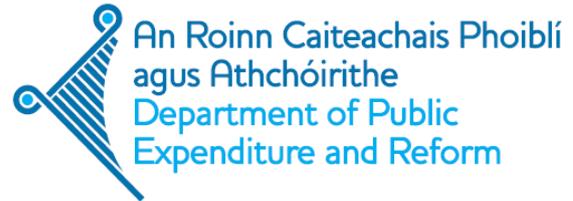




Irish Government Economic & Evaluation Service



Spending Review 2017

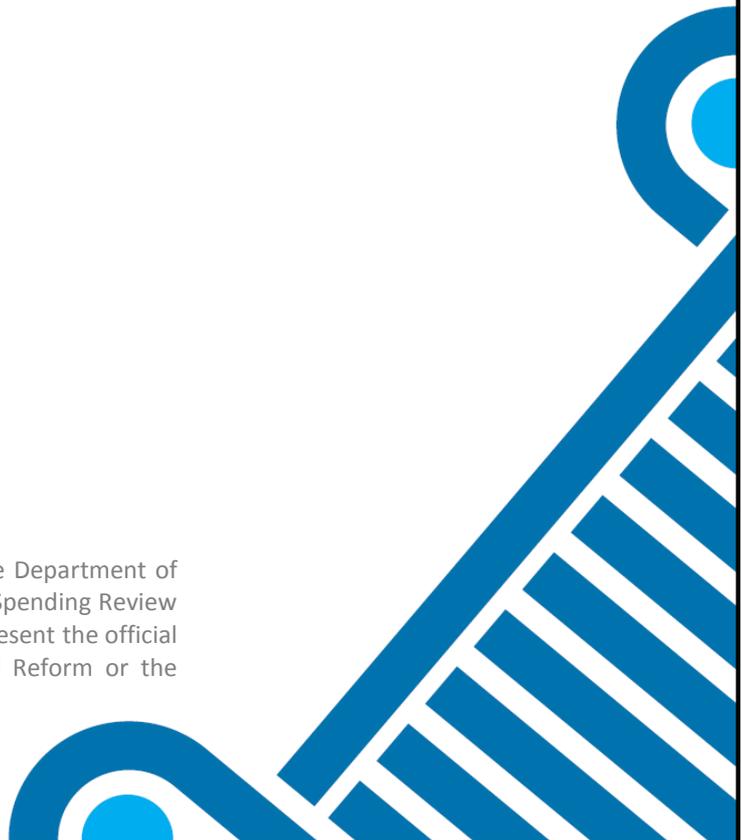
Acute Hospital Expenditure Review

May, 2017

Niamh Duff
Health Vote

Department of Public Expenditure and Reform

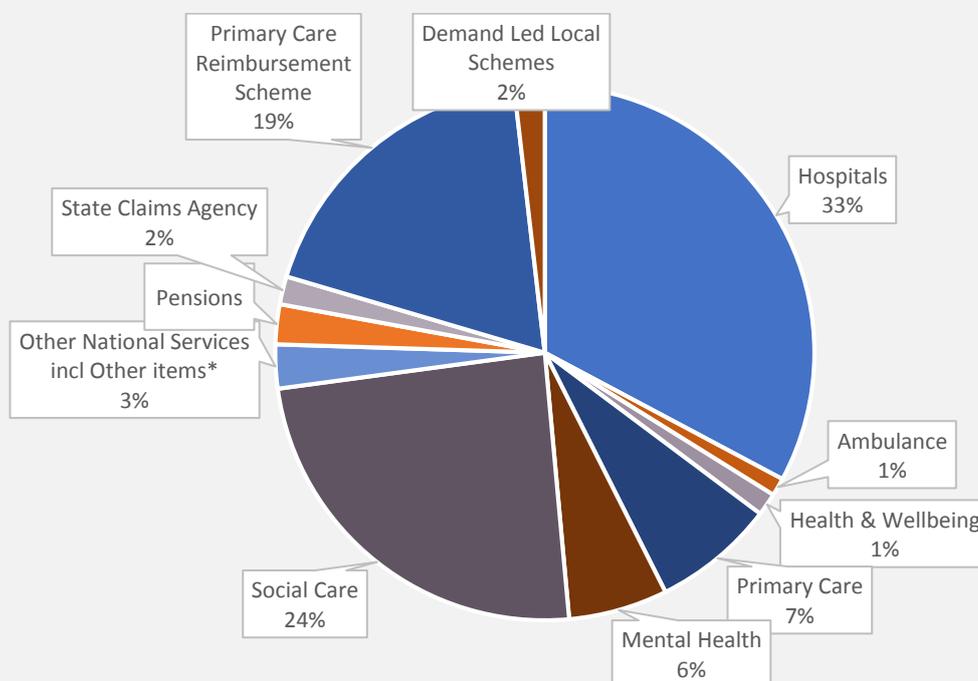
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Summary

