

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

**Dr Ahmir Ahmad**

Honorary Clinical Research Fellow

Department of Public Health and Primary Care

# Academic Foundation Programme

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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

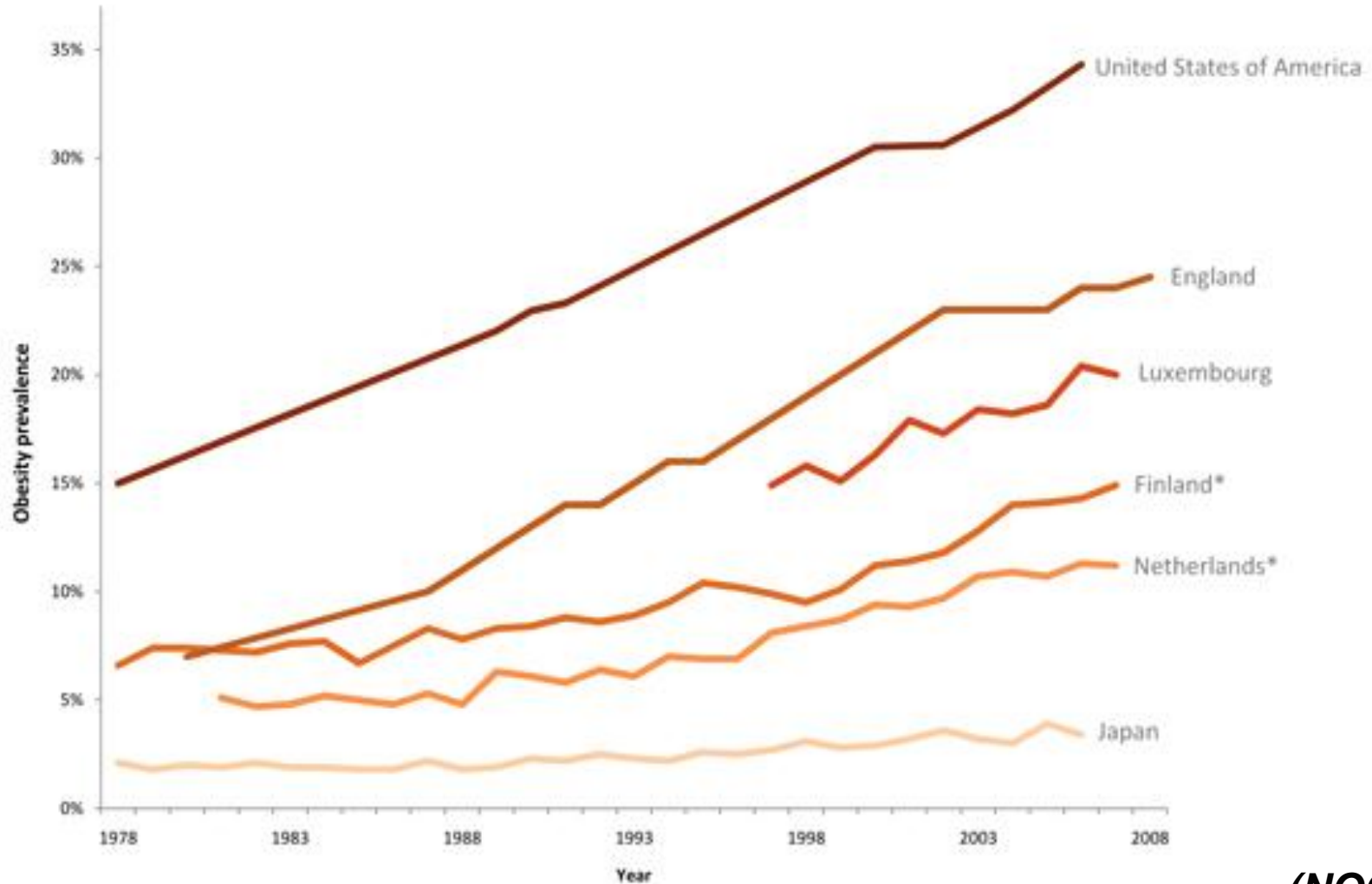
### **Obesity rate increasing worldwide (*WHO, 2003*)**

