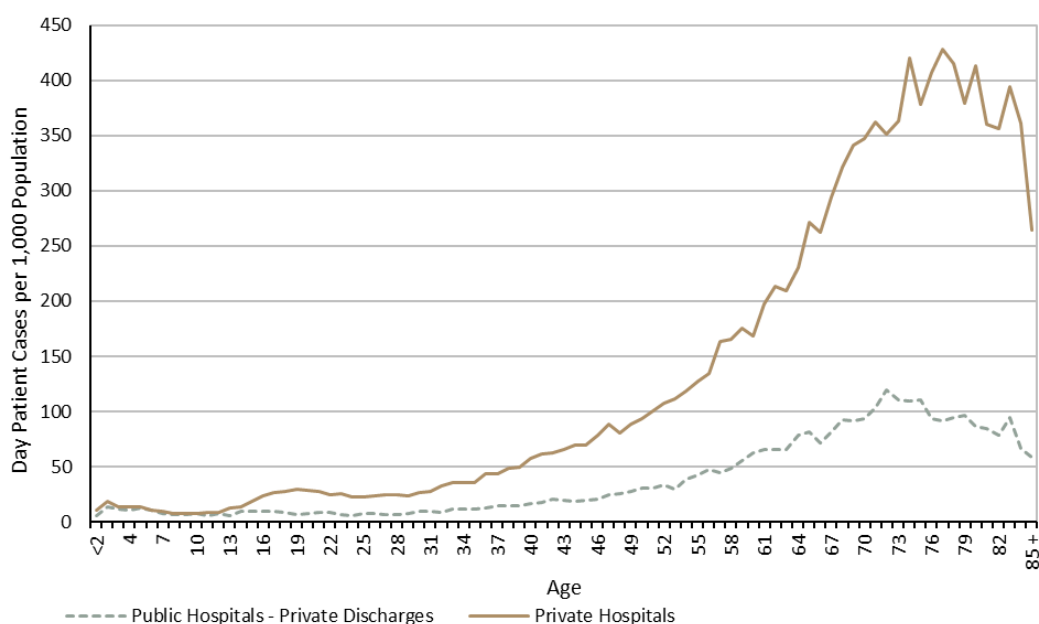
Notes: Percentages excluding maternity in parentheses
 In private hospitals, we do not capture any activity exclusively financed out-of-pocket.
 In public hospitals, in-patient bed days capture the number of bed days attributable to discharges recorded as having a public or private discharge status and do not represent the number of days spent in public or private beds.

Maternity care, which takes place exclusively in public hospitals, accounts for the remaining share of in-patient bed days (7.4 per cent, combined public and private), of which less than a fifth are recorded by private maternity cases.

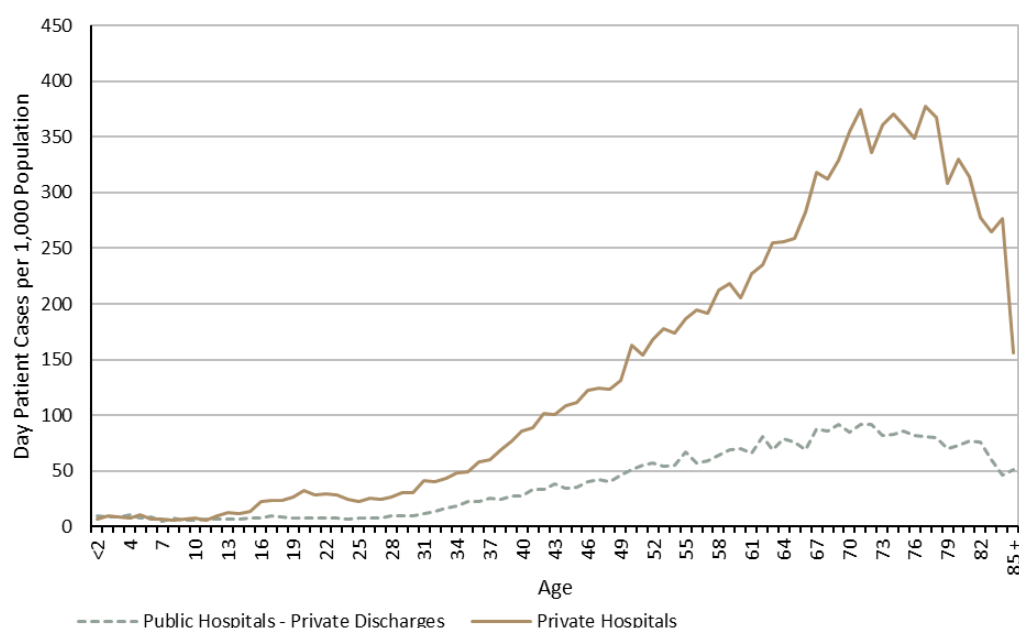
Of total private day patient case activity, 23.8 per cent took place in public hospitals. In contrast, over half of private in-patient bed day activity (52.3 per cent) was recorded in public hospitals.