- The acute hospitals now operate under the management of seven different Hospital Groups.
- Net expenditure has increased by €546m or 14% over the 6 year period since 2011.
- Income also increased over the period meaning the 14% growth in net expenditure is understated.
- Gross expenditure has increased by €700m since 2011.
- The largest increases in expenditure can be seen in the non-pay category. The non-pay non-clinical category has grown by 39% since 2011. The amount spent in 2016 on non-pay clinical expenses was 25% higher than in 2011.
- Acute activity has increased over the review period, however the validity of the increases are marred by technical adjustments made to how the activity is recorded and reported.
- Based on the spend per in-patient as a measure of cost efficiency and the number of Whole Time Equivalent (WTE's) per day case as a measure of labour efficiency, performance in 6 out of 7 Hospital Groups has deteriorated since 2014.

Figure 1: Composition of Health Spend in 2016.



Source HSE Management Data Report (MDR) December 2016

*Other items includes: NCCP, Clinical Strategy & Programmes, Quality Assurance & Improvement & Overseas Treatment

1. Introduction

The objectives of this paper are to:

- Systematically examine the baseline expenditure in the acute hospital sector in Ireland.
- Identify trends and drivers in the hospitals expenditure.

As part of the 2017 Spending Review this paper takes an in depth look into Irish hospital’s expenditure. The acute sector spent €4,441 million in 2016 which accounted for c. 32% of the total Health Service Executive’s (HSE’s) net expenditure.

The acute sector is subject to on-going expenditure pressures which, in the past, have led to the need for significant supplementary estimates to stem growing deficits. This is a major problem in the context of the fiscal rules and the ability of the Government to provide additional funds to services midway through the year.

The inability of hospitals to stay within budget over the last three years has led to the necessity for the Exchequer to provide €642m of public funds to clear their expenditure deficits. This situation is untenable and action is necessary to ensure a more sustainable health spend in the future.

This paper examines the level of investment in the acute sector in the last three years. The composition of this expenditure, including income and what impact the investment has had on hospital activity.

There are 49 hospitals in the country and these are categorised into 7 different hospital groups.

Figure 2: Acute Gross, Income and Net Expenditure 2011 to 2016

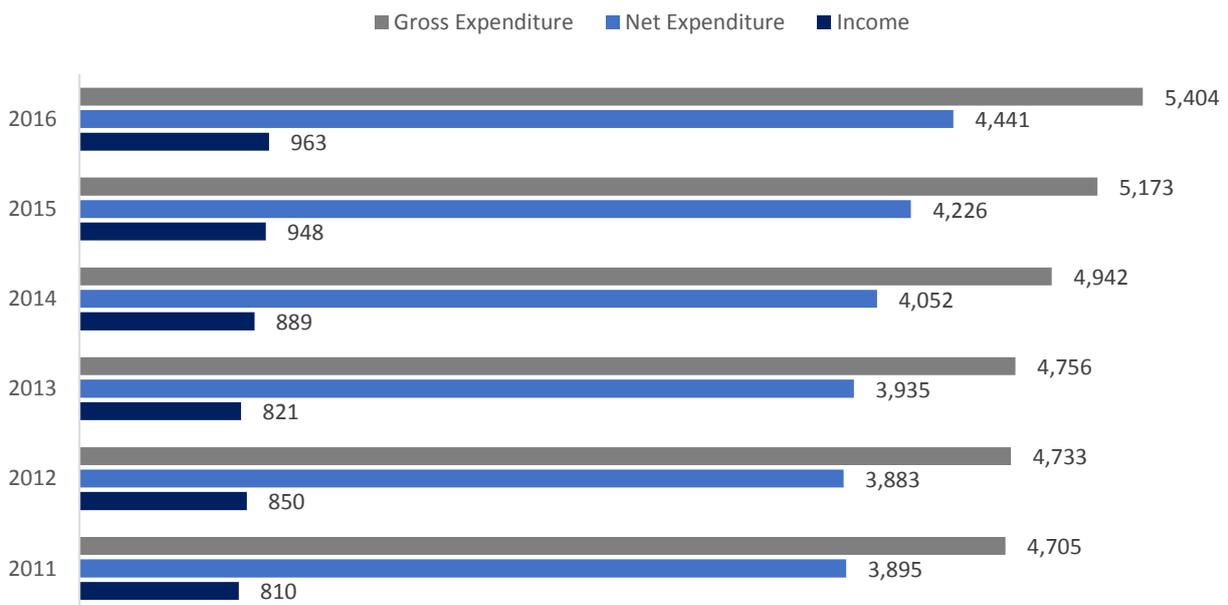


Figure 2 shows the increase in funds the acute sector has received in the last number of years. Gross spend has increased by €700m since 2011 however the majority of this (92.7%) increase has occurred in the last three years. The cumulative annual growth rate since 2014 is 4.6%, this is the result of a 4.7% increase in net expenditure and a 4.1% increase in income.

