Fried and Baccarelli Comment

See also Allen et al., p. 1186.

> "Remain true to yourself, but move ever upward toward greater consciousness. . . . At the summit you will find yourselves united with all those who, from every direction, have made the same ascent. For everything that rises must converge."
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> —*Pierre Teilhard de Chardin, Omega Point*

We were delighted to read the article of Allen et al. (p. 1186) published in this issue of *AJPH*. It is uplifting to see a group of early career investigators present their views on the ongoing dialectic on precision medicine and its role in public health. We welcome their contribution and the opportunity it provides us to deeply reflect on the milieu of this dialogue and on how we can most effectively guide the narrative forward. Recently, some public health leaders have strongly opposed precision medicine as a diversion of energy and resources that could instead find much better use in low-cost, effective, and established interventions. Indeed, why should we conduct very expensive genomic research when millions of lives could be saved with inexpensive malaria antibiotics? Others have proposed a concept of precision public health that uses a classic public health framework while integrating emerging data and technology.[1]

We particularly appreciated the authors' reminder that public health problems are complex. The polarized debate on precision public health may partly be driven by oversimplification and reduction—from all sides—of the challenges ahead of us. We are fully convinced that no other biomedical field appreciates precision more than public health, whether that demands providing robust education on biostatistics, taking a deep dive into examining countless sources of bias, accurately estimating the effectiveness of a new intervention, or—directly related to precision medicine—identifying meaningful subsets of populations with different needs. We would like to suggest that—as often is the case—understanding the reasons and wealth of experience that everyone brings to the discussion is the best path forward to sidestep reductions.

To contribute to this dialogue, we would like to point out reductions—certainly not the only ones—that have dominated the ongoing discussion. One such reduction revolves around the idea that "omic" technologies are helpful only in the highly specialized treatment of patients. By drawing from the experience of one of us on epigenomics, we point to the wealth of evidence showing that the human epigenome can be used as a "recording tape" that captures the lifetime risk factor experience of each individual.[2,3]

If this became fully established, low-cost, and widely accessible, which public health practitioner would not want to use it for primary and secondary prevention to understand the lifetime risk factor experience of an individual and set priorities to maximize her health? If today we routinely measure blood lipids and glucose on virtually everyone, why wouldn't we want to, say in 20 years, use a simple epigenomic test that tells us about the impact of smoking, air pollution, physical exercise, and diet on someone's risk of disease or that drives health in a distinctly exposed group? Could this and other approaches—using, for instance, other "omics," digital technology, or data science—propel the current precision medicine discussion to focus on prevention? Further, prevention approaches are multilevel—some for the whole population, some for a subset and a complementary approach—in clinical care for an individual. Conversely, even if we keep ourselves to the current treatment-driven precision medicine, shouldn't we want to increase precision by factoring in social, environmental, economical, and other contextual factors that are well known to affect progression and outcomes even for advanced disease?

We commend the proposed dialogue of Allen et al. via "refocusing criticisms about PPH [precision public health] as scientific questions" (p. 1187), which—we believe—should be combined with open minds and appreciation of each other's positions to foster a productive dialogue. We invite everyone to remain true to their own vision and seek in others ideas and approaches to make it whole. Both public health and precision medicine are on the rise, and, as is often the case, they create two sides of a prevention coin. Everything that rises will converge. AJPH

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The authors jointly wrote and edited this comment.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

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