How Precision Medicine Has Transformed Cancer Treatment

Next-generation medications have made chronic conditions out of previously fatal cancers.

November 28, 2018 By Casey Halter

Over the past decade, medical researchers have achieved tremendous progress in improving the quality of life and survival rates for cancer patients around the world through precision oncology, a next-generation approach to disease prevention, wrote researchers at the Harvard Business School Kraft Precision Medicine Accelerator in a commentary published in Fortune earlier this month.

In their commentary, researchers Kathy E. Giusti and Richard E. Hamermesh explain that the emerging therapy considers individuals' genetics, environment and lifestyle so that doctors and researchers can more accurately gauge which treatment might work best for their condition. This allows providers to avoid certain setbacks in the treatment process, which buys patients more time and sometimes affords them better survival rates than approaches like chemo and radiation therapy.

That said, it's still early days for precision medicine. Researchers say the biggest challenges they face in applying precision medicine is connecting all the data available, since much of it is siloed and rarely standardized.

Solving that problem, the authors write, entails building large, digestible clinical datasets that can be followed over time and applying machine learning to help physicians make better decisions about diagnoses and treatment plans while better comprehending the potential outcomes for each therapy.

Precision medicine has also given rise to new paths of funding to develop, test and bring novel therapies to market. Venture capitalists have begun funding precision cancer ventures for cancer treatment at record levels. Alternative funding models, such as venture philanthropy and for-profit start-ups targeting specific rare types of cancers are also emerging. Such funding, the writers say in the commentary, may help spread precision medicine not only to more patients but also to more types of cancer—notably ones currently understudied.

Researchers also hope their work may one day be applied to other areas, including Alzheimer's, muscular dystrophy and more.

“As the chances of survival have been so greatly improved for many specific areas of cancer, it is our duty to help translate those lessons to other disease areas in order to give patients and their loved ones the possibility of more years together,” researchers concluded in the paper.

To learn more about precision therapy, click here.