2. Net Expenditure

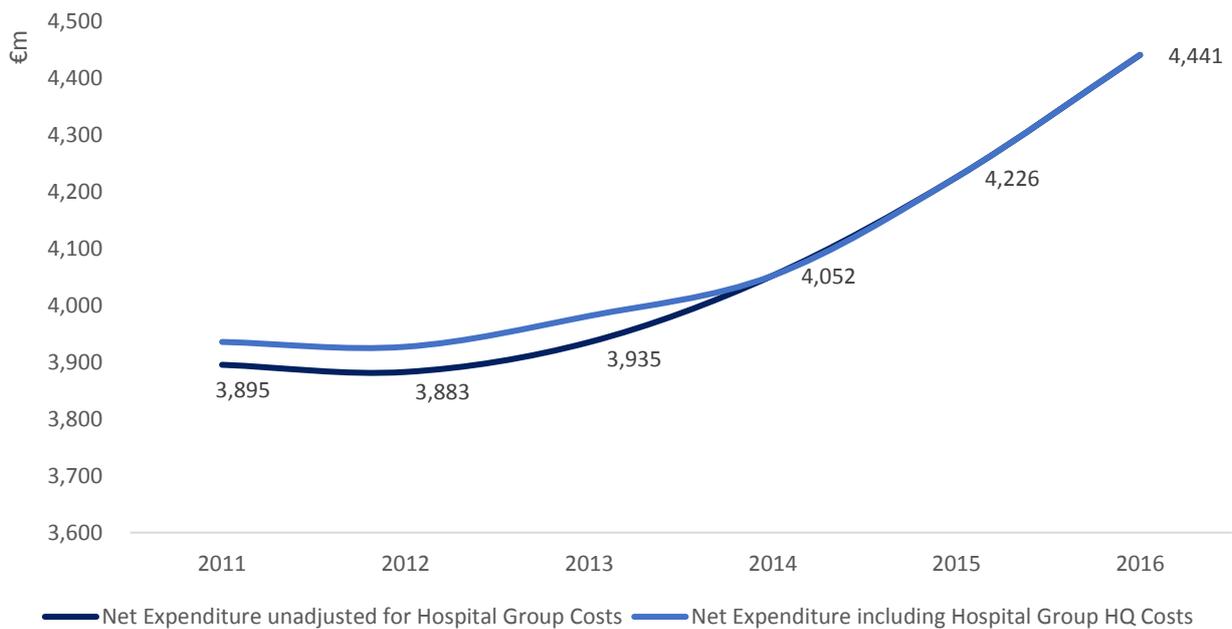
The acute sector has been subject to significant structural changes in the last two decades.

The establishment of the HSE reformed the existing Health Boards structure. Following the establishment of the HSE in 2004 all hospitals were reclassified into one of four HSE regions of Dublin Mid Leinster, Dublin North East, South and West. In 2013 the Minister for Health published a report on the establishment of hospital groups¹. By 2015 seven hospital groups had been developed and these are being managed by hospital groups Boards.

Legacy issues relating to the historical geographical regions remain problematic for the hospitals. One problem in particular is aggregated balance sheets consolidating financial information of Community Health Organisations (CHO's), hospitals and corporate HSE balances. Many of the HSE hospital groups do not have their own balance sheets and are unable to identify the balance of their own assets and liabilities.

¹ The Establishment of Hospital Groups as a transition to Independent Hospital Trusts, 2013, Department of Health.

Figure 3: Annual Acute Expenditure including Hospital Group structure costs, 2011 – 2016



Source: Department of Health, HSE Management Data Reports

Figure 3 shows that investment in Irish hospitals has increased by 14% since 2011. Including adjustments made for hospital group structure costs (applicable to 2011 – 2013 inclusive) investment in the sector has increased by 12.8% since 2011. Costs relating to hospital group structures also called regional costs range from €40m to €46m per annum.

