How many people are eligible for bariatric surgery in England, are they getting it, and if not - why?

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Research Projects

- Review of inflammatory bowel disease (IBD)
- IBD admission trends from 2000-2010
- Management of alcohol withdrawal in A&E
- Eligibility for bariatric surgery in England
The Growing Problem

Obesity rate increasing worldwide *(WHO, 2003)*
- 1995 – 200 million adults
- 2000 – 300+ million adults

Rate of increase particularly high in England
- Currently 26.1% of adults obese *(HSE, 2010)*
- Prevalence of obesity doubled in last 25 years *(NOO, 2010)*
- Healthy BMI proportion decreased by 10% between 1993-2010 *(HSE, 2010)*
The Growing Problem

(NO0, 2010)
Bariatric Surgery (NOO, 2010)
• Generic term for obesity related surgery
• Three most commonly performed procedures: adjustable gastric banding, gastric bypass and sleeve gastrectomy.

Benefits of bariatric surgery (Cochrane Review, 2009)
• More effective in achieving weight loss than non-surgical management
• Weight loss more likely to be sustained
• Improvement in quality of life and comorbidities
An effective solution

(Sjöström, 2007)
NICE guidelines for bariatric surgery eligibility

- BMI $\geq 40$ kg/m$^2$, or BMI 35-40 and other significant disease which could be improved by weight loss.
- Non-surgical measures tried but failed to achieve or maintain adequate, clinically beneficial weight loss for at least 6 months.
- Will receive intensive management in a specialist obesity service
- Fit for anaesthesia and surgery
- Commits to need for long-term follow up

(NICE, 2010)
Research Questions

1. How many people in England are eligible for bariatric surgery using NICE criteria?

2. What are the socio-demographic and underlying comorbidity profile of people eligible for bariatric surgery?
Sampling and Data Collection

Descriptive study with secondary analysis of cross-sectional study.

Health Survey for England 2006
• Annual household survey of Health and Lifestyles
• Focused on cardiovascular disease and risk factors

Exclusion criteria
• Patients with missing BMI data and aged <18
Methods

Study Variables

Obesity-related comorbidities examined:

• Hypertension
• Type 2 diabetes
• Stroke
• Coronary heart disease
• Osteoarthritis

Patients with at least one of these comorbidities were quantified to determine those eligible with BMI 35-40.
Study Variables

Socio-demographic variables examined to assess how characteristics of the eligible group vary from general population:

- Age
- Sex
- Employment status
- Highest educational qualification
- Social class
- Smoking status
9425 respondents with valid BMI and age

- 8525 (90.5%) BMI < 35
- 721 (7.6%) BMI 35-40
- 179 (1.9%) BMI > 40

553 (5.9%) eligible for bariatric surgery

- 374 (4.0%) BMI 35-40 and at least one comorbidity
- 179 (1.9%) BMI > 40
Results

Prevalence of obesity-related co-morbidities in people aged greater than 18 according to BMI.
Results

Proportion of people with comorbidities according to BMI group.

- BMI < 35
- BMI 35-40
- BMI > 40

- No comorbidities
- ≥1 comorbidities
Results

Socio-demographic characteristics of those eligible for bariatric surgery compared with the general population

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Sex</th>
<th>Highest qualification</th>
<th>Social Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-44</td>
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<td>45-64</td>
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<td>65+</td>
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<td>Women</td>
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<td>Routine</td>
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<tr>
<td>Other</td>
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Key Findings

- 5.9% of the general adult population is eligible for bariatric surgery in England.

- Those fulfilling the criteria for bariatric surgery are more likely to be women, with lower educational qualifications, and of lower social class.
Discussion

Strengths
• First study to quantify the number eligible for bariatric surgery from a large nationally representative survey.

Limitations
• Not all obesity-related comorbidities were assessed.
• NICE guidelines also take into account commitment to follow up and fitness for surgery.
Findings in comparison with previous studies

The estimated service need

• NICE estimated service need using IMS Disease Analyser data.

• They reported 0.8% of the English population (390 000 people) have a BMI 35-39.9 with at least one comorbidity (NICE, 2010).

• We found the equivalent figure to be five times greater at 4.00%.
Discussion

The estimated service delivery…

• Current NHS benchmark for a bariatric surgical service at 5 years is 0.01% per year.

• This is more than threefold the estimated rate of bariatric surgery commissioned in the NHS (NICE, 2007).

• Hospital Episode Statistic data shows surgery rates from 2003/4 to 2009/10 have risen year on year (NOO, 2010).
Why is there a mismatch?

<table>
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<tr>
<th>Patient-level</th>
<th>Doctor-level</th>
<th>Service-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Inverse care law</td>
<td>• Awareness</td>
<td>• Resource constraints</td>
</tr>
<tr>
<td>• Awareness</td>
<td>• Lack of identification of patients</td>
<td>• Lack of specialist bariatric specialist services</td>
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<tr>
<td>• Motivation</td>
<td>• Insufficient referral of eligible patients</td>
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<td>• Fear</td>
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Implications for practice

Given the mismatch between bariatric surgery eligibility and uptake, further investment in bariatric services in the NHS may be required to meet growing demand.

Taking into account the sociodemographic characteristics of those eligible for bariatric surgery, implementation of bariatric surgery needs to be monitored for equity of access based on need.
Conclusion

Obesity is a major global public health crisis. Bariatric surgery improves mortality and morbidity in the form of bariatric surgery and is recommended by NICE.

Estimated bariatric surgery rates in the NHS are a third of the current NHS benchmark rate (0.01% per year). This benchmark is itself significantly lower than the population eligible for bariatric surgery (5.9%).

This cause of the mismatch between the surgery delivery and eligibility rates is unclear but may be due to factors at patient, doctor, and service levels.
References


Department of Public Health and Primary Care
Sonia Saxena, Anthony Laverty, Erland Aasheim, Chris Millett and Azeem Majeed
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