

Royal College of Surgeons

Analysis of HES data



Trends in Surgery

An analysis of trends using 2013/14 Hospital Episodes Statistics data

Summary

This briefing outlines the Royal College of Surgeons' analysis of the trends identified in the Health and Social Care Information Centre's annual Hospital Episodes Statistics data for admitted care for 2013/14 (published 25 Feb). It does not cover outpatients or some A&E care. This data is collected during a patient's time at hospital and is submitted to allow hospitals to be paid for the care they deliver.

The Royal College of Surgeons' analysis of the data, covering 18.2 million episodes of care, has uncovered:

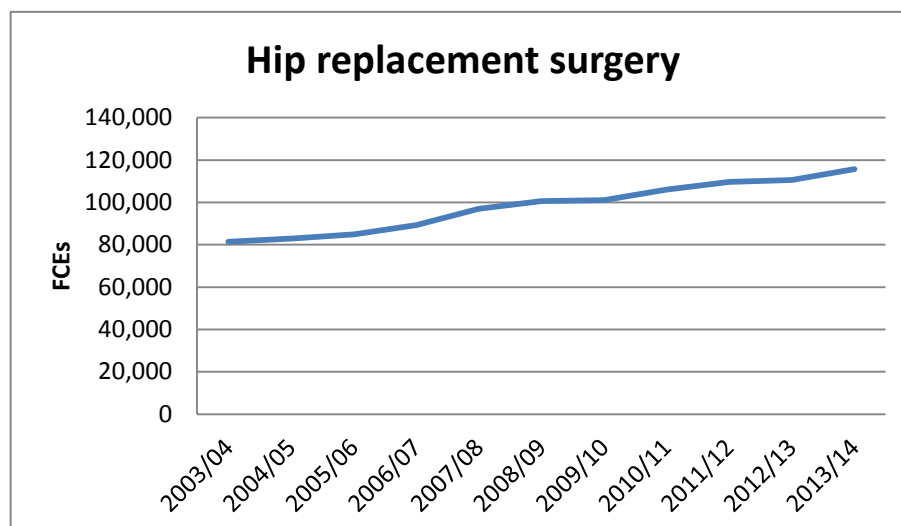
- Hip replacement surgery has witnessed its biggest increase in three years, with a 4.73% rise in activity rates in 2013/14.
- Rates of knee replacement surgery continue to increase and operations are up 3.27% on 2012/13.
- Rates of provision of bariatric surgery have declined in the past two years, with figures for 2013/14 down 15.96% on levels in 2012/13 and 21.75% on levels from 2011/12. At the same time rates of obesity are not decreasing¹. As the Health and Social Care Information Centre have noted, part of the decline may be due to coding issues although problems in commissioning services may be a factor as well.
- There has been an 8.86% increase in the number of amputations for men from 2012/13 to 2013/14. The number of amputations in women during this time has decreased by 0.79%.
- After several consecutive years of declining activity the number of interventions to treat varicose veins increased by 8.17% in 2013/14.
- There has been a 7.86% increase in tonsillectomy activity. This means the number of tonsillectomies performed has increased by 11.20% since a 10 year low in 2011/12.

¹ Health Survey for England 2013: Trend Tables. Health and Social Care Information Centre, December 2014.

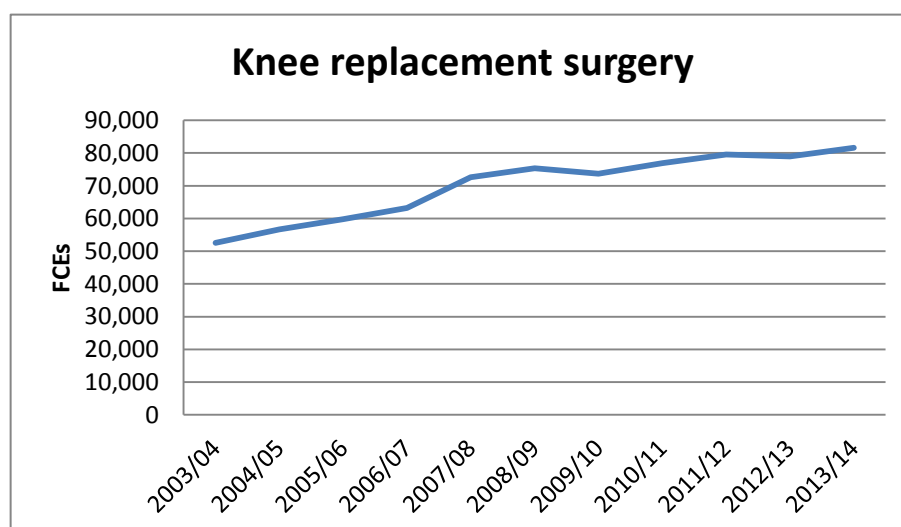
*: Finished Consultant Episodes

Joint replacement surgery

Year	FCEs
2003/04	81,437
2004/05	82,919
2005/06	84,914
2006/07	89,254
2007/08	97,026
2008/09	100,581
2009/10	101,020
2010/11	105,979
2011/12	109,598
2012/13	110,528
2013/14	115,758



