



The United Kingdom National Bariatric Surgery Registry

PUBLICATION OF SURGEON-LEVEL DATA IN THE PUBLIC DOMAIN FOR BARIATRIC SURGERY IN NHS ENGLAND

Summary

The NBSR Committee on behalf of the British Obesity and Metabolic Surgery Society presents the operative outcomes data for NHS patients having bariatric surgery for the financial years 2012/13 and 2013/14 on <http://nbsr.e-dendrite.com>. The main results are:

- 144 practising NHS consultant surgeons contributed data from 49 hospitals and the total number of operations recorded was 5,420 for the financial year 2013/14. Consent to data release was 100% and there were no non-contributing hospitals
- Updated data for the financial year 2012/13 were that 114 consultant surgeons contributed their data and the total number of operations recorded was 5,252
- For each year we now report revision bariatric procedures in addition to primary bariatric operations; the totals now include 289 revision operations (5.5%) in 2012/13 and 378 revision operations (7.0%) in 2013/14, an overall rate of 6.3%
- Overall for the 2 years:
 - The average patient body mass index (BMI) was 50.2 kg/m² and the average weight was 139.7kg, indicating that the patients were twice the ideal weight for their height
 - 73.5% patients were female
 - The average number of obesity-related diseases for each patient, for example type 2 diabetes, hypertension, sleep apnoea, functional impairment and arthritis was 3.71
 - There were 11 recorded deaths for an in-hospital mortality rate of 0.10%, equivalent to a survival rate of 99.9%
 - The average length of hospital stay for all operations was 2.6 days
 - There were no potential statistical outliers for mortality or length of stay



The 5,252 primary and revision operations entered on the Registry in 2012/13 represent a case ascertainment of 83.4% of 6,294 operations done as recorded by Hospital Episode Statistics (HES) data for the year. This proportion rose to 94.2% for 2013/14 (5,420 of 5,756 total operations).

The data shown are those of surgeons currently practising to our knowledge within the NHS and excludes recently retired surgeons.

The HES data indicated that the in-hospital mortality in the two years 2012 to 2014 was 7/12,061 (0.06%), and the number of deaths recorded for each year was fewer than in the NBSR (6 in 2012/13 and 5 in 2013/14). The NBSR includes deaths occurring due to a complication of surgery after 30 days. Eleven consultants in different hospitals had one death each and none was a potential statistical outlier.

The data presented here for 2014 corroborate the high levels of obesity-related disease combined with low mortality and short length of stay for bariatric surgery published in the 2013 Bariatric Consultant Outcomes Publication ¹.

In-hospital survival from bariatric surgery continues to be at least as good if not better than many common laparoscopic gastrointestinal procedures.

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NBSR Committee
30th October 2014



Background

The first round of Consultant Outcomes Publication in 10 specialties, including bariatric surgery, in summer 2013, followed a call for a culture of openness, transparency and candour from the Francis Report (2013) that dealt with the events leading up to the Mid Staffordshire enquiry². The National Bariatric Surgery Registry (NBSR) published its individual consultant outcomes data on 2nd July 2013 for surgeons in NHS in England¹.

Feedback about the NBSR and publications from some of the other specialties suggested that future outputs should include the ability for a patient to search for the local hospital performing bariatric surgery. In this 2014 report we have added the functionality whereby a patient can search geographically or by postcode for their local and regional units.

NATIONAL BARIATRIC SURGERY REGISTRY

So far almost 40,000 individual patient records have been added since its inception in January 2009 and the First NBSR Report of aggregated operative and disease-related outcomes was published in April 2011³. A Second NBSR Report of aggregated outcomes in 18,000 patients over 3 years is due for publication in November 2014.

Although it was not designed for this purpose, the data fields in the NBSR are well suited to generating consultant level data. For this round of reporting the Healthcare Quality Improvement Partnership (HIQP) required an additional outcome to be reported⁴. Since some surgeons and units take on more revision surgery than others it was appropriate to add this to the reporting, so as not to misinform patients if their primary surgery workload was less as a result. Reporting primary and revision surgery gives a more balanced view of the overall practice of individual surgeons.

