

Can precision health transform primary care? Look to Stanford's Humanwide pilot

By [Lloyd Minor](#)

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I talk to a lot of different audiences about the idea of precision health—creating healthcare that's technology- and data-driven, highly personalised, and focused on predicting and preventing disease before it strikes.



Through a promising demonstration programme called Humanwide, Stanford Medicine has taken important steps to realising that vision in a clinical setting.

Based out of the Stanford Primary Care 2.0 clinic in Santa Clara, Humanwide incorporates medical research, biomedicine, technology, and data science into individual patients' primary care. The programme recently completed its pilot phase, working with a diverse group of 50 patients facing a range of health concerns and risks. The youngest Humanwide patient was 24 years old, and the oldest was 86. Two-thirds were women, and half were minorities. Sixty percent of participants had a major cardiovascular risk, while 50% were obese. Three patients were undergoing cancer treatment, and one was awaiting a kidney transplant.

For each patient, the Humanwide care team carefully documented factors that we know influence health, but which often aren't incorporated into primary care today, including stress levels, sleep habits, and environmental exposures. Patients also received genetic screenings and pharmacogenomic testing (which looks at a patient's genes to predict how they will react to a variety of medicines). In addition, each patient was given four digital health devices—a pedometer, a digital scale, a blood pressure cuff, and a glucometer to measure blood sugar—to track and measure their health and progress throughout their daily lives. All of this data was fed into patients' electronic health records and discussed at regular check-ins with their physicians.

Humanwide also emphasised an integrated team approach to care. In addition to their primary care providers, patients saw a behavioural health specialist, nutritionist, and clinical pharmacist, as well as other specialists as their conditions required. Care teams regularly met to discuss the progress and needs of individual patients; and team members accessed electronic health records that provided a comprehensive view of patients' health data, including test results, behaviors, social determinants, and personal preferences.

If this sounds time-intensive, it was in some ways, but patients and clinicians said Humanwide was worth it. At the end of the pilot phase, both groups reported higher satisfaction scores — they said they enjoyed a care process that was cutting-edge and focused on promoting well-being rather than simply treating illness.

And to give a snapshot of the clinical difference this approach made:

- The connected devices provided information that helped one out of every two patients better manage or even prevent a chronic disease.
- More than one out of four patients who received pharmacogenomic testing had a clinically significant finding that affected the drugs or dosages used to treat their chronic conditions.
- Five women were found to be at very high risk for breast cancer - a risk that would have gone undiagnosed through a traditional screening - and now have an ongoing monitoring and detection plan.
- You can read about the rest of the findings, and watch videos of five patients' stories, [here](#).

Humanwide is an exciting indication of how healthcare can be stronger when we connect new technologies with a more collaborative approach to clinical practice. It demonstrates how patients can become more engaged in their own care, and the tremendous power - both in results and satisfaction - that comes from creating a deeper patient-doctor relationship. It reveals how patient-centred, data-driven healthcare can actually work in practice, and hints at the ripple effects it could have on the costs and culture of healthcare.

I'm under no illusion about the difficulties of bringing the benefits of precision health to patients around the country. There are structural issues that currently make value-based, preventative care difficult to navigate: we need conversations, among both insurers and providers, about how to change that. Electronic health records need to become more intuitive for doctors to use and more relevant for patients. We also need a greater focus on training primary care clinicians to understand how to operate effectively in a precision health model of care. Finally, we should further explore techniques like pharmacogenomic testing, which had a clinically significant impact for a number of Humanwide patients. I recognise these ideas require years, perhaps decades, to realise. Still, these are challenges that can be overcome - and in some instances, they already are.

In the work which inspired him to create a new word, Utopia, Sir Thomas More wrote of healthcare where, "the hospitals are so well planned and equipped with everything necessary to restore health, the care provided is so gentle and attentive, and the presence of the most skilled medical specialists so constant that while no one is sent against their will, scarcely a sick person in the entire city would not rather be nursed there than at home".

Even More, one of history's most famous idealists, couldn't envision the kind of healthcare Humanwide has demonstrated—where the focus on the whole person, from lifestyle to DNA, not only transforms care received in a clinic, but fundamentally transforms its purpose: to remain one step ahead of illness, preventing the very need to restore one's health.

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