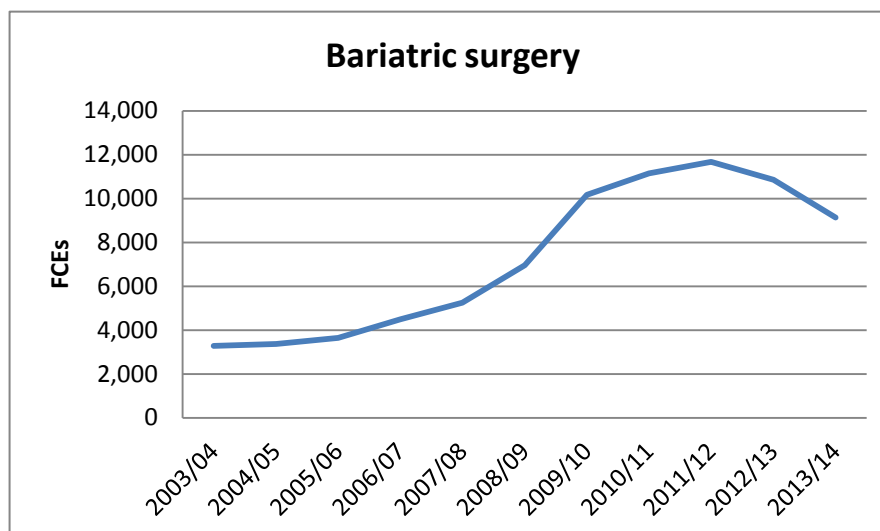
Year	FCEs
2003/04	52,535
2004/05	56,652
2005/06	59,755
2006/07	63,196
2007/08	72,628
2008/09	75,306
2009/10	73,720
2010/11	76,927
2011/12	79,596
2012/13	79,007
2013/14	81,590



- Hip replacement surgery continues to show a steady increase in activity over time. For 2013/14 the number of finished consultant episodes was **4.73% higher** than in 2012/13, the largest increase since 2009/10.
- Knee replacement surgery also continues to progressively rise, with the data for 2013/14 showing an **increase of 3.27%**. Undoubtedly, rates of these two procedures are tightly connected with demographic pressures, namely an increasingly elderly population.

Bariatric surgery

Year	FCEs*
2003/04	3,286
2004/05	3,378
2005/06	3,653
2006/07	4,497
2007/08	5,251
2008/09	6,957
2009/10	10,171
2010/11	11,148
2011/12	11,672
2012/13	10,867
2013/14	9,133



*: Finished consultant episodes

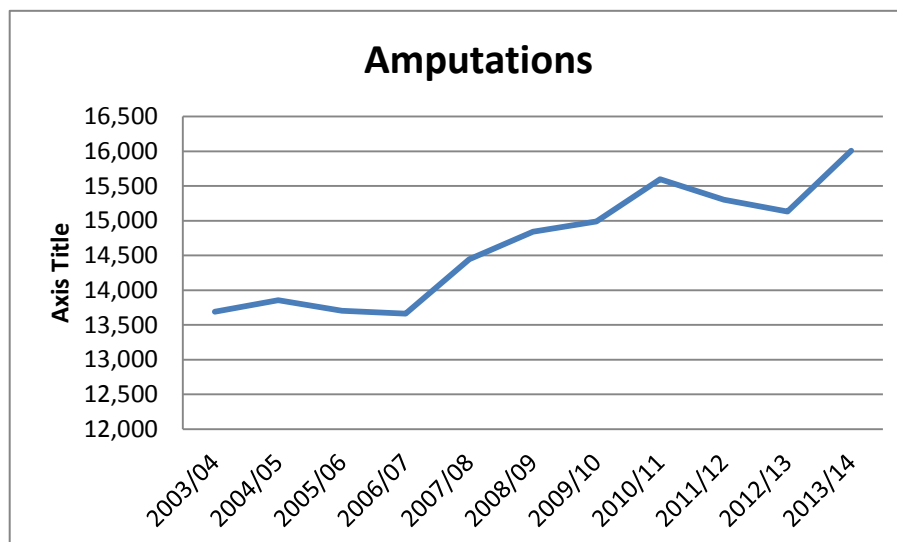
- After a sharp increase in the number of bariatric procedures, activity slowed between 2009/10 and 2010/11 and started to fall in 2012/13. The latest data for 2013/14 shows that activity has **declined by 15.96% since 2012/13**.
- This is despite the fact that the proportion of the adult population who are obese has been increasing over the last decade with only a minor reduction between 2010-2012¹.
- Further data published by the HSCIC as part of statistics on Obesity, Physical Activity and Diet in England show that the number of bariatric procedures carried out on patients where the primary diagnosis is that of obesity has declined by 20.4% in 2013/14.² However, the HSCIC notes that nearly half of this decrease can be attributed to one hospital where the recording of some bariatric procedures was labelled as taking place in an outpatient rather than inpatient setting. Therefore the figures should be treated with some caution.
- Nevertheless, the College and the British Obesity and Metabolic Surgery Society (BOMSS) are also aware that there has previously been confusion about who in the NHS or local authorities were responsible for commissioning weight loss services which are necessary for patients to attend before undergoing weight loss surgery³. This is likely to have had a detrimental impact on the number of patients accessing surgery during 2013-14. BOMSS are concerned that commissioners are still restricting access to these services, and therefore patients may not always have access to the treatment they require.

