

Five ways individualized medicine is impacting health care

September 21 2015

How is individualized medicine working? Let us count the ways.

That's just what Mayo Clinic Vice President Gianrico Farrugia, M.D., did this morning in his opening keynote at the 4th annual Individualizing Medicine Conference. The core of his talk highlighted five areas in which the knowledge and know-how from the [human genome](#) will be most impactful in patient care, not just at Mayo Clinic, but anywhere in the nation and globally.

"What's in it for you?" he asked the crowd of health providers at the Mayo Civic Center in Rochester, Minn. "Individualized or [precision medicine](#) offers help for your medical practice today. You can take advantage of these advances to help your patients, to better diagnose, treat or prevent illness right now." Here is his short list of "value adds" to the practice of [medicine](#). There are many more, but these are the most pervasive and applicable at the moment.

Preventing drug-related adverse affects

Pharmacogenomics—prescribing medications based on a person's genomic information—is helping physicians avoid harmful reactions. As Mayo has embedded its available patients' [genomic information](#) in the electronic health record, more than 3500 [adverse reactions](#) have been prevented in the last two years.

Microbiome markers to predict disease susceptibility and outcomes

The microbes in your gut and elsewhere in and on your body can tell physicians if you are at greater risk for some diseases and indicate how well you'll recover from them. They can also be used to treat disease.

Whole exome sequencing for undiagnosed diseases

By sequencing the core elements of the genome, physicians can offer some patients a diagnosis after years of questions and ineffective treatments.

"Liquid biopsies": Cancer mutation/biomarker testing for diagnosis and prognosis

We are rapidly getting to the point where we can use sequencing of cell-free DNA in body fluids to diagnosis and follow cancers without needing tissue from the cancer itself.

Noninvasive prenatal testing

Cell DNA testing is now available for a variety of genetic alterations during pregnancy.

Dr. Farrugia also encouraged all sectors—industry, regulators, policy makers, investors—to become involved in precision medicine so it can continue to grow and help save lives.

More information: The conference, hosted by Mayo Clinic's Center for Individualized Medicine, continues through Tuesday, Sept. 22, with a

keynote from genomics pioneer J. Craig Venter, Ph.D.

Provided by Mayo Clinic

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