3. Composition of Expenditure

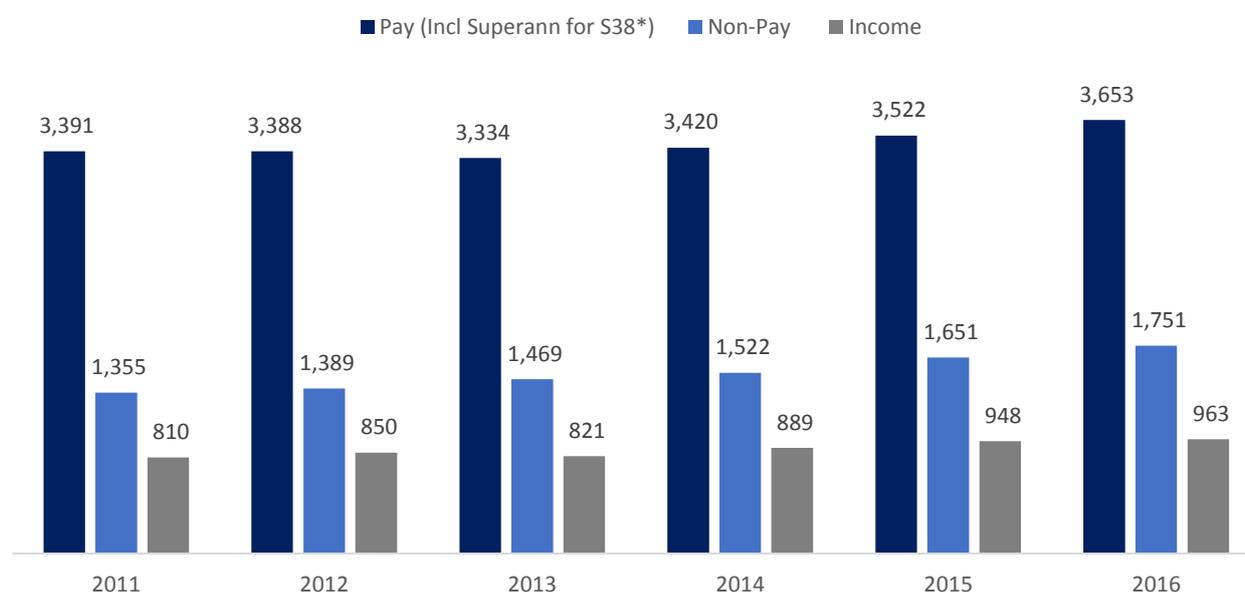
Pay and Non-Pay Expenditure

Figure 4 shows us the composition of the acute spend. The fastest growing spend area is the non-pay category which has increased by 29% since 2011 or €396m. Total pay has also increased, an additional €263m was spent on pay in 2016 compared to 2011, a 7.8% increase. These changes mean the total share of non-pay costs have grown. The non-pay share of total gross spend has grown from 28.5% in 2011 to 32.4% in 2016.

Analysing the cumulative annual growth rate (CAGR) of these categories also indicates a significant investment in non-pay expenditure items. The 5.3% CAGR in the non-pay category is 3.5 times higher than the annual 1.5% increase in pay. That said, because of the sheer volume of numbers employed by the sector, 55,072 (May 2017) and the cost of the pay bill at over €3.6 billion per annum, pay will remain the top spending pressure. Even more so now, in our current pay talk environment.

The breakdown of the acute gross expenditure is as follows;

Figure 4: Composition of acute sector spend



Source: Department of Health

*Pay includes superannuation for the Section 38 (voluntary) hospitals

Non Pay Expenditure Analysis

Further analysis of the non-pay expenditure category reveals a 2:1 ratio of clinical to non-clinical costs. In absolute terms clinical expenditure increased by €233m since 2011 and non-clinical has risen by €163m over the same period. However the annual growth rate in the non-clinical category is over 2% higher than the annual growth rate in clinical expenses.

Drugs, laboratory and medical/surgical supplies accounted for 80% of expenses within the clinical category in 2016. These costs have been increasing steadily since 2011 when they accounted for 60% of the category. The largest cost increase has been in drugs and medicines which has increased by 47% from €282m in 2011 to €415m in 2016, an 8% CAGR.

The drivers of non-clinical costs are more diluted. Cleaning and washing, professional services, office expenses rent/rates and “other” being the largest cost items accounting for 58% of the non-clinical costs. Professional Services are the biggest driver of non-clinical costs they have nearly tripled from €29m in 2011 to €86m in 2016 increasing on annual cumulative basis by 24.4%.

The other noticeable increase in non-clinical costs are in patient transport expenses which have over doubled since 2011 from €10m to €25.6m in 2016.

Appendix A contains a detailed table of the HSE’s clinical and non-clinical non-pay costs.