² Statistics on Obesity, Physical Activity and Diet in England. HSCIC. 2015

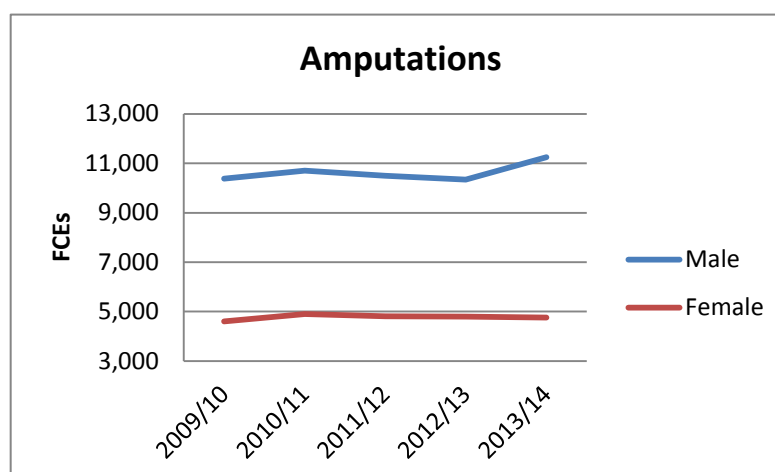
³ <https://www.rcseng.ac.uk/news/postcode-lottery-is-denying-obese-patients-access-to-vital-treatment>

Amputations

Year	FCEs
2003/04	13,691
2004/05	13,854
2005/06	13,702
2006/07	13,662
2007/08	14,446
2008/09	14,841
2009/10	14,988
2010/11	15,599
2011/12	15,302
2012/13	15,131
2013/14	16,010



Year	Male	Female
2009/10	10,385	4,603
2010/11	10,701	4,898
2011/12	10,494	4,804
2012/13	10,339	4,791
2013/14	11,255	4,753