FIGURE 5 Public and Private Hospitals: Day Case Activity Rates for Private Patients, by Age and Sex, 2015

Male



Female



Notes: Public hospital activity is inclusive of maternity activity.
In private hospitals, we do not capture any activity exclusively financed out-of-pocket.

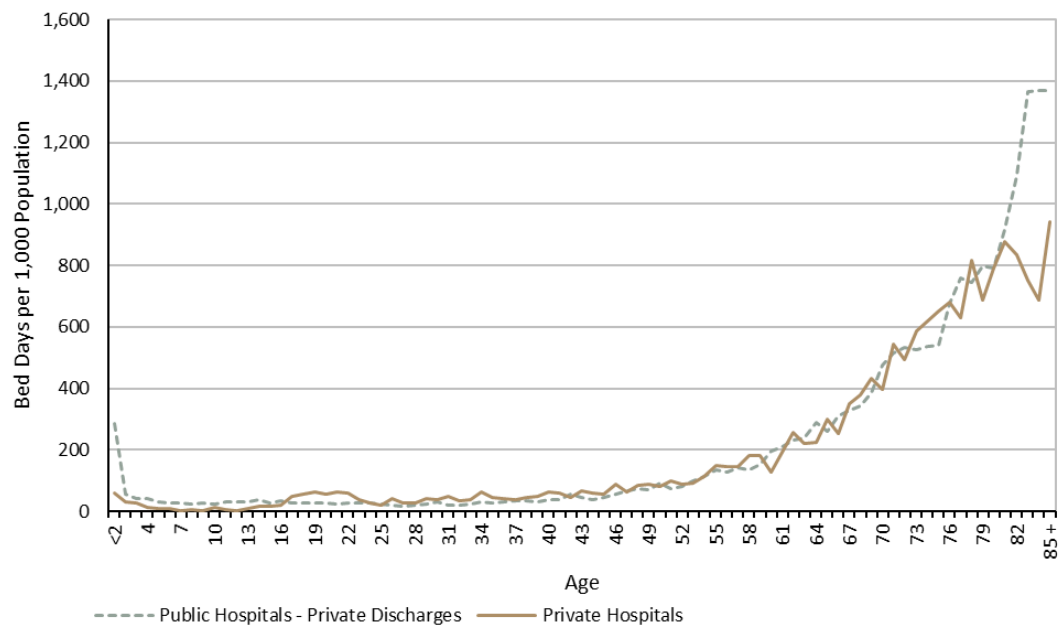
Figure 5 and Figure 6 provide a detailed picture, across the age and sex distribution, of private activity numbers and rates (per 1,000 population) in public and private hospitals in 2015. Figure 5 provides a comparison of private day patient activity; Figure 6 provides a comparison of private in-patient bed day activity. Reflecting the breakdowns presented in Figure 4, Figure 5 shows the majority of private day patient care captured across age and sex distributions takes place in private hospitals. Private day patient activity rates increase with age in both public and private hospitals for both males and females. In public hospitals the private day patient activity rate peaks at 72 years (119.1 per 1,000 pop) for males and 69 years (92.1 per 1,000 pop) for females. The private hospital day patient rate peaks at 77 years for both males (428.4 per 1,000) and females (377.2 per 1,000)

In contrast, remarkably similar private in-patient bed day rates are reported in both public and private hospitals for most of the age distribution (see Figure 6). Variation, however, is evident for both sexes at the tails of the distributions. For the very old, higher in-patient bed day rates are observed for private discharges in public hospitals. Contributing to this may be the fact that public hospitals are better equipped to meet the more complex care needs of very elderly patients. Additionally, the disparity in these bed day rates between public and private hospitals at the end of life is more pronounced for males. As noted in Wren et al (5), the disparity in activity rates between sexes for the very old could be associated with higher rates of residential long-term care use by females at the end of life which can act as a substitute for public acute care (18). Women live on average longer than men and are therefore more likely to live alone at older ages, which is a predictor of nursing home admission. For those admitted to a nursing home, care in illness and close to death is likely to be received in the nursing home, whereas for those living at home, hospital admission is more likely.

