Medical Xpress

Opinion: Population versus targeted – which approach is best for preventing heart disease?

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Cardiovascular disease is the number one killer worldwide and the second biggest killer in the UK. However, most cases of heart disease can be prevented by managing risk factors.

The risk of getting heart disease in people who do not already have it is easily assessed using risk scores. These risk scores use information from a combination of risk factors to calculate how likely you are to develop heart disease. If you have a high score (in the UK, a one in ten or greater chance of getting heart disease in the next ten years), your GP may recommend changes to your diet, more exercise, or medicines, such as statins, to reduce your risk.

In most countries, regular assessment of heart disease risk is recommended for all people above a certain age (universal screening). In the UK, the NHS Health Check is an example of a universal screening programme which is available to all people who are 40 to 74 years old. It assesses a person's risk of developing heart disease, stroke, diabetes and kidney disease.

Yet there is debate over whether screening for heart disease should be universal or targeted. Targeted screening involves screening specific groups of people who might be considered to be at higher risk. For example, this could include prioritising screening of people with diabetes or hypertension (known medical risk factors) or people with a high risk score based a combination of their known risk factors.

The benefits of using statins in people who already have heart disease is widely accepted. But some healthcare experts feel that giving statins to reduce risk in healthy people could lead to "over-medicalising" the population. How does this stack up against the evidence and what is the impact of screening?

Death rates from heart disease have been falling in many countries over time which means that without re-calibration heart disease risk scores often start to overestimate risk. This means that when they are routinely applied to a population, as happens in universal screening, some people who are assessed as having a high risk will not go on to develop heart

disease.

These otherwise healthy people may be prescribed medicines that are not needed, which can lead to higher healthcare costs as well as potential exposure to side effects. On the other hand, universal screening can also help identify people who go on to develop heart disease who may not have been identified through targeted approaches. Starting treatment in these people earlier can help reduce risk and ultimately can save lives or improve quality of life. Although all medicines have the risk of side effects, statins have been found to be safe and effective.

Universal screening may be more difficult to put into practice compared with targeted screening as it requires high levels of support, funding, awareness, uptake and monitoring. It can also be difficult to encourage healthy people to go to their doctor for screening, so universal screening will never reach the whole population. Between 2009 and 2013, just 12.8% of people who were eligible had an NHS health check, lower than the expected coverage of 30%. Targeted screening is also more cost-effective for heart disease risk assessment than universal screening.

A Goldilocks approach

Is there a happy medium that balances the pros and cons of universal and targeted screening? In addition to regular heart disease checks for all people aged over 40, guidelines issued by the National Institute for Health and Care Excellence (NICE), the main institute that provides guidance on health issues in the UK, also recommend that information on risk factors in electronic health records is used by GPs to prioritise who should be invited for heart disease risk assessment.

Applying this targeted approach in a systematic and routine way is currently limited due to issues with missing information and poor capturing of some risk factors in health records. But improvements in

how missing information is dealt with in risk scores and better recording of risk factors will help make this a reality in the near future.

Given the low coverage of the NHS Health Checks, combining this universal approach with targeted screening using information already recorded in electronic health records could provide the best opportunity for preventing heart disease and saving lives.

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