UNIT DATA VERSUS INDIVIDUAL SURGEON REPORTING

As in 2013, it is important to emphasise to patients that bariatric surgery is one episode in the lifelong chronic disease of obesity. All NHS surgeons work in well-developed multidisciplinary teams (MDTs) dedicated to the care of patients with severe and complex obesity. Our preference was to present outcomes data from *units*, since it is units that are commissioned to deliver services to patients, *not* individual surgeons. For 2014 we show the overall operation volumes for each hospital as well as for each surgeon, which means the data are a more accurate reflection of the whole process of care.

We reiterate here comments from the 2013 NBSR Consultant Outcomes Publication. 'We want to take the opportunity to highlight the fact that bariatric surgery is just one aspect of an MDT process of care that involves a wide



range of healthcare professionals dedicated to the care of patients with severe and complex obesity. These include dietitians, specialist nurses, psychologists, bariatric physicians, anaesthetists, theatre teams and recovery staff, ward nurses including high dependency and intensive care nurses, out patient staff, radiographers, radiologists and exercise therapists. The close working and performance of the whole MDT is integral to the overall outcome.'

The NCEPOD report in October 2012 highlighted the importance of team working⁵. Pragmatically it is difficult to measure and even more difficult to record in a format such as a registry.

ADMINISTRATIVE SUPPORT FOR DATA ENTRY AND VALIDATION

It is evident that most NHS bariatric units still don't have sufficient administrative support to ensure completeness of data entry and *internal* validation. Although the NBSR became mandatory for NHS providers from 1st April 2013, we remind hospital Trusts of their obligation to:

- Verify and facilitate consultant and hospital-level engagement with national clinical audit; including providing resource for data validation
- Respond to audit provider requests to check data accuracy and notification of outlying data
- Work with clinicians and audit providers to use audit data 'real-time' for quality improvement
- Promote the value of clinical audit across all work streams, not just those involved with COP⁴

Although bariatric surgeons are committed to ensuring accurate and complete data we will not report outcomes such as data completion rates or 30-day return to theatre rates until we see evidence that this support is being put into place consistently. We would also need to establish that complication rates can be externally validated by HES. Our view remains that it is insufficient to rely on individual clinicians alone to ensure there are no missing records, incomplete records or inaccurate data entry and thus possible under-reporting.

POTENTIAL DIFFICULTIES WITH PUBLISHING INDIVIDUAL SURGEON-LEVEL DATA

We reiterate as for the 2013 Report that there are many potential problems and pitfalls with publishing individual surgeon data, including incorrectly identifying the performance of a particular surgeon as below par due to inaccurate or missing data entry, or failing to capture all aspects of the patient's care in the Registry dataset. Individual surgeon volume must also be interpreted with caution since units may only start surgery part way through an analysis period or a surgeon may stop operating if they retire or a service is



moved elsewhere as part of NHS service changes. Surgeons may also operate on NHS patients in 2 or more hospitals so that one unit's activity may not reflect the overall workload of an individual.

There is also the possibility of a competent surgeon apparently being seen to be an outlier in one particular time period when over a longer time period he/she would be seen to have completely satisfactory results. A debate at the Association of Surgeons meeting outlined these principles and highlighted the issues ⁶.

HOSPITAL EPISODE STATISTICS CODING AND CASE ASCERTAINMENT

Every hospital collects data on operations using HES codes for each procedure. Theoretically the total number is accurate, and this can be used for case ascertainment, that is the cases recorded into the NBSR expressed as a proportion of the total.

For bariatric surgery we still take the view expressed in 2013 that the 51 different OPCS4 codes used as a whole to define the range of procedures are not fit for purpose. For example, not a single one accurately describes Roux en Y gastric bypass, the operation that accounts for 2/3rds of NHS procedures. We would like to influence coding practice and standardise the HES codes used for bariatric surgery. However, HES recording has previously shown that the mortality within 30 days of surgery in the UK for the financial years 2000-08 was 0.27% (19/6953) patients ⁷, so it seemed reasonable to compare and validate our NBSR mortality data – the most important surgical outcome – with current data from HES.