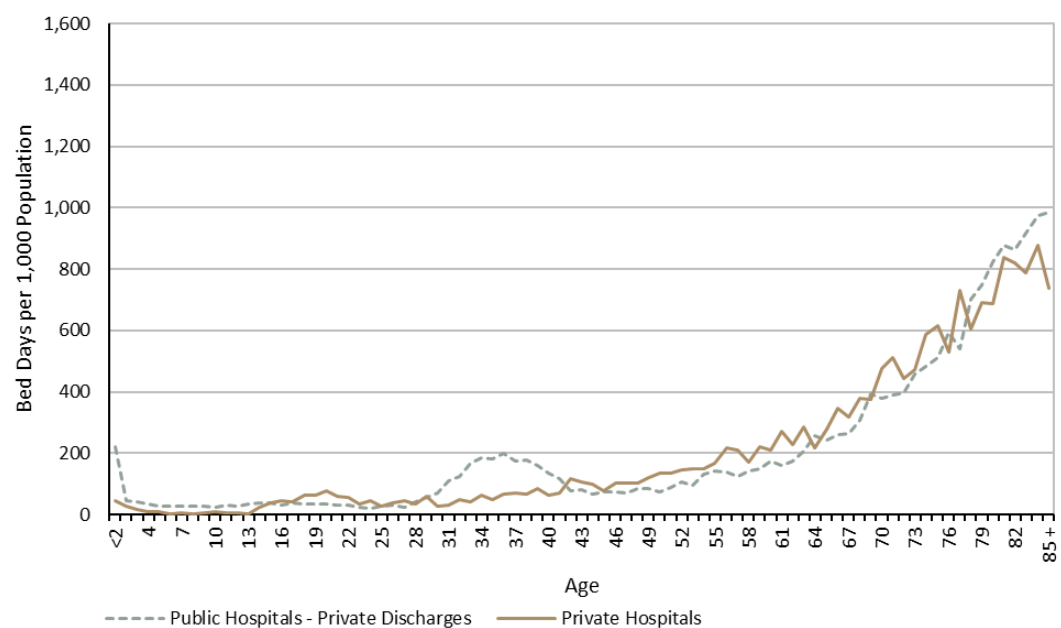
There is also some variation in private in-patient bed day use for the very young between public and private hospitals. Higher rates in public hospitals reflect the fact that new-borns will be recorded as emergency cases in HIPE if following delivery they require treatment or observation. Relatedly, it is also worth highlighting the notably higher private bed day activity rates in public hospitals for females aged between 30 and 40 years. This reflects the fact that private maternity care takes place in public, not private, hospitals.

FIGURE 6 Public and Private Hospitals: Bed Day Rates for Private Patients, by Age and Sex, 2015

Male



Female



Notes:

Public hospital activity is inclusive of maternity activity.
 In public hospitals, in-patient bed days capture the number of bed days attributable to discharges recorded as having a public or private discharge status and do not represent the number of days spent in public or private beds.
 For private hospitals we do not capture any activity exclusively financed out-of-pocket.

5 DISCUSSION AND CONCLUSION

This analysis sought to examine the extent to which activity in public hospitals is privately financed and to provide an overview of service delivery across public and private hospitals in the Irish healthcare system. This activity has been examined in light of a Sláintecare proposal to remove private practice from public hospitals and the establishment of an Independent Review group to examine this proposal in detail.

Most care in public hospitals is publicly financed. In 2015, nearly 1.7 million discharges and over 3.5 million in-patient bed days were recorded in public hospitals. Just under 16 per cent of cases were privately financed. However, some variation did exist across discharge types. Over 25 per cent of elective in-patient discharges were private discharges while only 14 per cent of day patient discharges were private discharges.

Perhaps as expected, given relative bed supplies in the public and private hospital sectors, the majority of both day patient care and in-patient bed day activity took place in public hospitals. We estimated that approximately 70 per cent of day patient episodes were recorded in public hospitals. An even higher share (85 per cent) of in-patient bed days were estimated to have taken place in public hospitals.

When focusing on private activity, we find substantial variation in the relative role public hospitals played in delivering day patient care and in-patient bed days. Specifically, fewer than one-in-four private day patient episodes were estimated to have taken place in public hospitals. In comparison, over 50 per cent of private in-patient bed days were recorded in public hospitals.

These findings suggest that the private hospital system appears to have primarily specialised in the delivery of elective care (with all day patient care classified as elective). However, the majority of in-patient care in public hospitals in 2015 was not elective. Only 17.5 per cent of in-patient bed days in public hospitals in 2015 arose from elective discharges, and of these, only one-in-five arose from private elective discharges. Private elective discharges therefore accounted for only 3.6 per cent of public hospital in-patient bed days.

It is unclear therefore whether the majority of private in-patients in public hospitals, who are emergency in-patients, could access the care they may require in private hospitals. Traditionally, private hospitals have not been able to provide more urgent and complex treatments available in public hospitals (19). This may

be reflected somewhat in the fact that there were notable differences between private bed day rates in public and private hospitals at the extremes of the age distribution. Higher in-patient bed day rates in public hospitals for the youngest reflect the fact that private new-born emergency cases are admitted to public hospitals. While higher private in-patient bed day rates for the oldest old in public hospitals may reflect the fact that public hospitals are better equipped to meet the complex care needs at end of life.

Maternity care represents approximately 7.4 per cent of total in-patient bed days in the hospital sector, with less than 20 per cent recorded as private maternity discharges. No maternity care takes place in private hospitals.

