

# Population Health NEWS

## Thought Leaders' Corner

Each month, *Population Health News* asks a panel of industry experts to discuss a topic suggested by a subscriber. This month, there are two questions.

### Q. Will Precision Medicine Improve Population Health?

High health care costs in the United States – which [far surpass](#) those of any other country – impact access and health outcomes for millions of Americans. There is no shortage of proposed political and regulatory solutions, but these can only go so far. How do we use innovation to address the issue of high costs, low access and mediocre outcomes in American health care?

We have come a long way with precision medicine – the tailoring of drug treatments to individuals based on their grouping into populations based on genetics or molecular analysis. No longer are drugs “one-size-fits-all,” and these advancements increase the efficiency of treatment by zeroing in on individuals’ circumstances.

But there is a problem: the focus is still on treating disease rather than *preventing* it in the first place. That matters, because the increase in health care costs year-over-year has been driven [far more](#) by rising prices for treatment than by increased utilization. In other words, people are using health care at the same rate but paying more for it. But what if we could, using the population health approach that already informs precision medicine, substantially reduce the need for these expensive treatments? We can. And this method is called precision health.

Precision health uses biomarkers – proteins found in the blood – to identify early signs of disease well before any symptoms appear. What this allows is for clinicians to measure an individual’s progression from his or her baseline of health rather than the progression of disease.

With precision medicine, individuals are monitored based on symptoms once they are already sick and require treatment, which is increasingly expensive. In contrast, using biomarkers to monitor health allows clinicians to recommend inexpensive lifestyle changes. For example, a person with increased levels of a specific biomarker that is indicative of early development of heart disease would be advised from an early age to adopt healthy diet and exercise habits. Just as precision medicine boosts efficiency by targeting treatment of individuals belonging to certain populations, precision health would do so years before the diseases developed, cutting costs enormously.

Though more research is needed before the precision health vision can be fully realized, recent progress signals a bright future. After research found that the biomarker neurofilament light protein (NfL) correlates with CTE, a brain disease responsible for fatalities in professional sports, the U.S. Food and Drug Administration (FDA) [approved](#) the first blood test for evaluating mild traumatic brain injuries last year. And in 2017, researchers from the Powering Precision Health (PPH) movement, which I founded, [discovered](#) a link between NfL and multiple sclerosis (MS), opening the door to a possible blood test that can detect the likelihood of MS early in a patient’s life.

When cost is a clear barrier to success, as it is in health care today, we should focus just as much on prevention rather than only on increasingly expensive drugs and treatments. Using population health principles coupled with biomarkers can help us shift the point of clinical intervention from after diseases arise to before they do, at relatively little cost to patients or organizations. When it comes to improving outcomes overall, as well as narrowing differences in health between various groups, precision health is the way forward.

*Kevin Hrusovsky is founder and chairman of [Powering Precision Health](#), an annual summit that gathers physicians, researchers, investors, innovators, and advocates focused on advancing precision health and disease detection and prevention.*



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