

Personalized medicine has finally arrived—or has it?

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As the price for decoding a person's DNA keeps dropping, expectations for personalized medicine based on specific genetic profiling rise. But translating an individual's genetic data into finely tailored medical treatments still faces major challenges, explains a new article in *Chemical & Engineering News* (C&EN), the weekly magazine of the American Chemical Society.

Rick Mullin, senior editor at C&EN, notes that advances in DNA sequencing have allowed researchers to design some therapies, particularly in the cancer realm, for patients with certain genetic traits. As the technology for reading people's genes improves and drops even further in cost, more progress is on the horizon. The U.S. Food and Drug Administration, the government body responsible for approving pharmaceuticals for commercialization, supports these efforts. With the stars seemingly aligned, some industry experts have declared that the age of personalized [medicine](#) has arrived. So why do others claim that victory is still a long way off?

The article points out that when pharmaceutical labs launched their search for new drugs based on genomics more than 15 years ago, the focus was almost exclusively on DNA sequences. But now researchers have realized that for personalized medicine to truly take hold, they need to also pay attention to individuals' health histories, their environments and how their genes actually translate into physical traits. This requires a shift in thinking, plus closer ties between the research and clinical sides, and ultimately, insurers. But perhaps the tallest barrier is cultural—an

attitude among some in the health care industry to simply continue business as usual.

Provided by American Chemical Society

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