Firstly, we performed a check between the HES codes that we considered were being used to represent and record bariatric surgery and found that there was a very strong correlation between the numbers of patients entered into the NBSR and those recorded in HES for each hospital. The statistical test to analyse this was the Pearson correlation coefficient that produces a value termed R squared (r^2) which is then used to work out the probability (p) for the correlation being tested. The r^2 for the data submitted in 2013/14 (where we had case ascertainment of 94.1%) was 0.90 for 49 bariatric units and the p value for significance was 0.00001, meaning that there was less than a 1 in 1,000 chance that the HES codes do not represent bariatric surgery. We are therefore confident that our HES data give an accurate representation of surgery numbers and also an independently validated measure of in-hospital mortality.

Hospital Episode Statistics (HES) data indicated that there were between 126 (using Trust summary data) and 141 (using hospital site summary data) NHS surgeons doing bariatric surgery in 2013/14. We saw a 19% rise in consultant contributors to the NBSR from 114 in 2012/13 to 136 in 2013/14 and the HES



data therefore suggest that probably all practising NHS consultants contributed their data in 2013/14. Although case ascertainment rose from 83.4% in 2012/13 to 94.1% in 2013/14 it is probably unrealistic for the NBSR to ever achieve 100% data collection even though NHS data collection became mandatory in April 2013, due to the lack of administrative support for data collection highlighted above.

MORTALITY VALIDATION FROM HES

According to HES codes we estimate that the overall in-hospital mortality rate for bariatric surgery was 0.094% for the 5 financial years 2009/10 to 2013/14¹, equivalent to a survival rate of 99.9%, validating the very low mortality from bariatric surgery recorded by the consultant surgeons contributing to the NBSR. The in-hospital mortality rate for 2009/10 was 0.19%, almost 2 in 1,000, and this fell progressively to 0.052% for 2013/14, about 1 in 2,000, indicating reducing mortality over time.

We are fully aware of the importance of complete records and in the first 2 years of the Consultant Outcomes Publications (1st April 2012 to 31st March 2014) 96.4% of patient records included the alive/dead status on discharge. Programming issues where the alive/dead button was 'hidden from view' for some patients are currently being explored with the software provider.

It was not possible due to patient confidentiality to explore whether the individual deaths reported in the NBSR were also recorded in the HES data. The number of deaths in the NBSR was slightly more than the in-hospital deaths recorded in HES and slightly fewer than the 30-day deaths recorded in Office of National Statistics (ONS) data (see below). Eleven consultants had one death each and none was a statistical outlier.

The HES analysis was checked against ONS hospital mortality data. The discharge data are cross-referenced with the Births, Marriages and Deaths Register to detect deaths occurring up to the day of discharge. For each year 2009/10 to 2013/14 the number of deaths was the same as in HES.

We also analysed the ONS 30-day mortality data. In this analysis, the discharge date is cross-referenced with the Births, Marriages and Deaths Register to detect deaths occurring within 30 days of discharge. This therefore captures mortality occurring where a patient might have died after being readmitted to another hospital after discharge from the primary hospital. The 30-day mortality was 14 of 6,294 patients in 2012/13 and 6 of 5,767 patients in 2013/14, an overall death rate of 0.165%. The NBSR does not record NHS numbers as the database is currently anonymised. Therefore it is

¹ Includes latest available '13-month' HES data up to the end of April 2014, therefore any mortality occurring in April 2014 for patients operated in March 2014 should be detected. HES regards these data as a complete data set for the year.



not set up to collect data on deaths elsewhere occurring after discharge, as any subsequent records are not linked. However, even if all the recorded mortality was related to the procedure, the data suggest that:

- At most the 30-day mortality from UK bariatric surgery in NHS patients is less than 1.7 in 1,000.

As an additional sanity check for HES-derived mortality we re-ran the case volume calculations without the restrictions of excluding hospitals doing fewer than 10 procedures (which was put in to exclude very low volume procedures that would be unlikely to be bariatric), and excluding re-operations within 30 days being considered as separate procedures (so as to prevent patients having early reoperations being counted as more than one patient). The resulting grand total of episodes for the 5 years 2009/14 was 31,564 compared to 30,702 without the restrictions, an increase of only 2.8%. No additional mortality occurred in these extra patients. In addition, removing the <10 procedures restriction identified several hospitals that we know are not bariatric surgery providers, and therefore we are confident that our combination of HES codes plus restrictions gives the best estimate of the true volume of NHS procedures.