Private hospital data that informed this analysis were derived from combining information on health insurance claims and privately-insured activity in public hospitals. These private hospital data did not allow for a more detailed comparative analysis with the type and complexity of care that takes place in public hospitals. Measures such as bed days recorded may be problematic as use can be influenced by factors such as variation in provider reimbursement and incentives faced by hospital management that may differ between public and private hospitals. The systematic collection of private hospital activity data (to include diagnostic and procedural information) on a similar centralised and definitional basis to HIPE would be required to properly compare activity across public and private hospitals. Such a system would also allow for the collection of the small amount of exclusively out-of-pocket financed activity in private hospitals which was not captured in this analysis.

APPENDIX 1

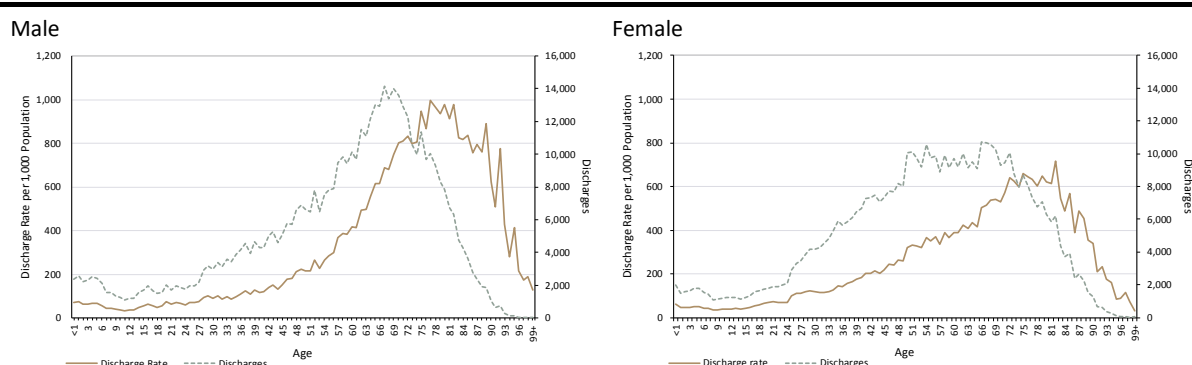
Detailed analysis of activity in public hospitals

Day patient discharges (excl. maternity)

There were 1,010,022 day patient discharges reported to HIPE in 2015. Overall 50 per cent of day patient discharges were male. Figure 7 presents day patient discharges and rates (excl. maternity) by age and sex in 2015. Male and female discharge volumes and rates both increase with age. Male discharge volumes peak at 67 years of age and female discharge volumes peak at 66 years of age. The discharge rate for females peaks at 82 years (716.3 per 1,000 pop) compared to 77 years for males (996.5 per 1,000 pop).

A large component of day patient discharge activity is related to dialysis, chemotherapy and radiotherapy, which accounted for 39 per cent of activity in 2015.

FIGURE 7 Public Hospitals: Day Patient Discharges and Rates (Excl. Maternity) by Age and Sex, 2015



In-patient discharges and bed days (excl. maternity)

There were 514,340 in-patient discharges reported to HIPE in 2015. As with day patient activity, there was an even split (50.0 per cent) between male and female in-patient discharges.

Figure 8 presents in-patient discharges and rates (excl. maternity) by age and sex in 2015. The volume of total in-patient discharges increases gradually with age, following high absolute volumes of activity for the very young.¹⁴ With the exception

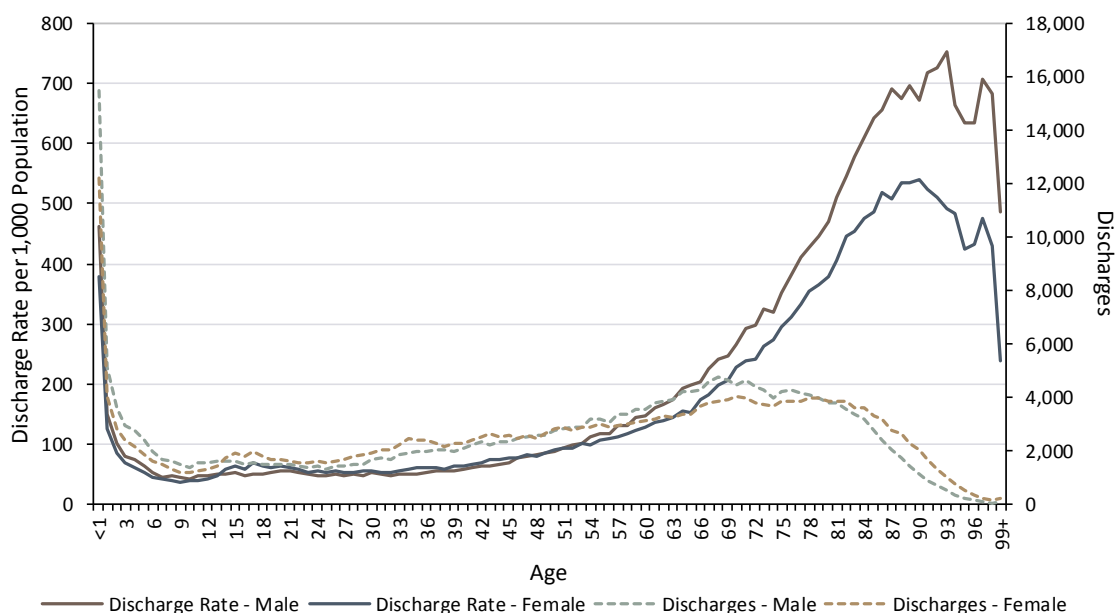
¹⁴ A large proportion of discharges aged under one year in 2015 are in the admission type 'new-born' in HIPE (43.9 per cent). These are patients aged between 0–27 days who are categorised as in-patients following delivery due to conditions such as being preterm, respiratory issues, neonatal jaundice, or observation for infection. It should be noted that well new-born babies are not coded in Ireland and so do not appear as discharges in HIPE (Irish Coding Standard 1607).

