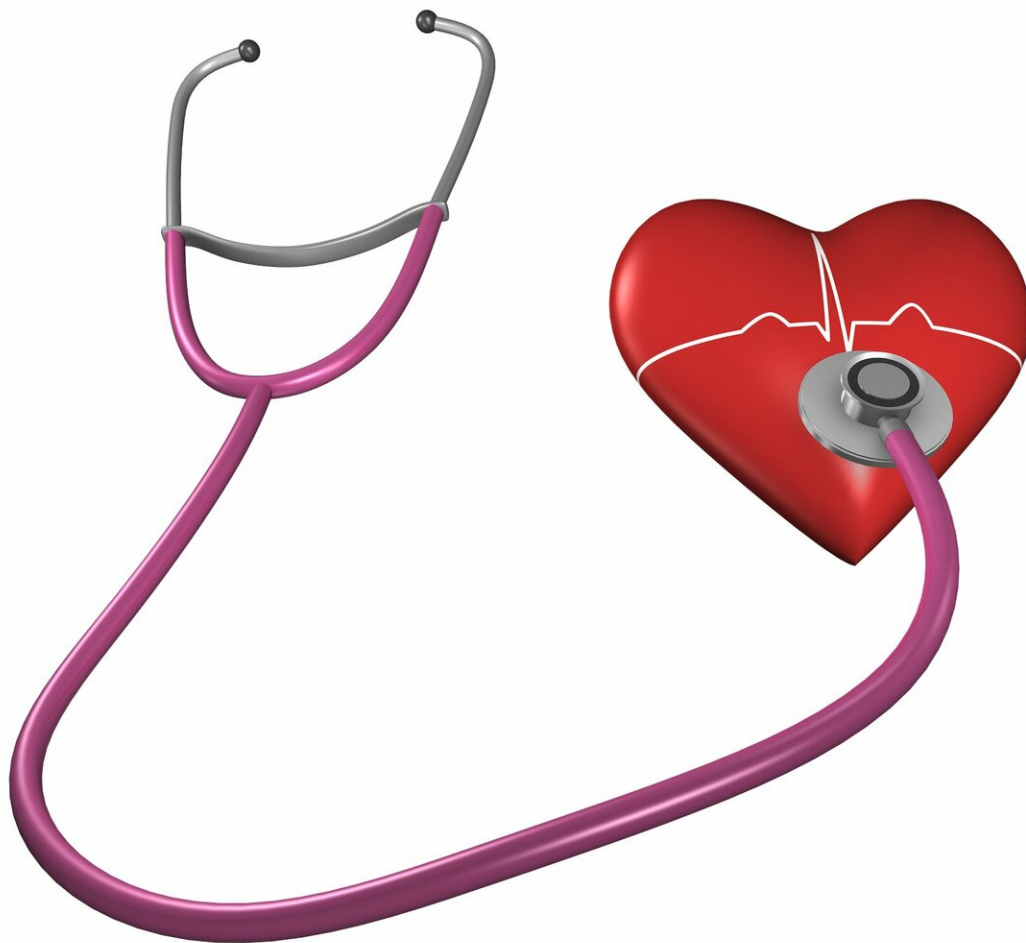


# Half of patients on statins fail to reach 'healthy' cholesterol level after 2 years

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Half of patients prescribed statins in primary care fail to reach 'healthy' cholesterol levels after two years of treatment with these drugs, reveals research published online in the journal *Heart*.

The findings back up those of previous studies, and highlight the need for personalised medicine to tackle [high cholesterol](#) and lower the significantly increased risks of future heart disease and stroke—the leading causes of death worldwide—say the researchers.

National US and UK guidelines designed to curb cardiovascular disease deaths specify [statin treatment](#) targets: in the UK, the National Institute for Health and Care Excellence (NICE) stipulates a reduction of 40 per cent or more in LDL ('bad') cholesterol.

The researchers therefore wanted to find out how well patients respond to statins, based on the NICE target, and how this might affect their future risk of cardiovascular disease.

They drew on diagnostic and prescribing data submitted anonymously by 681 family doctor practices to the nationally representative UK Clinical Practice Research Datalink, and linked them to episodes of hospital treatment (HES data) and statistics on cause of death (ONS data).

Complete information was available for 165,411 patients, who had not been treated for heart disease or stroke, and who had had their cholesterol measured at least once in the year before statin treatment and at least once within two years of starting it.

The average age at which patients started on statins was 62; nearly half

(48.5%) of them were women. All had started treatment between 1990 and 2016.

Any reduction in cholesterol below 40 per cent after two years of statin treatment was deemed to be a 'suboptimal' response. This applied to half (51%; 84,609) the patients.

During an average monitoring period of six years, new cases of cardiovascular disease were reported in 22,798 (just under 14%) patients. Some 12,142 arose in those who failed to reach a healthy cholesterol; 10,656 arose in those whose cholesterol did drop by 40 per cent.

After taking account of potentially influential factors, including age, cholesterol level, and any underlying conditions before treatment, patients who failed to reach a 40 per cent reduction after two years were 22 per cent more likely to develop cardiovascular disease than those who did respond well.

Every 1 mmol/l fall in low density cholesterol was associated with a 6 per cent lower risk of stroke and mini stroke in those who failed to reach the 40 per cent target.

But among those who responded well, this was associated with a 13 per cent lower risk of cardiovascular disease, in general, reinforcing the [health benefits](#) of reaching the 40 per cent target, say the researchers.

Several factors may be behind the difference in response, but genetic make-up and an inability to stick to treatment may explain some of the observed variation, they suggest.

"Currently, there is no management strategy in clinical practice which takes into account patient variations in [low density [cholesterol](#)]

response, and no guidelines for predictive screening before commencement of statin therapy," they highlight.

This is an observational study, and as such, can't establish cause. But the findings reflect the real-world experiences and outcomes of a large number of people over time, the researchers point out, and should be applicable to patients elsewhere.

"These findings contribute to the debate on the effectiveness of statin therapy and highlight the need for personalised medicine in lipid management for patients," they conclude.

In a linked editorial, Dr. Márcio Bittencourt, of University Hospital Sao Paulo, Brazil, describes the high rate of poor responders as "clearly alarming."

He suggests that the reasons may lie as much with doctors as with patients. Doctors might prescribe lower doses of less powerful drugs, because they aren't aware of official guidance, or because they remain unconvinced that more powerful statins will be more effective or won't produce unwanted side effects, he says.

But he adds: "Effective implementation of guidelines among healthcare practitioners and the general population has been a challenge for a long time. Both physicians and [patients](#) should be targets for approaches aiming at improving adherence to guidelines."

And he emphasises: "Patients and society should be educated on the scientific evidence documenting the benefits of lipid lowering therapy, and antistatin propaganda based on pseudoscience should be strongly disavowed and demystified by health authorities."

**More information:** Sub-optimal cholesterol response to initiation of

statins and future risk of cardiovascular disease, *Heart* (2019). DOI: [10.1136/heartjnl-2018-314253](https://doi.org/10.1136/heartjnl-2018-314253)

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