The current analyses of mortality do not extend beyond 30 days. Although it is theoretically possible to perform a 6-month analysis via the ONS of deaths after surgery for instance from ongoing complications, we do not have the resource to do this. In addition, mortality would have to be checked against individual death certificates, which is beyond our administrative and logistical capacity. Also, the analysis would have to take into account the background rate of mortality in the population unconnected with surgery and therefore the results would be even more difficult to interpret.

Methodology for the October 2014 Reporting

NHS England mandated participation in Consultant Outcomes Publication audits as part of the NHS Standard Contract for 2013/14⁸. The NBSR Committee explicitly contacted BOMSS members and NBSR contributors by email stating that the position of HQIP was that consent should be assumed. We asked currently practising NHS members to contact us to make their positions clear if they wished to withdraw consent. No surgeon did so, entirely in keeping with bariatric surgeons' wish to be open and transparent with their outcomes data.

Amongst several emails we included a cut-off of Monday 7th July as the initial deadline for data entry. Dendrite Clinical Systems Ltd, the NBSR software provider, added the data to the existing web portal <http://nbsr.e-dendrite.com>. The data were assessed for obvious validation errors and erroneous data



entry such as duplications, which were omitted from analysis on a 'least data entered record' basis. BOMSS members and contributors were invited to view their individual data from Monday 1st September.

We identified 2 hospitals from HES that did not submit data on NHS patients in 2013/14 and wrote to them reminding them of the requirement to submit all their data to the NBSR. Both subsequently added data in time for the final data cut. Also, we identified from HES 17 hospitals where there appeared to be a difference of more than 10% fewer patient records submitted to the NBSR than recorded in HES, and we wrote reminder letters to these hospitals. It became clear that some Trusts were undergoing reconfiguration of services and for this reason it did not seem appropriate to identify individual hospitals that might have missing records even though we are confident that our estimate of case ascertainment for each hospital (the proportion of eligible cases recorded into the NBSR) was very high.

A second and final cut of the data was taken on Monday 15th September. We would have preferred more time to re-review the data after the second cut but the timescale was too tight for this, in anticipation of a publication date of 30th September. In fact the date was delayed to 9th October, which gave more time for the programming target to be met. We are confident that we had no outliers for mortality among practising surgeons and there are overall many examples of excellent practice. The policy that we published in 2013 on managing potentially outlying data remains unchanged and is available on the BOMSS website ⁹.

We reproduce here a paragraph from the 2013 report, as it is still pertinent. 'Further limitations of HES include the inability to risk-adjust, since two of the variables need to assess risk, body mass index (BMI) and hypertension, are either not recorded or the recording is unreliable. Also, HES does not reliably distinguish between primary surgery and elective revision surgery. All these are necessary for risk adjustment. Furthermore, the named consultant listing the patient for the operation may not be the same as the one operating. In contrast, the NBSR dataset captures all these variables and is accepted as the standard by bariatric surgeons to produce meaningful data.'

OUTCOMES REPORTED

In the 2014 report we publish an additional outcome: revision surgery. The definitions of primary and the different forms of revision surgery are:

Primary surgery

- The first bariatric operation that a patient undergoes

Revision surgery (including planned 2nd stage procedures)



- A subsequent bariatric operation where the previous operation was performed in the same unit or in another hospital

Surgeons with higher volumes of revision surgery may be referred these patients from other centre due for their expertise. Revision operations can be major surgery, for example where the first procedure failed and it is revised to another bariatric operation. Note that this type of revision surgery carries higher risk due to scarring of the tissues, which occurs after the first operation, and therefore it is important to be able to characterize these patients separately from patients having primary procedures. Revision operations can also be relatively minor, such as a replacement of a gastric band port.