- 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



## An Effective Solution

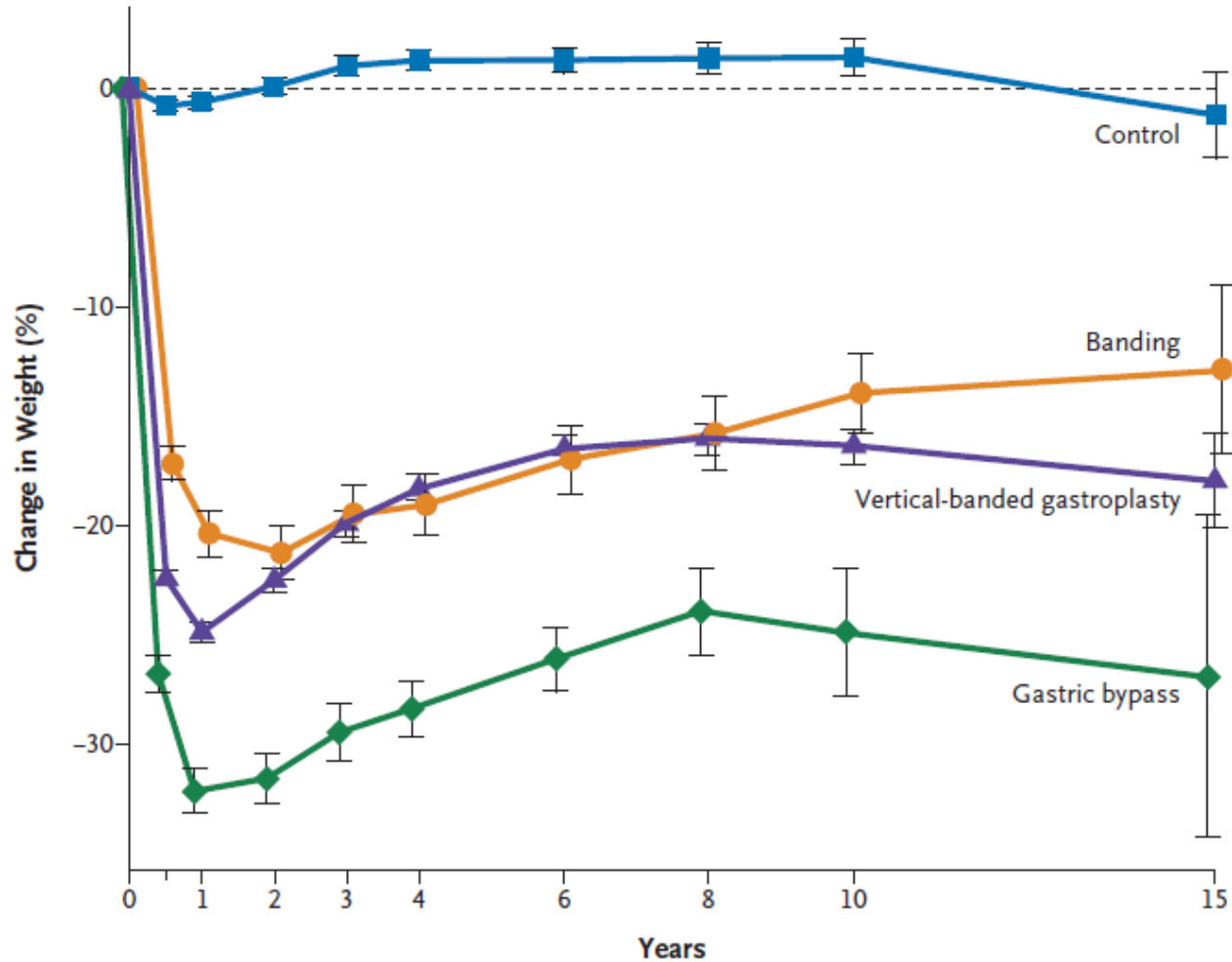
### **Bariatric Surgery** (*NOO, 2010*)

- 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



## National Guidelines

### NICE guidelines for bariatric surgery eligibility

- BMI  $\geq 40$  kg/m<sup>2</sup>, 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

## Research Questions

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- 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?**



## Methods

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### 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.