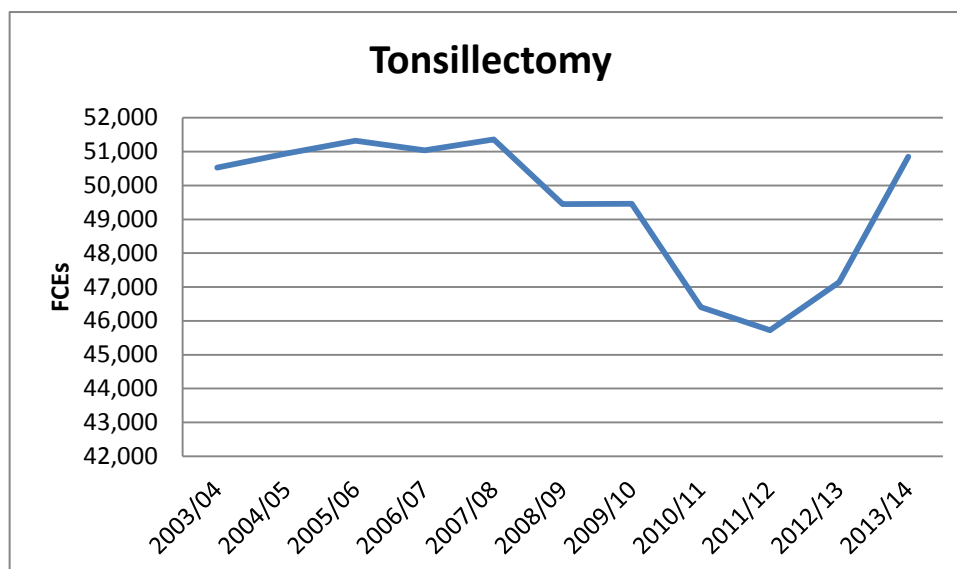


- The number of amputations carried out (for arm, hand, leg, foot, and toe) has increased in the 2013/14 dataset. Notably, this increase is accounted for entirely by males.
- There was an **8.86% increase** in the number of finished consultant episodes for amputations in males while in females there was a **decrease of 0.79%**.
- This trend might be linked with increasing rates of diabetes although further analysis of the data would be required to confirm this. Figures from the Health Survey for England show that diabetes prevalence is increasing, with 137,000 more adults diagnosed with the condition between 2012 and 2013.⁴

⁴ Health Survey for England, 1993-2012.

Tonsillectomy

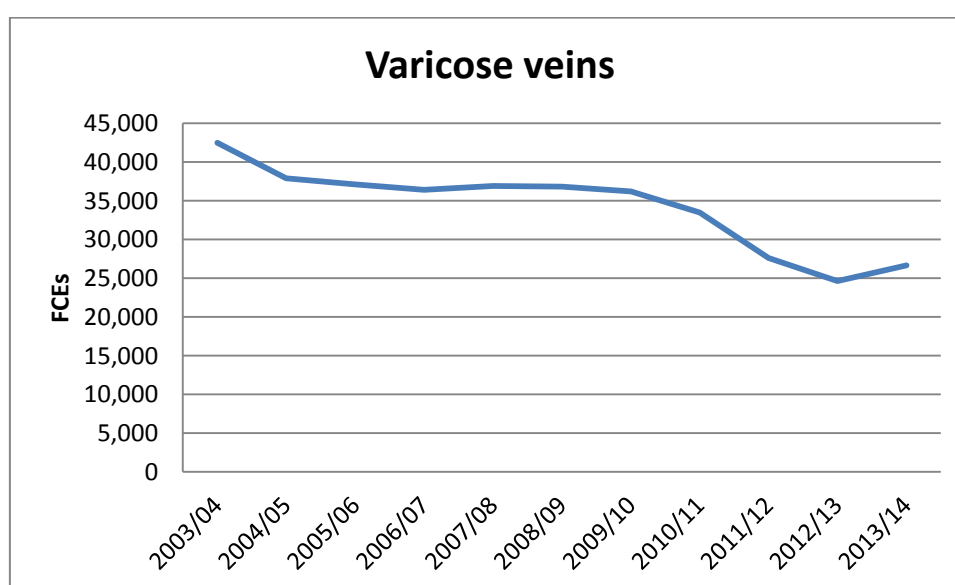
Year	FCEs
2003/04	50,531
2004/05	50,944
2005/06	51,318
2006/07	51,042
2007/08	51,363
2008/09	49,447
2009/10	49,461
2010/11	46,405
2011/12	45,724
2012/13	47,141
2013/14	50,846



- Rates of tonsillectomy decreased by more than 10% (10.98%) between 2007/08 and 2011/12. However, since the nadir of that year activity has almost completely recovered to 2007/08 levels and 2013/14 saw an **increase in provision of 7.86%**.
- Please note that the scale of the y-axis on this graph does not start at 0.

Treatment of varicose veins

Year	FCEs
2003/04	42,484
2004/05	37,896
2005/06	37,137
2006/07	36,414
2007/08	36,923
2008/09	36,811
2009/10	36,209
2010/11	33,491
2011/12	27,605
2012/13	24,631
2013/14	26,643



- This year saw a reversal of a decline for the first time in 10 years, with an **8.17% increase** in the number of patients treated.

Procedures by speciality

	2013/14	2012/13	% change
General Surgery	1,321,933	1,312,186	0.74%
Colorectal Surgery	219,073	207,345	5.66%
Hepatobiliary & Pancreatic Surgery	20,790	20,291	2.46%
Upper Gastrointestinal Surgery	84,806	73,551	15.30%
Vascular Surgery	95,948	87,958	9.08%
Trauma & Orthopaedics	1,192,600	1,158,316	2.96%
Oral Surgery	211,801	212,501	-0.33%
Restorative Dentistry	8,686	8,169	6.33%
Paediatric Dentistry	23,064	21,379	7.88%
Maxillo Facial Surgery	89,458	76,755	16.55%
Neurosurgery	88,401	85,951	2.85%
Plastic Surgery	229,685	219,464	4.66%
Cardiothoracic Surgery	17,199	20,138	-14.59%
Paediatric Surgery	61,104	59,730	2.30%
Cardiac Surgery	30,893	27,755	11.31%
Thoracic Surgery	22,351	21,200	5.43%