The NBSR dataset has not changed since 2013, and although it captures much more information, we decided due to the limitations of data validity to limit again the *hard* outcomes published to surgeon volume, in-hospital mortality and length of stay, plus the numbers and proportion of revision surgery. The data for 1st April 2013 – 31st March 2014 are combined with the existing eight outcomes published for the year 1st April 2012 – 31st March 2013 with the addition of revision surgery for both years:

- Consultant workload for primary and revision operations including gastric balloon placement
- Operation split by consultant
- Consultant workload for revision surgery and the proportion compared to the total
- BMI on entry into the weight loss programme
- Co-morbidity count per type of operation (number of co-morbidities recorded per patient)
- Obesity-Surgery Mortality Risk Score (OS-MRS) and class per operations and overall per consultant
- Initial BMI overall per consultant (box and whiskers)
- Length of stay for primary procedures compared to the rest per consultant
- In-hospital mortality, described as survival

The co-morbidity count was taken from the NBSR dataset of co-morbidities:

- Type 2 diabetes
- Hypertension on treatment
- Dyslipidaemia
- Atherosclerosis (includes angina, MI, CABG, stroke, claudication)
- Sleep apnoea
- Asthma



- Functional status (presence of comorbidity defined as unable to climb 3 flights of stairs without resting)
- Back or leg pain from arthritis
- GORD
- Liver disease (suspected NAFLD or worse)
- Poly-cystic ovarian syndrome (female patients only)
- Depression (clinically significant depression as a reason for bariatric surgery)

The Obesity Surgery-Mortality Risk Score is the only validated measure of operative risk for patients undergoing bariatric surgery¹⁰. A point is added for each of the following risk factors that are present, up to a maximum of 5 points: age at surgery ≥ 45 years, BMI ≥ 50 kg m², male gender, recorded hypertension, one or more known risk factors for deep vein thrombosis (DVT) / pulmonary embolism (PE). Using the resultant score, complication & mortality rates can be risk-adjusted; the higher the score/group, the greater the risk of surgery. Patients can be stratified for risk according to how many of these risk factors are present. It is normal practice to refer to the calculated scores in three groups:

- Group A (0-1 points)
- Group B (2-3 points)
- Group C (4-5 points)

We worked with the Quality Outcomes Research Unit in Birmingham University (QUORU) to analyse the HES data, and using a refined set of OPCS4 codes were able to estimate the mortality for primary bariatric surgery for the 4 years April 2009 – March 2014 previously highlighted (D McNulty, D Pagano, P Small, R Welbourn unpublished). Due to time limitations we were not able to analyse HES data for any other potential outcome.

PATIENT CONSULTATION

For this round of Consultant Outcomes Publication HQIP required patient consultation in the process and we were delighted that Ms Jaci Joyce, Clinical Learning Lead, Health Education Kent Surrey Sussex (HEKSS), was able to participate fully in the process. We are grateful to her for her input. HEKSS is a Local Education and Training Board and part of Health Education England.

Presentation of results

Patients are now able to search for hospitals by geography using an added map function and postcode. See the Frequently Asked Questions section on how to interpret this. To minimise the possibility of error we report surgical volume only for consultants with 10 or more procedures recorded in the NBSR



in order not to misidentify surgeons as doing bariatric procedures when they were not. This also seemed appropriate as it fits with using the same limitation for HES identification of surgeons.

As before we present data for each outcome variable either as graphs, bar charts or box and whiskers graphs. Comments are included interpreting the results.

Results

The results can be found on the websites

<http://www.bomss.org.uk/consultant-outcomes-2014/> and <http://nbsr.e-dendrite.com>.

ADDITIONAL DATA:

- In 2012/13 there were 289 revisions and 4,963 primary operations (revision 5.5%)
- In 2013/14 there were 378 revisions and 5,042 primary operations (revision 7.0%)
- Datasets for analysis of OS-MRS were available for 8 of the 11 patients who died. Five were Group B and 3 were Group C.
- The patients reported here for the 2 years 2012/13 and 2013/14 were included in the International Federation of Surgery for Obesity Global Registry report published in August 2014 ¹¹. The NBSR patients had the highest proportion of OS-MRS Group B (46%) and Group C (9%) patients of 18 countries submitting data on bariatric patients worldwide, indicating that 55% of patients had increased risk of operative mortality compared to group A patients. Thus the population of operated NHS patients has the highest overall risk of patients reported internationally.

