

# natureOUTLOOK

## HEART HEALTH

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Despite medical advances, with drugs like statins and devices such as stents, heart disease remains the leading cause of death worldwide. As this Outlook makes clear, only a comprehensive battle plan will defend the heart from a range of modern-life assaults.

Our very surroundings form the battlefield. From poor town planning to energy-saving ergonomics, people face incentives to engage in unhealthy practices (page S4). But as with most medical conditions, the best tactic for preventing cardiovascular disease is to stop it before it starts, and health scientist Joep Perk calls on the healthcare community to pull together (page S6).

Clinicians are trying to predict a person's risk of cardiovascular disease at the earliest possible stage (page S7). Once heart disease is triggered, the best defence requires an understanding of the underlying biochemical processes (page S10). Researchers are revealing ever finer details of cardiovascular disease, down to individual receptors on the surface of cells, as cardiovascular researcher Sébastien Foulquier explains (page S9).

This expanding knowledge of the mechanisms offers hope of many new treatments. For example, atrial fibrillation afflicts tens of millions of people around the world, but computational and chemical tactics can now solve the problem, sometimes within minutes (page S12). Likewise, new drugs promise better treatments for some of the oldest ailments, including high blood pressure and cholesterol (page S14). Researchers are also demonstrating how the mind can trigger cardiovascular disease and perhaps orchestrate effective repairs (page S16). Ultimately, we need a thorough understanding of health and of the heart itself — from single cells to societies — and a range of diverse strategies if we are to defeat heart disease.

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**Mike May**  
*Guest Editor*

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