Income Analysis

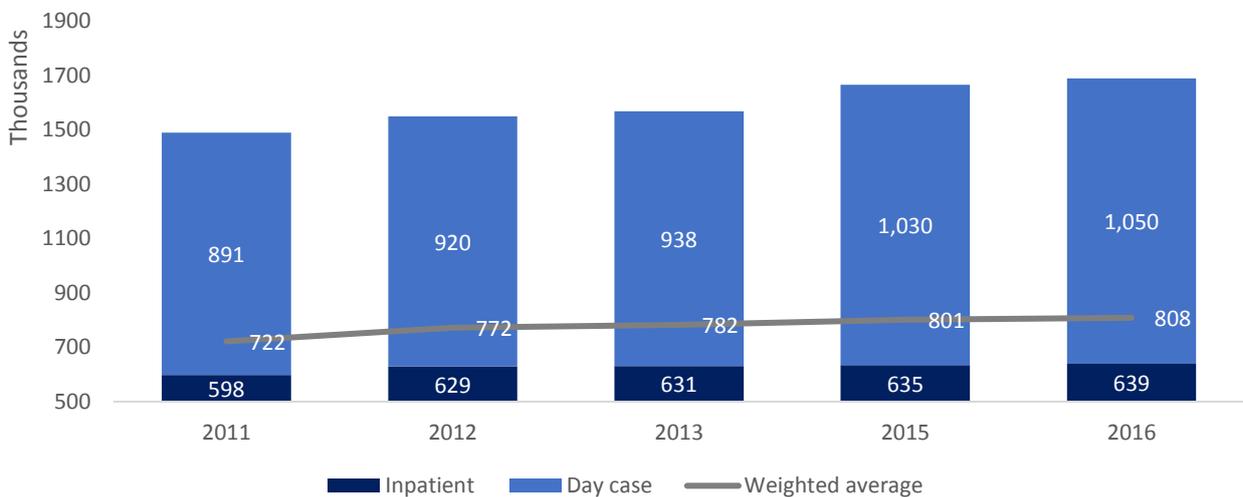
Income as a percentage of total gross expenditure has remained relatively constant. In absolute terms income has increased by over €150m since 2011. There was significant increases in income in 2014 and 2015 of 8.3% and 6.6% respectively before levelling out with a 1.7% increase in 2016. The increase in income is due to growth in the amount of maintenance (hospital) charges collected, €626m was collected in 2016 compared to €457m in 2011.

The biggest jump in hospital charges was in 2014 after the introduction of the Health (Amendment) Act, 2013 which provides for the introduction of charges for all private in-patients, including those accommodated in public beds.

4. Acute Sector Activity

Much of the pressure in the acute sector has been attributed to increasing demographic pressures and population health². In 2014 the acute sector received €46m out of a total of €178m provided to the HSE for demographic pressures. Over the three years 2014 to 2016 the government provided over a quarter of a billion to relieve pressure on waiting lists and delayed discharges. These “once-off” measures are now incorporated into the acute sector base funding.

Figure 5: Inpatient, day case and weighted activity



Source: Department of Health Data and HSE Management Data Report January 2017.

**In the weighted average one day case equals a fraction of an inpatient, proportional to the ratio of their average unit costs.*

² Projected Demographic Effect on Health Service Costs, Department of Health, 2015.

Figure 5 shows us the inpatient and day case activity in the acute sector from 2011. The number of day case procedures in 2016 is 17.8% higher than 2011. However when we look at these figures in more detail we see that the average annual increase is 2% excluding 2015 which saw a welcomed but unprecedented 7% increase in day case activity. This 7% maybe due to the decision to move shift work into the less expensive day case category.

The number of inpatients have remained relatively constant over the review period. Accounting for 38% of all discharges in 2016 the weighted unit³ cost of an inpatient procedure in 2015 was €4,555 compared to €733 for a day case. Weighting all day cases as a percentage of the cost of an inpatient provides us with the weighted average line above. There has been a gradual increase in weighted average activity, the cumulative average per annum is 2.3% but it is clear the majority of the increase occurred in 2012.

On further inspection it appears again that a reclassification of reporting may be the cause of the increase in activity. As requested by the Acute Medicine Programme, Medical Assessment Unit (MAU) activity has been recorded as in-patient activity since 2012. Information on the number of MAU presentations in 2012 is not available but we do know the number of patients presenting to the MAU in 2013 accounted for 7.2% of all in-patient activity in that year.

The percentage increase in combined weighted activity is outlined below alongside the annual increase in investment the sector has received. The table below weights day cases based on their weighted unit cost as a percentage of the weighted unit cost of an inpatient.