## Methods

### 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

## Results

### **9425 respondents with valid BMI and age**

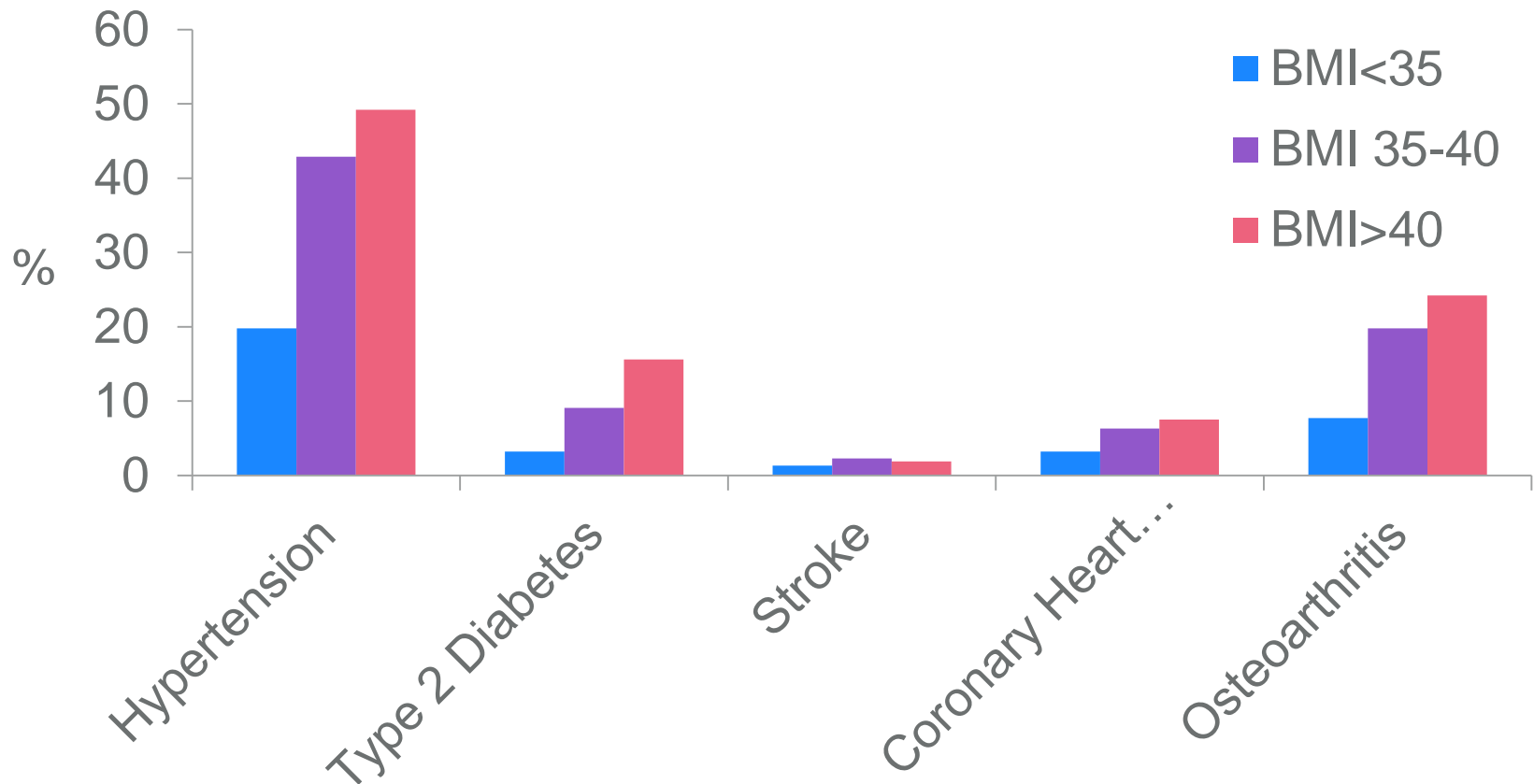
- 8525 (90.5%) BMI<35
- 721 (7.6%) BMI 35-40
- 179 (1.9%) BMI>40