of the very young, male discharge volumes peak at 68 while female discharge volumes peak at 70.

Similar to discharge volumes, the highest observed discharge rates are for those aged less than one year (460.9 per 1000 pop for males, 377.8 per 1,000 pop for females). For the rest of the age distribution, discharge rates increase sharply at older ages, particularly for women. The male discharge rate peaks at 93 years (752.8 per 1,000 pop) while the female discharge rate peaks at 90 years (539.9 per 1,000 pop). As noted in Section 4.3, gender disparities in the use of long-term care services at end of life may explain the variation in activity rates between men and women at very old ages.

As noted in Wren et al (5), the disparity in activity rates between sexes for the very old could be associated with higher rates of residential long-term care use by females at the end of life which can act as a substitute for public acute care (18). Women live on average longer than men and are therefore more likely to live alone at older ages, which is a predictor of nursing home admission. For those admitted to a nursing home, care in illness and close to death is likely to be received in the nursing home, whereas for those living at home, hospital admission is more likely.

FIGURE 8 Public Hospitals: In-Patient Discharges and Rates (Excl. Maternity) by Age and Sex, 2015



Emergency in-patient discharges (that is requiring immediate care or treatment) accounted for 81.1 per cent of all in-patient discharges in 2015, with the remainder (18.9 per cent) classified as elective. Of emergency in-patient discharges, 50.6 per cent were male compared to 49.3 per cent on elective in-patient discharges. As

observed in Figure 9, elective discharge volumes peak at 68 years while the elective discharge rate peaks at 78 years (72.3 per 1,000 pop). In contrast, the highest volumes of emergency in-patient discharges are observed for those less than one year of age. Following a high discharge rate for the very young, the emergency discharge rate increases sharply for older ages, peaking at 89 years (536.2 per 1,000).

FIGURE 9 Public Hospitals: In-Patient Discharges and Rates (Excl. Maternity) by Patient Type and Age, 2015

