

Personalized Medicine: The Trend That's Sweeping Health Care

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From cloud-based medical imaging platforms to artificial intelligence-powered diagnostics, health care continues to be the epicenter of digital innovations that are geared toward boosting patient care. Personalized medicine is another new wave sweeping health care with the dual objectives of achieving more meaningful patient-to-doctor relations and lowering costs. The lynchpin of this concept is leveraging all clinical, genetic and environmental information of the patient to understand and treat diseases in a more holistic manner.

Technology Is Emerging As The Key Driver Of Personalized Care

The foundation of personalized medicine rests on the emergence of new-fangled technology that is making certain diagnostic tests more affordable, accurate and more in sync with overall patient care requirements.

Take the case of all the improvements happening in the genetic sequencing domain. A genetic predisposition is a critical biomarker that increases the chances of a person developing a specific disorder. The cost of sequencing a full human genome is declining. I believe it won't be long before the cost of a person's genetic data reaches the levels of laboratory-based blood tests. We are fast approaching a future where a doctor will prescribe genetic sequencing as a part of a patient's annual physical check-up.

Technologies like big data and analytics are finding their way into medicine as a means of gaining new insights into the biology of diseases, identifying and correlating large amounts of patient information, making sense of all this data and testing and applying it to patient care models. Big data tools can be used to bring together genetic information and other patient data sets to get holistic, detailed patient insights. This will help doctors manage patient health in a more personalized manner.

Wearable health devices can play an important role in this regard. These devices can monitor the health and vital signs of the patient, conveying this information directly to the doctor who can then keep tabs on the biometric readings. This data can be integrated with the patient's genome data to get a clear picture of the illness and the current state of the patient, allowing the doctor to make effective curative interventions specific to the patient.

The Anti-Bureaucracy Of Direct Primary Care

One of the personalized medicine and billing models that is starting to gain traction is direct primary care (DPC), where doctors do not accept health care insurance and patients are charged a monthly, quarterly or annual fee (prorated by age) for getting access to primary care.

Typically, the patient fees under DPC include same/next-day appointments, care coordination, clinical and lab services and care management. DPC can bolster personalized medicine in a big way; providers can finally bypass laborious insurance billing, spending precious time instead on the patient. A key selling point behind DPC is having a doctor serve as your advocate at the time of critical need or an emergency, helping to navigate the byzantine nature of the American health care system. Already 1,000 clinics subscribe to this model, according to the [Direct Primary Care Coalition](https://www.dpcare.org/dpc-practice-locations). <https://www.dpcare.org/dpc-practice-locations>

Patient-Centricity Is Set To Lead The Way

By allowing health care researchers and doctors to better understand drug responses and therapeutic effects uniquely for each patient, personalized medicine is expected to deliver impressive results. Several clinical trials and investigative studies have already leveraged personalized medicine for their ongoing efforts in combating major health care risks such as hepatitis and noncommunicable diseases. Patient-centric cure development and medicinal research are rapidly taking center stage. With health care embracing the power of digital technology such as artificial intelligence, cloud computing and powerful visual data analytics, the number of clinical researchers and patients wanting to collaborate is increasing, which in turn is driving the quality of required inputs to deliver better safety and drug effectiveness.

The health care industry now has a highly developed and mature ecosystem of service providers and technologists that provide advanced and faster analytics, machine learning and hitherto unavailable statistical models. Rapid strides being made in personalized medicine is a win-win opportunity for both providers and patients alike to better harness these technological advances with more distinct and precise data.

By being able to gain access to a patient's distinct health profile, demographic (lifestyle habits, environment, historical medical data, etc.) and genetic information, clinicians and life-science companies have the opportunity to deliver highly targeted and unique preventive and therapeutic interventions, which can also help reduce unnecessary expenses, inconvenience and side effects that patients might have to suffer due to poor diagnosis and inaccurate medical investigation.