### **553 (5.9%) eligible for bariatric surgery**

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

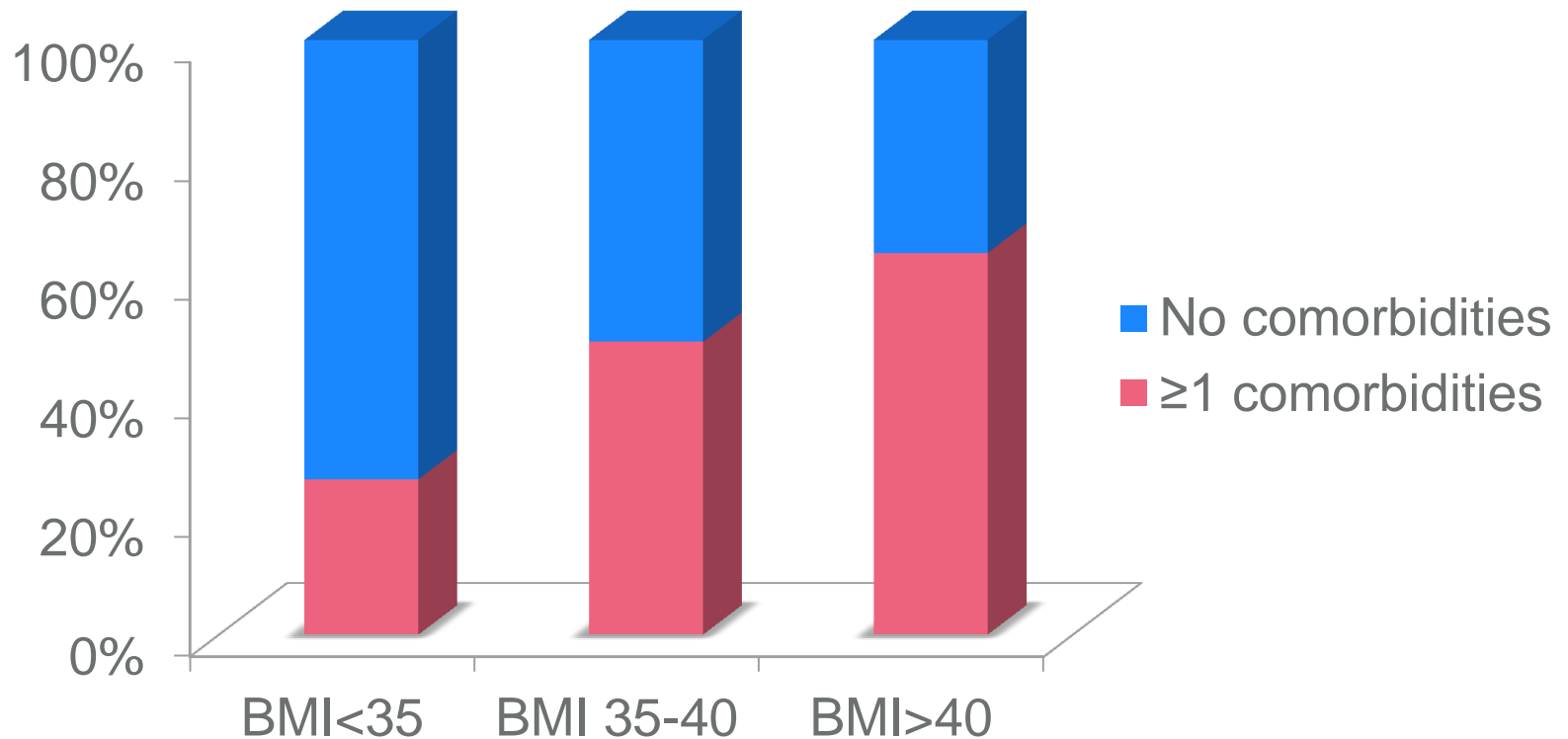
## Results

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



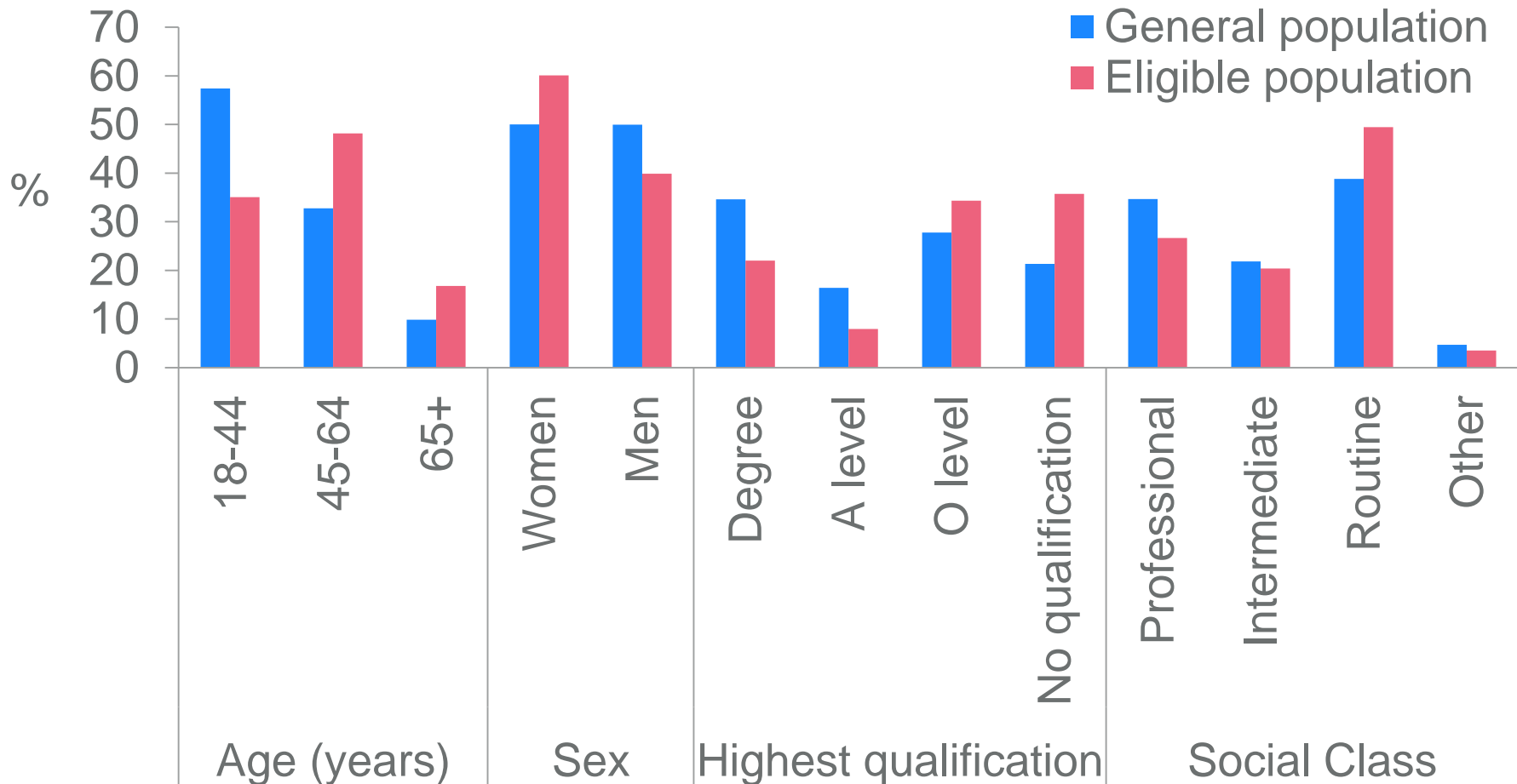
## Results

### Proportion of people with comorbidities according to BMI group.



## Results

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



## Discussion

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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

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### 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.

## Discussion

### 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).

## Discussion

### Why is there a mismatch?

Patient-level	Doctor-level	Service-level
<ul style="list-style-type: none"><li>• Inverse care law</li><li>• Awareness</li><li>• Motivation</li><li>• Fear</li></ul>	<ul style="list-style-type: none"><li>• Awareness</li><li>• Lack of identification of patients</li><li>• Insufficient referral of eligible patients</li></ul>	<ul style="list-style-type: none"><li>• Resource constraints</li><li>• Lack of specialist bariatric specialist services</li></ul>

## Discussion

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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

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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

- Colquitt JL, Picot J, Loveman E, Clegg AJ. Surgery for obesity. Cochrane Database of Systematic Reviews 2009, Issue 2. Art. No.: CD003641.
- Dent M, Chrisopoulos S, Mulhall C, R.C. 2010. *Bariatric surgery for obesity*. Oxford: National Obesity Observatory.
- National Institute of Health and Clinical Excellence. 2010. Obesity. CG43. London: National Institute for Health and Clinical Excellence.
- National Institute for Health and Clinical Excellence. 2007. Bariatric surgical service for the treatment of people with severe obesity. Commissioning guide. London: National Institute for Health and Clinical Excellence.
- National Obesity Observatory. 2010. Trends in obesity prevalence. [online]. Available from: [http://www.noo.org.uk/NOO\\_about\\_obesity/trends](http://www.noo.org.uk/NOO_about_obesity/trends) [Accessed 10 July 2012]
- Sjöström, L. 2007. Effects of bariatric surgery on mortality in Swedish obese subjects. *The New England journal of medicine*, **357**(741-52).
- World Health Organisation. 23 April 2003. Controlling the Global Obesity Epidemic. [online]. Available from: <http://www.who.int/nutrition/topics/obesity/en> [Accessed 10 July 2012].

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