FROM HES ANALYSIS:

- The NBSR data and the various HES analyses are entirely equivalent to a US benchmark, the American College of Surgeons Bariatric Surgery Center Network, where the published mortality rate was 0.12% (35 out of 28,616) for patients operated from 2007-10 ¹².

ADDITIONAL NOTES:

We were contacted by Sunderland Royal Hospital where intra-gastric balloon data are collected on a different system and are not currently submitted to in



the NBSR. Also, a substantial proportion of gastric bypasses in Sunderland are constructed using a loop technique, which it is not possible to record in the NBSR. A loop gastric bypass page is planned for Version 2 of the NBSR to accommodate this changing practice. These differences accounted for the observed discrepancy in their NBSR numbers vs HES.

Due to a local database incompatible with the NBSR, Derby Royal Infirmary were unable to submit data for 2012/13 but have been able to submit data for 2013/14 for 3 out of 4 bariatric surgeons. The fourth surgeon is on sabbatical and there was insufficient resource to add his patients in his absence. Derby expects to be fully submitting in 2014/15.

We are fully supportive of the practices, as far as we know the details, of the 11 surgeons from different hospitals who each reported one death in the analysis period. None was a statistical outlier.

Interpretation of results

We believe the current data from 2013/14 together with the updated data for 2012/13 to be a correct representation of surgeon and hospital volume, baseline BMI, degree of baseline obesity-related disease, type of operation, mortality and length of stay. Further publication of Consultant Outcomes data in 2015 will allow a 3-year rolling analysis of data as part of an 'iterative' process.

We expect that patients will be able to use the data presented in the surgeon graphs to facilitate their consultations with the local bariatric team and help them make informed decisions about surgery. As the data mature, future reports could include other outcomes such as postoperative complications and reoperations, and case ascertainment at an individual hospital level as measures of quality (with the provisos highlighted previously).

Patients should be reassured that in-hospital mortality after bariatric surgery is becoming even less frequent: survival from bariatric surgery is at least as good if not better than many common laparoscopic gastrointestinal procedures.

NBSR Committee, 29th October 2014

Contact details

The NBSR administrators Sarvjit Wünsch or Nichola Coates are contactable by email sarvjit@augis.org or nichola@augis.org, telephone 0207 869 6941 or post to The National Bariatric Surgery Registry, The Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 3PE.

Bariatric Surgery Consultant Outcomes Publication 30th October 2014



Frequently Asked Questions

What does the report show?

It shows the centres that performed NHS bariatric surgery in 2012/13 and 2013/14. The map facility allows you to search geographically and by postcode. The hospital unit volume of operations is shown, as well as the volume for the individual surgeons. Mortality data are shown as well as operation split, frequency of revision surgery and degree of obesity-related disease present and length of stay.

How do I access bariatric surgery?

Contact your GP in the first instance and ask for help with your weight problems. If your BMI is 35 or more and you have obesity-related disease that can be improved weight loss, or your BMI is 40 or more, you may be suitable for surgery. In March 2014 the RCS and BOMSS produced Commissioning Guidance that describes how this process works ¹³ <http://www.bomss.org.uk/commissioning-guide-weight-assessment-and-management-clinics-tier-3/> .

Which unit should I be referred to?

Each region has well set-up bariatric surgery multidisciplinary teams with a full complement of specialists to help you with your care. These include dietitians, specialist nurses, physicians, surgeons and anaesthetists. Some patients may benefit from seeing psychologists and physiotherapists as well. The team will discuss with you whether surgery is a good option for you.

Not all the hospitals shown on the website <http://nbsr.e-dendrite.com> are bariatric surgery assessment centres (so called Tier 4 specialist centres), they may be hospitals contracted to do the actual surgery after full assessment by the local centre. It is important that you find out which service your local hospital offers. In addition due to local contracting it is possible that you will not have a choice about where you are sent for a bariatric surgery assessment or where the operation would then be done.