Table 1: Changes in activity compared to changes in funding/expenditure (%)

Year	2012	2013	2014	2015	2016
Change in Activity (%)	6.9%	1.4%	-0.2%	2.5%	1%
Change in Funding (%)	0%	1%	3%	4%	5%

Source: Department of Health, HSE Management Data Report, January 2017.

One can conclude from Table 1 that either little correlation exists between funding and activity or the increased level of resources is not resulting in greater productivity.

A significant amount of work has been done to shift work into the less expensive day case category. Considering the cost of a day case is only one sixth the price of an inpatient it can be concluded that savings have been achieved. At the moment it is not possible to quantify how much.

What is also important to consider is the level of complexity of activity. This area of analysis impacts on the view of a hospitals level of productivity. This paper uses activity figures which are weighted for complexity, by

³ Weighted for complexity - source Department of Health.

doing this it is hoped to provide a more comprehensive picture of the hospital's actual productivity. The Department of Health have undertaken extensive work in this regard and are publishing a paper alongside this one which explores this issue in much greater detail.

5. Acute Sector Performance

In order to get a better understanding of hospital performance, the graphs below plot the cost and labour productively of each of the seven hospital groups over the last three years. A hospital group that spends less per inpatient compared to the next could be described as having a cost efficiency. Likewise a hospital group that uses less labour, which includes clinical and non-clinical staff, per day case could be described as having a labour efficiency. A group which is efficient in both cost and labour would appear nearest the bottom left corner of the graphs below.

Inpatients were chosen for the cost metric as it is widely known they are the main drivers of hospital spend. Day case numbers were selected for the labour metric due to the volume of day case activity, day cases have accounted for over 75% of all discharges since 2014.

This approach attempts to follow the "movement" of each hospital group's cost per inpatient and the number of WTE's per day case since 2014. The results do not take account of regional costs⁴ or WTE⁵ figures which are accounted for in the acute sector totals and reported in the HSE's Management Data Reports. Regional costs are head office or central costs, they have been left out of this calculation in the absence of a fair overhead apportionment method.

Looking at figure 6 below we can see the group with the highest cost per inpatient in 2016 is the Children's Group at €8,680 the South, South West Group had the lowest cost per inpatient in 2016 at €6,099. The overall average cost in 2016 was €6,841 per inpatient.

A shift to the left, as can be seen in the RCSI, SSW, Saolta and UL group's graphs would indicate an improvement in labour efficiency, in this case a better use of WTE's per day case.

Looking at 2015 and 2016 in isolation we can say that RCSI and SSW's performance in relation to their use of WTE's per day case has remained stable over the past two years, Saolta's has marginally improved and the UL Group's efficiency has deteriorated. The DM and IE Group both showed very little movement in terms of their labour efficiency metric but the Children's Hospital Group, which has the highest number of WTE per day case of all the Groups, deteriorated further. Despite a 3.7% increase in the Group's WTEs in 2016, weighted day cases only increased by 1.8%.

⁴ Average regional cost 2014 – 2016, €28m p.a.

⁵ Average regional WTE 2014 – 2016, 41.

Overall the majority (4 out of 7) of the groups showed a significant improvement in 2014 followed by no change in terms of labour efficiency in the past two years, two Groups (UL and CG) deteriorated and Saolta improved.

In contrast six out of the seven groups have recorded increased costs per inpatient since 2014.

The Saolta and UL Groups have displayed the most significant expenditure/inpatient increases. Saolta saw a significant jump from €5,857 in 2014 to €7,155 in 2016, this puts SSW in the inefficient cohort when compared to the average cost per inpatient in 2016 of €6,841. The UL Group's cost per weighted inpatient has increased from €5,665 in 2014 to €6,626 in 2016.

