

Patterns of health risk factors in people waiting for elective surgery in the North East and North Cumbria

Briefing for commissioners and policy makers involved in the delivery of surgical care.

What is the issue?

Approximately 7 million operations take place each year in the NHS. Around 60% of surgery patients need straightforward surgeries like hernia repairs or joint replacements.

Policy makers often apply eligibility criteria for these surgeries. These criteria are often based on health risk factors like obesity and smoking status. For example, patients with obesity must lose weight before they can have surgery.

In a general population, people from more deprived backgrounds tend to have more health risk factors. This may make it harder for them to access the surgery they need.

The research

This study looked at how many patients in the North East and North Cumbria waiting for straightforward surgeries have these risk factors.

It also looked at how this was spread across social groups.

It used data from the Rapid Actionable Insight Driving Reform (RAIDR) database which links primary and secondary care elective waiting list data the North East and North Cumbria.

The study analysed data from 78,571 patients.

[This study was published in BMJ Open, March 2025](#)

Overview of findings

Most common risk factors

Obesity

(3 in 10 patients)

High blood pressure

(3 in 10 patients)

High blood sugar

(1 in 6 patients)

Smoking

(1 in 7 patients)

These risk factors were significantly more common in more deprived patients.

We recommend that surgical care is designed and delivered with deprivation in mind, otherwise the most deprived people in society may find it difficult to access surgery, and become even more unwell.

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Research summary

	We analysed data of people waiting for straightforward surgeries in the North East and North Cumbria by accessing the Rapid Actionable Insight Driving Reform (RAIDR) database which links primary and secondary care elective waiting list data.
	We used these data to find out how many patients were living with the following health risk factors: • Smoker • Obesity (BMI ≥ 30 kg/m²) • Type 2 diabetes mellitus (T2DM) • Atrial fibrillation • Chronic obstructive pulmonary disease (COPD) • Hypertension • Having a serious mental illness • Having a learning disability
	We looked the odds of having these risk factors across social groups based on the England Index of Multiple Deprivation score

Summary of findings

30%	Of the 78,571 patients included in our study, 30 percent of patients were from the most-deprived groups of society.
	The most common risk factors were: • Obesity (29.4%) • High blood pressure (28.9%) • Smoking (13.5%) • Type 2 Diabetes Mellitus (16.6%)
	The most-advantaged patients were twice as likely to have <u>no risk factors</u> than the most-deprived patients. Even though the most-deprived patients were younger.

	As deprivation increased, the odds of having many of the risk factors increased.
	The relationship with deprivation was strongest for being a smoker, having a learning disability, having a serious mental illness and COPD.

Key learning and recommendations

	The most prevalent risk factors in our sample (obesity, high blood sugar, high blood pressure and smoking) were more common in more deprived patients.
	Perioperative services and surgery eligibility criteria must be designed with socioeconomic deprivation in mind to avoid widening health inequalities.
	Prehabilitation services that target obesity, hypertension and smoking can help to get patients ready for surgery and reduce the risk of widening health inequalities.

Want to know more?

[Follow this link for further details and recommendations](#)

Read the full research paper: [Prevalence of socioeconomic deprivation and risk factors in patients on the elective surgery waiting list in the North East and North Cumbria region of England: a cross-sectional study | BMJ Open](#)

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