

# Does screening for Abdominal Aortic Aneurysm reduce health inequalities?

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Established in 2009, the National Abdominal Aortic Aneurysm Screening Programme (NAAASP) operates as a one-off screen for abdominal aortic aneurysm (AAA) in males aged 65 years in England. The programme has previously been shown to be cost-effective.

Our research aimed to find out whether the performance and health benefits of the screening programme differed for individuals depending on the economic advantage or disadvantage of the areas where individuals live. This lets us estimate whether providing the screening programme reduces health inequalities at population-level compared to no screening.

An AAA involves an expansion of the aorta located in the abdomen, which, left untreated, can lead to sudden rupture and death. The condition affects men up to 4 times more than women, is twice as common among those living in the least advantaged areas of England and is the cause of death for 3,000 to 4,000 people in England each year.

We adapted a previously developed cost-effectiveness model for NAAASP using routine data collected by the NAAASP and the National Vascular Registry. We then estimated differences in the need for, and the uptake of, screening, as well as the health outcomes from screening for males aged 65 living across different areas of England. We also used this analysis to estimate what the health outcomes would have been for these males had the screening programme not been in place.

Our findings suggest that overall population health was improved by screening, with 317 quality-adjusted life years (QALYs) gained compared to no screening. However, these health benefits were concentrated among those living in more advantaged areas of England. For those living in the most disadvantaged areas, we estimated that the health opportunity cost from resources used to deliver the programme exceeded the health benefit, leading to a net loss of 106 QALYs. The differences in performance and outcomes of the screening programme across areas of England were driven by differences in the risk of AAA, likelihood of survival to age 65 years, uptake of the screening invitation, and waiting time to receipt of consultation or treatment among high-risk individuals.

Our study provides an example of how a population-level screening programme may not benefit all individuals equally. We compared our results against estimates of the English population willingness to trade-off between overall population health and health inequality. Our analysis suggests that the greater population health achieved by screening is still considered more valuable than the lower, but more equitably distributed, amount of population health that would be present without screening.

Nevertheless, the information we produced on the sources of inequality in the NAAASP can be used by decision-makers to make targeted improvements to the process, particularly for those living in areas with greater disadvantage. This could be achieved, for example, by improving screening uptake or reducing waiting times for treatment in those areas.

[Read the full paper, funding sources and disclaimers in Medical Decision Making.](#)

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