Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Health technology assessment of abdominal aortic aneurysm screening for men: plain language summary

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About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent statutory body established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

Reporting to the Minister for Health and engaging with relevant government Ministers and departments, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.

- **Regulating social care services** — The Chief Inspector of Social Services within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.

- **Regulating health services** — Regulating medical exposure to ionising radiation.

- **Monitoring services** — Monitoring the safety and quality of permanent international protection accommodation service centres, health services and children's social services against the national standards. Where necessary, HIQA investigates serious concerns about the health and welfare of people who use health services and children's social services.

- **Health technology assessment** — Evaluating the clinical and cost effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.

- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.

- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health and social care services, with the Department of Health and the HSE.

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Plain language summary

Screening is a process that can be used to check for health problems in people who do not have any symptoms. The goal is to find and treat the health problem sooner than would happen without screening. Screening is helpful when earlier treatment means that the person will live longer or have a better quality of life as a result. In Ireland, the National Screening Advisory Committee (NSAC) makes recommendations to the Minister for Health on new screening programmes or changes to existing screening programmes. The NSAC requested that the Health Information and Quality Authority (HIQA) look at screening for Abdominal Aortic Aneurysm (AAA or 'triple A') to help them make a recommendation on whether or not an AAA screening programme should be available for men aged 65 in Ireland. HIQA conducted a Health Technology Assessment (HTA) to look at the benefits and harms of screening for AAA, and what would need to be in place to allow screening to happen in Ireland.

An AAA is a balloon-like swelling of a blood vessel called the aorta. The aorta is the largest blood vessel in the body. It passes through the abdomen (tummy area), and supplies blood from the heart to the rest of the body. An AAA can be small (3.0 cm to 4.4 cm), medium (4.5 cm to 5.4 cm) or large (5.5 cm or more) in size. Some people are at a higher risk of developing an AAA. It is more common in men, older people, smokers and people who have a family history of AAA. It is estimated that less than 1 in every 100 men aged 65 years has an AAA in Ireland.

In most cases, if someone has an AAA they will not have symptoms and won't be aware that they have one. If an AAA is not found on time, it can grow and burst causing bleeding inside the body. This bleeding may lead to death, especially if the person does not get to a hospital quickly. The chance of death is very high if an AAA bursts. About 8 out of 10 people who have a burst AAA do not survive. The main factor that determines if an AAA will burst is the size of the swelling of the blood vessel. The bigger the AAA grows, the higher the chance that it will burst. Also, other factors like smoking and high blood pressure can make it grow faster.

Screening can help find an AAA early before it bursts. The screening involves a safe and painless 'ultrasound' test. A device called a probe is moved across the skin above where the aorta is. The device uses sound waves to create a picture of the blood vessel inside the body. If an AAA is found during screening, doctors can either monitor it or repair it with surgery. The type of treatment depends on the size of the AAA.

If the AAA is small- or medium-sized, it will be monitored with regular check-ups using ultrasound. The patient's doctor will also recommend lifestyle changes. If the AAA is large, then a surgeon may recommend surgery to repair it. Two types of operation can be used to repair a large AAA. These are 'endovascular aneurysm

repair' (also called 'EVAR') and open surgery. Open surgery is where a cut is made in the patient's chest or stomach area. EVAR is a type of 'keyhole' surgery, so involves only a small cut. Some patients experience complications after surgery and may need more surgery as a result. The decision to have open surgery, EVAR, or no surgery at all, is made between the surgeon and the patient. This decision may depend on how risky surgery might be for the patient.

In the UK and Sweden, men aged 65 years are invited to a screening programme for AAA. Similar programmes are expected to start in Denmark and the Czech Republic in 2025. European medical societies and public health agencies have recommended that AAA screening should take place.

We examined study findings on whether AAA screening is effective and safe, compared with no screening. Four large clinical trials showed that AAA screening can reduce the number of people dying of burst AAA and can also reduce the number of people needing to have emergency surgeries. However, AAA screening means that more planned surgeries would take place as more men would be found to have an AAA and would undergo surgery to repair it. It is difficult to know which men have an AAA that would burst if they do not have surgery, and which men have an AAA that would not cause any problems even if they do not have surgery. If screening takes place, some people will be told they have an AAA but that they do not need surgery right away. These men might worry that the AAA will burst before they have surgery. Their families might also feel anxious.

We examined whether AAA screening would be good value for money compared with no screening. We did this by looking at evidence from other countries. Overall, 16 out of 17 studies found that AAA screening would lead to improved quality of life for men with an AAA at a reasonable additional cost to the healthcare system. However, it is not clear whether the results of these studies apply to Ireland. This is because AAA is thought to be less common in Ireland than in the countries where these studies took place. It is also unclear whether or not AAA screening will still be good value for money in the future. This is because AAA is becoming less common over time, partly because people now smoke less. As the number of men with an AAA decreases, screening men aged 65 years will identify fewer and fewer men with an AAA. Eventually, the cost of having an AAA screening programme may outweigh the benefits.

About 30,000 men aged 65 would be invited for screening every year if an AAA screening programme were introduced. Testing this many people would require a large investment. In this report, we assumed that screening would be rolled out gradually to allow for careful planning and to put things like equipment and staffing in place. We found that rolling out an AAA screening programme for men aged 65 years would cost €20.3 million over the first five years. The cost may be higher if extra clinical staff or hospital facilities need to be put in place.

Offering screening in settings close to home, such as local hospitals or GP practices, would make it easier for the target population to attend. This approach would only be possible if the right ultrasound equipment can be found. Shortages of clinical staff may make it difficult to hire people to work in the programme. Some changes to existing practices, especially the type of work that certain healthcare professionals do, may be needed to make screening possible in Ireland.

It is important to the NSAC to make decisions that result in fairness and equality, and to be confident that screening would do more good than harm. If screening is introduced it should be easy to access, especially for people who do not usually accept invitations to other screening programmes.

It is important to remember that screening for AAA could cause fear and worry among men who are told they have an AAA. It may also identify an AAA that would not have caused problems during someone's lifetime. This is called 'overdiagnosis'. If a person receives treatment when they did not really need it, this is called 'overtreatment'. Overtreatment means that more patients could experience complications from surgery. If a screening programme is introduced, there would need to be clear plans in place to try to reduce the risk of overdiagnosis and overtreatment.

Those who are invited for screening would need to have a clear understanding of what screening involves, and access to help, if they are told they have an AAA. If they need treatment, it would be important for them to be able to get this soon after being told they have a large AAA. However, this could be difficult if there are already long waiting lists for surgeries. Careful planning would be needed to make sure that everyone who needs treatment is cared for properly.

All things considered, even though AAA is becoming less common, the advantages of screening likely still outweigh the disadvantages. However, if the condition becomes less common, screening every man aged 65 years for AAA might not be a good use of available resources. Screening for AAA would put extra pressure on hospital services as more men with AAA would be picked up through screening, and some of them would need to be assessed in a hospital and treated with surgery. If screening is to go ahead, hospital departments providing vascular surgery and clinical imaging (tests such as CT scans) will need to be provided with more resources to make sure that men who are found to have AAA can be treated quickly.

Published by the Health Information and Quality Authority (HIQA).

For further information please contact:

Health Information and Quality Authority

George's Court

George's Lane

Smithfield

Dublin 7

D07 E98Y

+353 (0)1 8147400

info@hiqa.ie

www.hiqa.ie