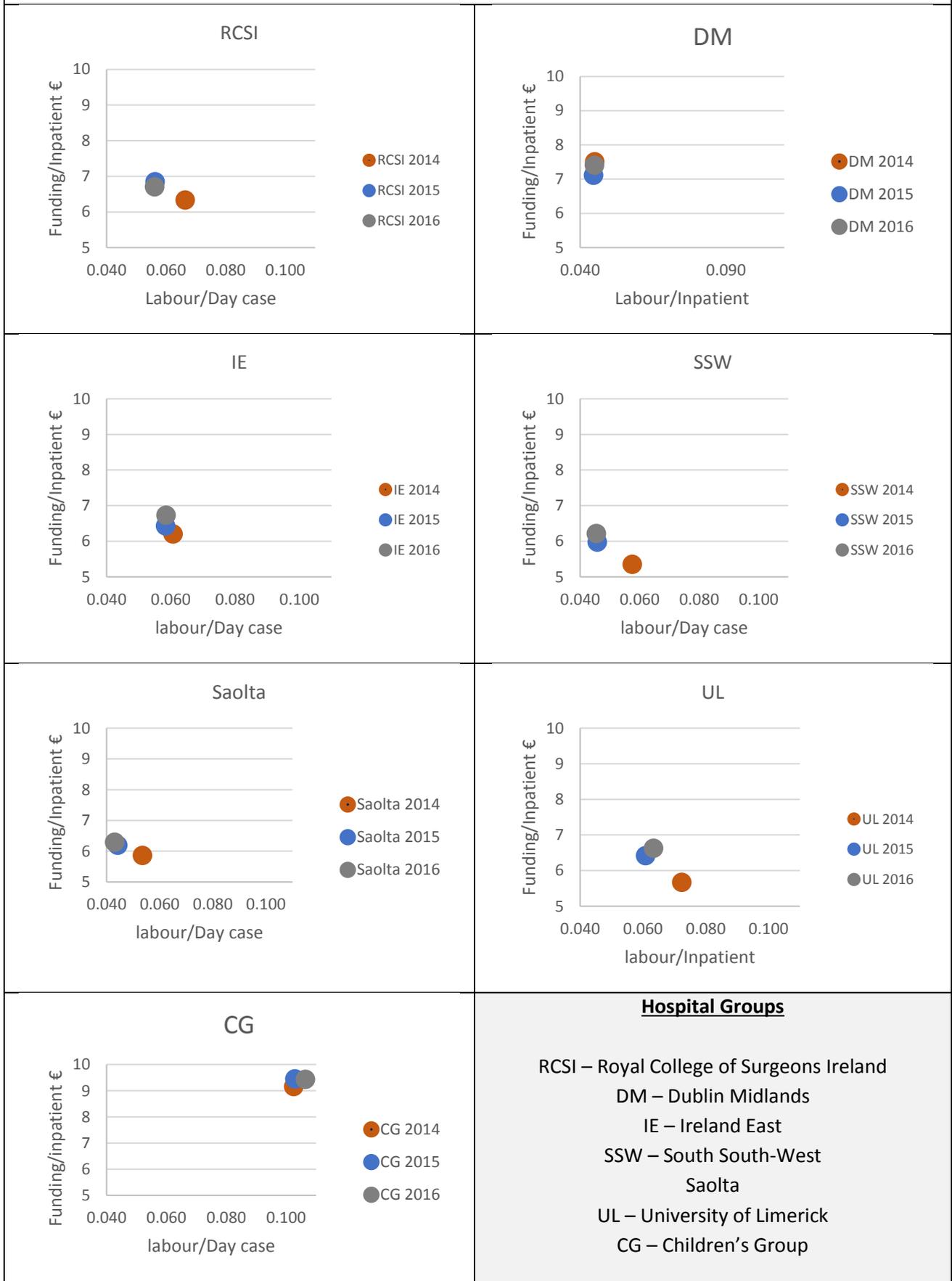
The findings also indicate a 13.8% increase in the cost per weighted inpatient in the SSW Group from €5,358 in 2014 to €6,099 in 2016.

The overall message is that total cost per weighted inpatient has been increasing over the last three years. This may be the result of many factors, being increased prices and costs, the unwinding of central pay measures or reduced productivity.

It could be argued the difference in performance of the Groups may depend on their composition or their location, we know smaller Irish hospitals are not as efficient as their larger counterparts⁶. That said, it is important to maintain a focus on why the Groups were established, and that was to provide more efficient and effective patient services. The Group structure was configured so deliver high quality safe patient care in a cost effective manor, where smaller hospitals would be supported within the Group. The structure was also intended to foster a knowledge sharing environment where Groups could learn from each other and adopt best practices to deliver quality healthcare to Ireland.

⁶ Economies of Scale in Irish Hospitals Campbell, 2016 , <http://igees.gov.ie/wp-content/uploads/2014/11/Economies-of-Scale-in-Irish-Hospitals.pdf>

Figure 6: Hospital Groups performance in expenditure and labour per day case



6. Conclusion

Investment in hospitals has grown in the last number of years, the sector spent an additional €215m last year a 5% increase on the 2015 spend. Hospitals have received over half a billion additional funds since 2011 over 75% of these funds were allocated in 2015 and 2016 alone.

This additional funding has not resulted in significant additional output. Inpatient activity reduced by -0.1% in 2015 and increased by 0.7% in 2016. Day cases did improve significantly in 2015, increasing by 7.1%, this may be the result of shifting procedures to less expensive day case work. However the 1% increase in combined weighted (for complexity) activity in 2016 still remains significantly lower than the 5% increase in funding in the same year.