If you have a choice of surgery provider we encourage you to look at the data published for each hospital and discuss what it means with your GP.

Which operation should I have?

Discuss this with your surgical team. The expertise for different operations may vary from unit to unit and it is important that you are comfortable with the service you are being offered. Remember that bariatric surgery is one



episode in a process of care of severe obesity, which is a lifelong chronic disease.

Does the number of operations a surgeon or unit performs make a difference to the success of surgery?

The BOMSS commissioning guide advises that units should have at least 2 surgeons and the annual volume of procedures should be at least 100 for the hospital and 40 for the individual surgeons. This is because in general for all specialised surgery the higher the caseload the better the operative results are likely to be. For bariatric surgery the staffing infrastructure is also likely to be better as all the required multidisciplinary team should be resourced and available. Read more about this on the BOMSS website ¹⁴

<http://www.bomss.org.uk/wp-content/uploads/2014/04/BOMSS-Professional-Standards-March-2013.pdf> .

Some units may have only just been set up or a fully trained consultant surgeon may have only recently joined the unit. Both can explain why the presented numbers may be small.

Which questions should I ask the surgeon?

We would encourage you to ask about experience with particular operations, unit volume and reoperation rates for complications. We would encourage you to ask about how the MDT process works, which members you will meet and how you will be followed up after the surgery. All are important for the success of surgery long term.



Glossary

Atherosclerosis – hardening of the arteries, including angina (chest pain due to insufficient blood reaching the heart), MI (myocardial infarction or heart attack), CABG (coronary artery bypass grafting), stroke, claudication (pain in the legs on walking due to insufficient blood reaching the leg muscles)

Bariatric – the medicine or surgery of weight problems

BMI – body mass index, calculated by dividing your weight in kg by the square of your height in metres, or kg/m^2

BOMSS – British Obesity and Metabolic Surgery Society www.bomss.org.uk

Case ascertainment – the proportion of NHS operations recorded out of the total done

Dyslipidaemia – high cholesterol

GORD – Gastro-Oesophageal Reflux Disease

HES – Hospital Episode Statistics

MDT – multidisciplinary team

NAFLD – Non-Alcoholic Fatty Liver Disease

ONS – Office of National Statistics

Primary bariatric surgery – the first bariatric operation that a patient undergoes

Revision surgery (includes planned 2nd stage procedures) – a subsequent bariatric operation where the previous operation was performed in the same unit or in another hospital. Revision surgery does not include reoperations for immediate postoperative complications

Roux en Y Gastric Bypass – the commonest form of gastric bypass, where a small stomach pouch is made and connected to a part of the small bowel (the 'Roux limb'). Continuity is restored by connecting the the Roux limb by a Y join to a lower part of the small bowel. The remaining stomach is left undisturbed.

RCS – Royal College of Surgeons



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Addendum to report

Due to the somewhat rushed nature of the process it is perhaps not surprising that data for the 2 years 2012/13 and 2013/14 continued to be entered after the second and final cut on Monday 15th September. Four further deaths were recorded, 2 in each year, either as new patient records or where the alive/dead status on discharge had not been entered.

The two deaths in 2012/13 were before the Consultant Outcomes Publication became part of the NHS contract and predated data submission to the NBSR by the two hospitals in which the deaths occurred. In 2013/14, during which data submission was mandatory, St. Richard's Hospital, Chichester (Mr Hawkins) and University College Hospital, London (Mr Jenkinson) reported one death each. None of the 4 consultant surgeons involved is a statistical outlier and as far as we know the details we reiterate that we are fully supportive of their practice. As these deaths were added to the NBSR after the 2013/14 round of data analysis it is not possible to add them to the <http://nbsr.e-dendrite.com> website for this reporting year but they will be detailed in subsequent years. We reiterate the need expressed on page 4 for Trusts to provide administrative support so as to minimise the risk of missing records, erroneous records and incomplete data entry.

The data for volume and mortality presented throughout the report have been adjusted and updated to include the additional data. The calculations for BMI, weight, % female, number of obesity-related diseases, length of stay and OS-MRS are unchanged.