- Cardiothoracic and oral surgery were the only treatment specialties to witness an overall decline in activity between 2012/13 and 2013/14.
- However, in these instances it is impossible to rule out the effect of changes to the way some procedures are coded from impacting on the overall activity figures and so this data should be treated with caution. For example, the 14.59% decline in cardiothoracic surgery is perhaps explained by the 11.30% increase in cardiac surgery and the 5.43% rise in thoracic surgery.

Methodology and data issues

The statistics used in this analysis come from the Hospital Episode Statistics data suite published by the Health and Social Care Information Centre.

HES admitted patient data provides a useful indication of admitted activity in hospitals. Organisations that provide NHS funded care are mandated by the NHS standard contract to submit data to the Health and Social Care Information Centre (HSCIC). However, there are some limitations of the data including:

- **Missing records:** This year's data has over 100,000 records missing.

- **Data accuracy:** According to NHS England and the HSCIC, the average error rate identified from clinical audits is now 7%⁵. However, we know some Trusts have made some specific errors. For example, in this year's dataset Luton and Dunstable Hospital NHS Foundation Trust has unusually high counts for 'Gestation Length' as a result of data being converted into values representing days rather than weeks.
- **Excludes most activity in private hospitals.**
- The data focuses on recording **episodes of care** rather than outcomes of care.
- **Inpatient (admitted) data** – i.e. what our analysis covers – is more complete than outpatient and A&E data. This is for a variety of reasons including the lower time constraints on administrators working with inpatients. Data collection systems are also more mature for inpatient than outpatient and A&E data.

The figures we have used in this analysis for hip and knee replacement surgery differ slightly from those on the National Joint Registry (NJR) database.⁶ This variance is likely down to a number of reasons. For example, the data is collected over a different period (HES being a financial year, NJR being a calendar year) and while hospitals have long been required to submit data to HES the NJR best practice tariff which incentivises data entry in the NJR has only been recently active. Moreover, the procedures we are examining in this analysis are different from those in the NJR (as they examine revisions in addition to primary procedures while we have decided to investigate primary joint replacements only).

The procedures we investigated, and their codes, are detailed below:

Hip

W37	Total prosthetic replacement of hip joint using cement
W38	Total prosthetic replacement of hip joint not using cement
W39	Other total prosthetic replacement of hip joint

W46	Prosthetic replacement of head of femur using cement
W47	Prosthetic replacement of head of femur not using cement
W48	Other prosthetic replacement of head of femur

W93	Hybrid prosthetic replacement of hip joint using cemented acetabular component
W94	Hybrid prosthetic replacement of hip joint using cemented femoral component
W95	Hybrid prosthetic replacement of hip joint using cement

Knee

O18	Hybrid prosthetic replacement of knee joint using cement
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W40	Total prosthetic replacement of knee joint using cement
W41	Total prosthetic replacement of knee joint not using cement
W42	Other total prosthetic replacement of knee joint

⁵ <http://www.england.nhs.uk/wp-content/uploads/2013/07/hosp-data-consult.pdf>

⁶ NJR StatsOnline:

<http://www.njrcentre.org.uk/njrcentre/Healthcareproviders/Accessingthedata/StatsOnline/NJRStatsOnline/tabid/179/Default.aspx>

Bariatric surgery

G27	Total excision of stomach
G28	Partial excision of stomach

G30	Plastic operations on stomach
G31	Connection of stomach to duodenum
G32	Connection of stomach to transposed jejunum
G33	Other connection of stomach to jejunum

Tonsillectomy

F34	Excision of tonsil
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Hernia

T20	Primary repair of inguinal hernia
T21	Repair of recurrent inguinal hernia
T22	Primary repair of femoral hernia
T23	Repair of recurrent femoral hernia
T24	Primary repair of umbilical hernia
T25	Primary repair of incisional hernia
T26	Repair of recurrent incisional hernia
T27	Repair of other hernia of abdominal wall

Amputations

X07	Amputation of arm
X08	Amputation of hand
X09	Amputation of leg
X10	Amputation of foot
X11	Amputation of toe

Varicose veins

L84	Combined operations on varicose vein of leg
L85	Ligation of varicose vein of leg
L86	Injection into varicose vein of leg
L87	Other operations on varicose vein of leg
L88	Transluminal operations on varicose vein of leg