An in-depth analysis of total hospital expenditure per inpatient reveals that six out of the seven hospital groups now have a higher cost per inpatient discharge than in 2014. This means the recent investment in the acute sector is not resulting in increased performance. This issue will need to be addressed in order to ensure sustainability of health spend in future years.

It appears hospital Groups still have some way to go in order to deliver the benefits as proposed by the Minister for Health in 2013. It is important to maintain a focus on why the Groups were established and how the introduction of a knowledge sharing environment could facilitate a more efficient and effective hospital sector.

Measures need to be introduced to ensure further investment into the acute sector results in greater productivity. Foundations have already been laid for this process – in 2015 recommendations from the Flory report clearly outlined the need for hospitals to produce “Efficiency and Productivity Improvement Plans⁷... a target of 2% year on year efficiency and productivity improvement is a comparable international benchmark.”

In advance of the budget 2018 agreement should now be sought to prioritise realistic hospital efficiency plans against which productivity is measured throughout the year in a similar way to staffing and expenditure levels.

⁷ Review of HSE Accountability Framework 2015 – D Flory Report.

Appendix A

HSE Non-Pay Expenditure, Clinical and Non-Clinical

HSE Non-Pay Expenditure	2011 (€'k)	Change p.a. (%) '11 to '12	2012 (€'k)	Change p.a. (%) '12 to '13	2013 (€'k)	Change p.a. (%) '13 to '14	2014 (€'k)	Change p.a. (%) '14 to '15	2015 (€'k)	Change p.a. (%) '15 to '16	2016 (€'k)	Cum. Ann. Growth Rate (CAGR)
Clinical Total	932	2.5%	955	3.1%	985	3.9%	1,023	8.0%	1,105	5.4%	1,165	4.6%
Bloods / Blood Products	108	-8.1%	99	-1.4%	98	-2.9%	95	2.2%	97	-2.3%	95	-2.5%
Drugs & Medicines	282	6.7%	301	3.1%	311	8.3%	336	12.7%	379	9.5%	415	8.0%
Laboratory	115	4.9%	120	2.1%	123	10.3%	135	6.7%	144	2.7%	148	5.3%
Medical / Surgical Supplies	309	2.0%	315	4.4%	329	2.5%	337	6.5%	359	5.4%	378	4.1%
Medical Gases	7	-0.7%	7	2.5%	7	-2.2%	7	7.1%	8	0.6%	8	1.4%
Other Medical Equipment Supplies & Contract Other Med Equip	27	-11.5%	24	9.2%	26	-2.3%	25	18.5%	30	1.4%	30	2.6%
X Ray/Imaging	32	11.4%	35	0.1%	35	10.5%	39	7.5%	42	-1.7%	41	5.4%
Non Clinical Total	423	2.6%	434	11.6%	484	3.0%	499	9.4%	546	7.4%	586	6.7%
Bad & Doubtful Debts	17	2.2%	18	36.3%	24	8.2%	26	24.0%	32	-47.7%	17	-0.4%
Catering	37	-0.2%	37	2.3%	38	1.2%	38	5.4%	40	4.2%	42	2.6%
Cleaning & Washing	83	-1.5%	82	2.3%	83	3.1%	86	3.3%	89	6.4%	95	2.7%
Computer	24	2.5%	24	12.0%	27	3.6%	28	12.4%	32	4.2%	33	6.8%
Education & Training Furniture Crockery & Hardware	9	3.7%	9	10.1%	10	11.9%	11	7.3%	12	14.7%	13	9.5%
Heat Power & Light	5	-1.3%	5	14.2%	5	15.6%	6	25.4%	8	-1.0%	8	10.1%
Maintenance	46	12.5%	52	11.1%	57	-5.3%	54	-0.1%	54	-6.9%	50	2.0%
Office Expenses Rent/Rates	40	-6.4%	38	15.6%	43	1.9%	44	17.7%	52	8.5%	57	7.1%
Other	60	-0.7%	60	6.6%	63	6.2%	67	9.0%	73	13.1%	83	6.7%
Professional Services	64	4.1%	66	19.5%	79	5.6%	84	-3.8%	81	-4.4%	77	3.8%
Transport (Patients)	29	0.9%	29	25.0%	36	0.0%	36	39.5%	51	69.1%	86	24.4%
Transport (Patients)	10	51.7%	16	7.4%	17	1.9%	17	29.4%	22	16.2%	26	20.1%
Grand Total	1,355	2.5%	1,389	5.7%	1,469	3.6%	1,522	8.5%	1,651	6.1%	1,751	5.3%