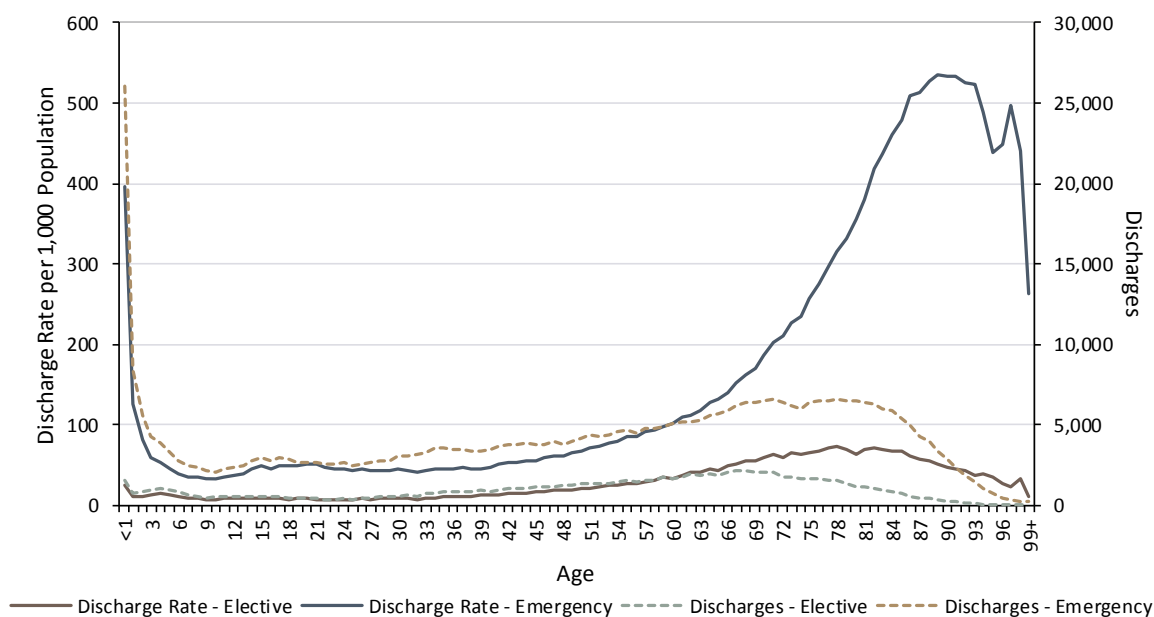
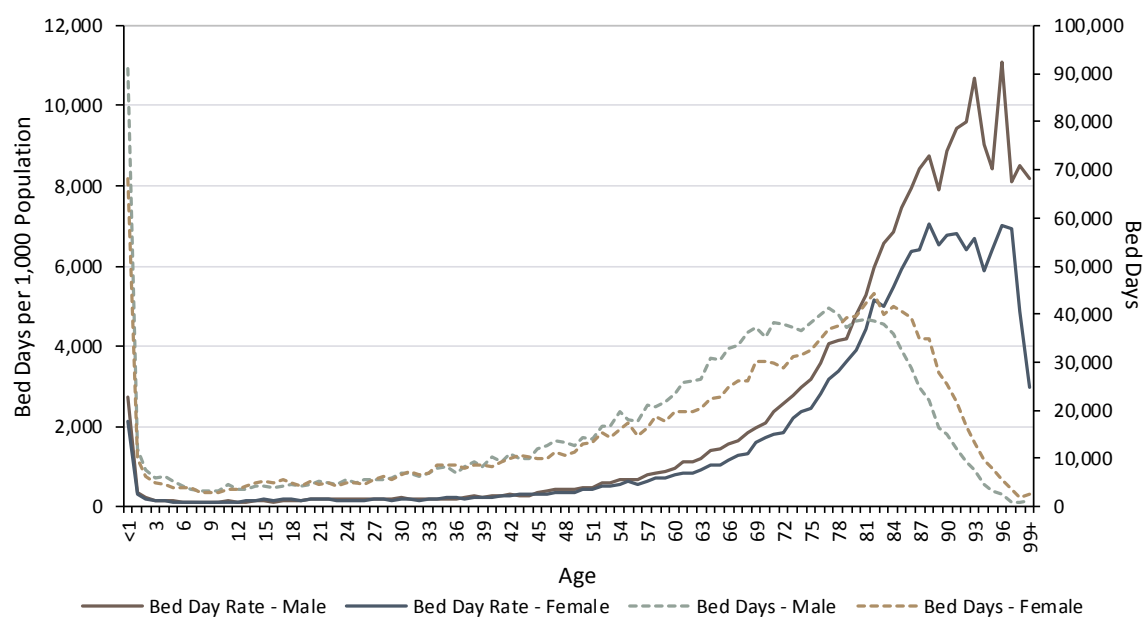


Figure 10 presents in-patient bed days and rates (excl. maternity) by age and sex in 2015. There were 3,272,950 in-patient bed days recorded in HIPE in 2015. In total 50.9 per cent of in-patient bed days were attributable to male patients with the remainder attributable to female patients. Similar to the distribution of in-patient discharges, the volume of in-patient bed days increases gradually with age, following high absolute volumes of bed days for the very young. With the exception of the very young, male bed day volumes peaked at 77 while female bed day volumes peaked at 82.

Similar to bed day volumes, the highest observed bed day rates are for those aged less than one year (2,717.3 per 1000 pop for males, 2,110.7 per 1,000 pop for females). Steep increases in bed day rates are observed at older ages, particularly for women. The male bed day rate peaks at 96 years (11,098.7 per 1,000 pop) while the female bed day rate peaks at 88 years (7,032.5 per 1,000 pop).

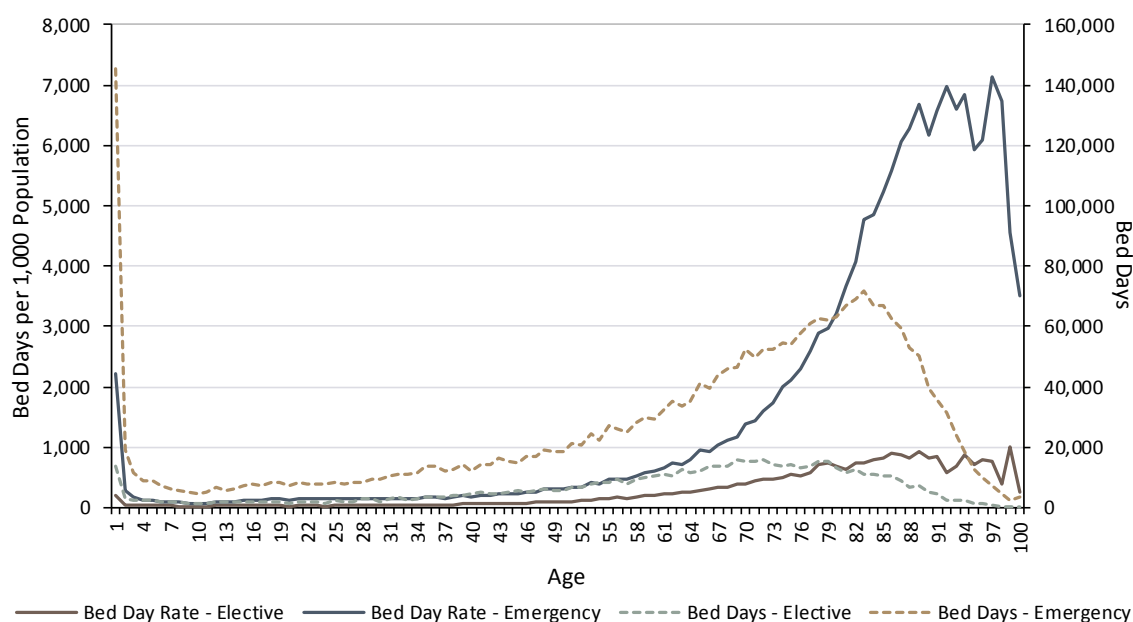
FIGURE 10 Public Hospitals: In-Patient Bed Days and Rates (Excl. Maternity) by Age and Sex, 2015



