

Making better health decisions with agile science

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Video Abstract

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Abstract

Technology has made many everyday decisions easier to make. “What should I eat?”, “What should I watch?”, “What’s the best way to get home?” Unfortunately, many people still struggle to make tougher decisions, such as finding the best treatment option for diabetes or figuring out where the journey to personal fitness should begin. Science doesn’t always offer personalized solutions. But researchers argue that it can. Borrowing from nature’s own decision-making process, evolution, they’ve devised a method for turning scientific results into tailored solutions for patients, providers, and policy makers. This is agile science. One problem with how medical science is done today is that it’s mainly concerned with what works for the greatest number of people under average conditions. Whether that’s figuring out the best treatment for a disease or designing a new drug. It’s a logical approach, especially when working with limited resources. Still, there are many who are left wondering, “What should I do now?” One alternative is to use scientific methods that acknowledge that people are different, context matters, and things change. How? By modeling science after evolution. The first step is to pit multiple solutions to a single problem, such as getting people to walk for fitness, against one another. Like genetic mutations, these competing ideas are diverse, and after several rounds of small-scale testing, which can range from sharing sketches of ideas to controlled trials, a winning solution for a particular person is “naturally selected”. Finding just the right app to help someone meet their daily step goals, for example. But no idea really loses. Sharing information about successes _and_ failures in the lab shifts the discussion from “what works” to “what works for me?”—from finding a cure-all answer to matching solutions to problems. And that’s really important. Because this science of match-making, when done carefully, can increase the chances that solutions to common health risks can trickle down to rarer but equally important ones. How agile science will fare in practice is still unknown. But frameworks designed to promote physical activity and healthy eating are already in place. If these quick, made-to-order, and adaptive schemes find some measure of success, that might prove that when it comes to making health decisions, agile science is the way to go.