A new NIH initiative indicates where experts see medicine evolving. The National Institute of Health is embarking on one of its largest projects—gathering data on a representative group of one million Americans to study disease in a new way. Over the course of ten years, the New York Times reports, researchers will gather genetic, demographic, lifestyle, and environmental data about participants.

On the flip side, “precision medicine” refers to a new treatment methodology; a patient’s medical treatment team tailors its recommendations based on the unique needs of the patient, which could include genetic nuances and a lot of biomedical data analysis. How researchers are collecting this information through the NIH study leads to some interesting questions about healthcare equity as we look to the future of medicine. For instance, while anyone can sign up for the study, the researchers plan to leverage electronic health records (which store patients’ clinical and billing information when they visit clinics and hospitals), partnering with organizations around the country to coordinate data collection and management.

While technology has been a key component of medicine in the modern era, healthcare is moving towards more personalized treatments that are based on enormous amounts of data that are collected and managed in complex computer systems. Will equitable access to healthcare in the future mean not just access to medical professionals, but also access to these promising technologies that can aggregate information from multiple sources, and provide support for treatment planning?

Federal regulation supports investment in advanced electronic health records through the Meaningful Use program, which moved past incentives in 2015 to penalizing healthcare organizations in 2016 via adjusted Medicare/Medicaid reimbursements for not adopting certified EHR systems. Citizens of each state do not have the same level of access to healthcare organizations using sophisticated technologies to diagnose and treat patients. Some states have put policies in place to streamline the way healthcare data are managed and/or incentivize healthcare providers to adopt technologies like electronic medical records that support care, in addition to the federal mandate.

**State Statutes**

State policy regarding accessing health information varies. According to the federal Office of the National Coordinator for Health Information Technology’s Health IT Dashboard, all but 11 states have policy in regards to the use of healthcare IT. Some states also have set up incentives and mandates for healthcare organizations to participate in exchanges or upgrade IT systems. In Oregon, there is a legal mandate for “high-volume” labs to participate in electronic public health reporting. Arkansas established its own Office of Health Information Technology, which awards one-time grants for EHR adoption in addition to its other responsibilities in coordinating state health IT activities.

**Electronic Medical Records**

Studies like the one the NIH is undertaking rely on electronic health records and large amounts of clinical data that can be shared across systems. Effective treatment planning and disease management may benefit from the capabilities of electronic health records. How widespread is EHR
adoption across the states, and how sophisticated are these systems? While the industry has adopted systems at a remarkable rate in the last few years and is closing the rural/non-rural gap, there are opportunities for advancement in the areas of interoperability, or the sharing of information between computer systems and between different healthcare organizations.

- According to Office of the National Coordinator for Health Information Technology data from 2015 [8], nationwide 83.8 percent of hospitals had adopted a “basic” EHR, which includes “core” functionality like patient demographics, clinician notes, problem lists, medications, and some lab results are managed in the EHR on at least one unit. For reference, 40 percent of all hospitals in 2015 had adopted a comprehensive system, which deploys more extensive functionality in all units, including decision support. Nearly all hospitals possessed an EHR system in 2015, but may not have implemented them yet.

- Deployment of acute care EHRs varies across states [8]. While the average state adoption rate is above 60 percent, there are 23 states below the national average. The states with the highest adoption rate as of 2015 were Maryland, Nevada, Washington, and Wyoming, all of which were at or above 94 percent.

- Rural/critical access hospital EHR adoption is catching up [8] to the industry overall. Comparing Meaningful Use attestation rates [9], or the rate at which hospitals prove that they are using an EHR in a substantial way as measured by certain metrics, critical access or rural hospitals attested to this standard of usage at rates higher than the overall state rate in 20 states. Of the remaining states for which there is data, all but one was at 90 percent or higher the rate of overall state attestation. The one exception is Hawaii, where critical and rural access hospitals attested at 74 percent the rate of all Hawaiian hospitals.

- Providers can share information across systems about particular patients, including lab results and patient care summaries. From 2014 to 2015, hospitals have continued to move away from exchanging information via exclusive non-electronic means; however, technological limitations at external organizations continue to be a challenge [10]. In 18 states, less than two thirds of hospitals could send lab results outside their health system in 2014, and in 26 states, less than two thirds of hospitals could share care summaries according to 2014 data. In 2015, 82 percent of hospitals had the capability to electronically exchange such information, but only around half of hospitals reported [11] that their providers use information from outside sources to treat.

- Adoption rates of any ambulatory EHR system in physicians' offices are higher [12], according to figures from the 2015 National Electronic Health Records Survey. Louisiana has the lowest rate, at 74.8 percent. However, these figures do not reflect the level of technological sophistication found in these physicians' offices; Meaningful Use attestation rates for office-based providers [9] were lower in general, ranging from one third in Alaska to two thirds in Wisconsin in 2015.

Download the 50-State Table: "Healthcare Provider Adoption of Electronic Health Records" [14]"