The bed day volume split by admission type was very similar to the discharge split. Emergency in-patient bed days accounted for 80.9 per cent of all in-patient bed days in 2015 with the remainder (19.1 per cent) classified as elective. Similarly, 51.1 per cent of emergency in-patient bed days were attributable to males compared to 50.4 per cent on elective in-patient bed days.

As observed in Figure 11, elective in-patient bed day volumes and the bed day rate increase steadily with age. Elective in-patient bed day volumes peak at 68 years while the elective in-patient bed day rate peaks later at 98 years (997.0 per 1,000 pop). Emergency bed volumes peaks for those less than one year, while the emergency bed day rate peaks at 96 years (7,138 per 1,000 pop). There is a very steep increase in the emergency bed day rate at older ages which is not observed in the elective bed day rate.

FIGURE 11 Public Hospitals: In-Patient Bed Days and Rates (Excl. Maternity) by Patient Type and Age, 2015

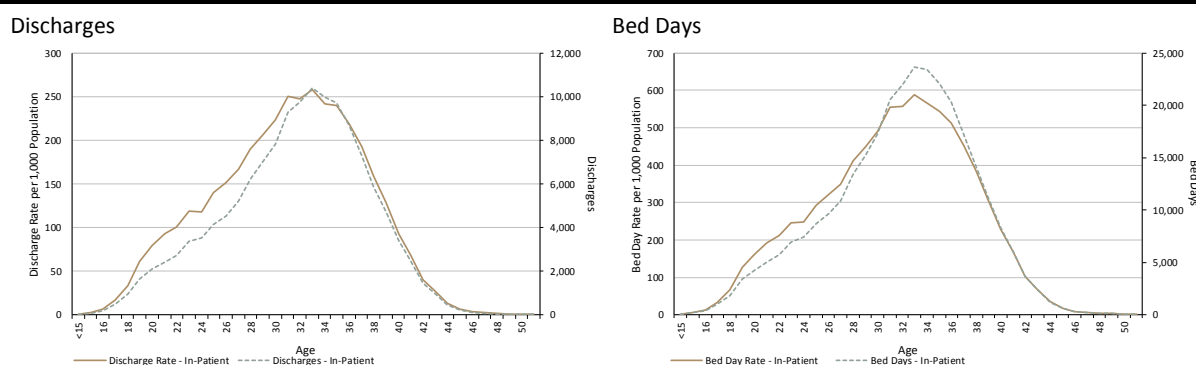


Maternity discharges and in-patient bed days

Maternity discharges capture both delivery and non-delivery episodes of care with all delivery episodes of care classified as in-patient. For maternity discharges no distinction is made between elective and emergency in-patients. Figure 12 presents maternity discharges and in-patient bed day volumes and rates for 2015. In 2015 there were 137,628 discharges from HIPE classified as maternity. The distribution of maternity care differs significantly from other types of care examined in this analysis. Both the volume of discharges and the discharge rate (258.5 per 1,000 pop) peak at 33 years.

Of total maternity discharges, 117,790 (85.6 per cent) were in-patient maternity discharges. These in-patients recorded 308,995 bed days in 2015. The distribution of in-patient bed day volumes and rates follows a very similar pattern to the distribution of discharge volumes and rates. Both the volume of in-patient bed days and the bed day rate (588.5 per 1,000 pop) also peak at 33 years.

FIGURE 12 Public Hospitals: Maternity Discharges and In-Patient Bed Days by Age, 2015



REFERENCES

1. Department of Health and Children. Quality and Fairness - A Health System for You. Dublin: 2001.
2. Healthcare Pricing Office. Activity in Acute Public Hospitals in Ireland Annual Report, 2014. Dublin: Health Service Executive, 2015.
3. Houses of the Oireachtas Committee on the Future of Healthcare. Sláintecare Report. Dublin: Houses of the Oireachtas, 2017.
4. Department of Health. Press Release - Minister Harris welcomes establishment of Independent Review Group examining the removal of private practice from public hospitals. Dublin: Department of Health; 2017 [cited 2018 18 May].
5. 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.
6. Central Statistics Office. System of Health Accounts 2015. 2017 [cited 2017 11 August]; Available from: <http://www.cso.ie/en/releasesandpublications/er/sha/systemofhealthaccounts2015/>.
7. Healthcare Pricing Office. Activity in Acute Public Hospitals in Ireland Annual Report, 2015. Dublin: Healthcare Service Executive, 2016.
8. Private Hospitals Association. Members. 2018 [cited 2018 18 May]; Available from: <http://privatehospitals.ie/members/>.
9. Department of Health. Health in Ireland: Key Trends 2017. Dublin: Department of Health, 2017.
10. Private Hospitals Association. PHA Submission to the Oireachtas Committee on the Future of Health Care. Dublin 2016 [cited 2016 9th February]; Available from: <http://privatehospitals.ie/wp-content/uploads/2017/01/Private-Hospitals-Association-Submission-August-2016.pdf>.
11. Citizens Information Board. Overview of hospital services. 2014 [cited 2017 04/01]; Available from: http://www.citizensinformation.ie/en/health/health_services/gp_and_hospital_services/hospital_services_introduction.html.
12. Citizens Information Board. Charges for hospital services. 2016 [cited 2017 04/01]; Available from: http://www.citizensinformation.ie/en/health/health_services/gp_and_hospital_services/hospital_charges.html.
13. Health Insurance Authority. Annual Report and Accounts 2015. Dublin: Health Insurance Authority, 2016.
14. Citizens Information. Taxation and medical expenses. 2016 [cited 2017 10 February]; Available from: http://www.citizensinformation.ie/en/money_and_tax/tax/income_tax_credits_and_reliefs/taxation_and_medical_expenses.html.
15. MillwardBrown. Health Insurance Authority - A Review of Private Health Insurance in Ireland. <http://www.hia.ie/publication/consumer-surveys>: The Health Insurance Authority, 2016.
16. Turner B. Unwinding the State subsidisation of private health insurance in Ireland. Health Policy. 2015; 119(10):1349-57. Epub 2015/09/01.
17. Wren MA. Unhealthy State: Anatomy of a Sick Society. Dublin: New Island Books; 2003.
18. Jakobsson E, Johnsson T, Persson L-O, Gaston-Johansson F. End-of-life in a Swedish population: demographics, social conditions and characteristics of places of death. Scandinavian Journal of Caring Science. 2006; 20:10-7.
19. Brick A, Nolan A, O' Reilly J, Smith S. Resource allocation, financing and sustainability in health care: Evidence for the Expert Group on Resource Allocation and Financing in the Health Sector. Dublin, Ireland: Economic and Social Research Institute, 2010.

Year	Number	Title/Author(s)
2018		
	600	Using angling logbook data to inform fishery management decisions <i>Gianluca Grilli, John Curtis and Stephen Hynes</i>
	599	Determinants of firms' inputs sourcing choices: the role of institutional and regulatory factors <i>Mattia Di Ubaldo and Iulia Siedschlag</i>
	598	The roaming regulation and the case for applying behavioural industrial organisation to EU competition policy <i>Féidhlim McGowan</i>
	597	A looming revolution: implications of self-generation for the risk exposure of retailers <i>Marianna Russo and Valentin Bertsch</i>
	596	VAT revenue elasticities: an analytical approach <i>Jean Acheson, Yota Deli, Edgar L. W. Morgenroth, Derek Lambert and Martin Murphy</i>
	595	Irish-UK services trade and Brexit <i>Martina Lawless</i>
	594	Social housing in the Irish housing market <i>Eoin Corrigan and Dorothy Watson</i>
	593	Exploring affordability in the Irish housing market <i>Eoin Corrigan, Daniel Foley, Kieran McQuinn, Conor O'Toole, Rachel Slaymaker</i>
	592	Dynamic tax revenue buoyancy estimates for a panel of OECD countries <i>Yota Deli, Abian Garcia Rodriguez, Ilias Kostarakos and Petros Varthalitis</i>
	591	Corporate taxation and the location choice of foreign direct investment in EU countries <i>Ronald B. Davies, Iulia Siedschlag and Zuzanna Studnicka</i>
	590	The role of power-to-gas in the future energy system: how much is needed and who wants to invest? <i>Muireann Á. Lynch, Mel Devine and Valentin Bertsch</i>
	589	Estimating an SME investment gap and the contribution of financing frictions <i>Martina Lawless, Conor O'Toole, Rachel Slaymaker</i>
	588	Supporting decision-making in retirement planning: Do diagrams on pension benefit statements help? <i>Pete Lunn and Féidhlim McGowan</i>
	587	Productivity spillovers from multinational activity to indigenous firms in Ireland <i>Mattia Di Ubaldo, Martina Lawless and Iulia Siedschlag</i>

For earlier Working Papers see <http://www.esri.ie>