

PRESIDENT'S COLUMN

HEALTH INFORMATION TECHNOLOGY MEETS THE SOCIAL DETERMINANTS OF HEALTH

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As the work to liberate healthcare data progresses, a new challenge is already on the horizon: The flurry of activity around addressing the social determinants of health (SDOH) both inside and alongside the healthcare system is creating a demand for a health information technology system to support collecting, storing, and sharing SDOH information.



I have been hesitant to write this article about data and technology as a core component of assessing and addressing the social determinants of health. In the other parts of our lives, technology is an enabler, a help-meet, a tool that has made our lives more enjoyable in countless ways: movies and music

On Demand, recommendations on the best route to take on our drive, a seamless banking experience.

Health care has not been so enjoyable. We are now 10 years out from the start of a journey, laid out first by President Bush and later by President Obama, to implement health information technology in the health-care sector and digitize the care experience of everyone in the United States. While we have accomplished that goal, it has not been without pain and frustration on the front line. The electronic health record systems that were pushed out following the stimulus funding from the Health Information Technology for Economic and Clinical Health (HITECH) Act were built to enable compliance and billing, not to support clinical care and decision making.

During my tenure as National Coordinator for Health Information Technology in the Obama Administration, we worked on several areas meant to ease the pain and also to make actionable information available. The policy work included slowing the implementation of meaningful use regulations, decreasing expectations such as computerized order entry and working with Congress to gain more flexibility around what would be expected overall from the Meaningful Use program. We also worked on a strategy to enhance the availability of useful, actionable information, including defining national standards for data capture and interoperability.

Perhaps most significantly, we set an expectation that electronic health records would open “doorways to the data” through open source application programming interfaces (APIs), a technology ubiquitous in other industries that allows such conveniences as linking our calendar with mapping software. These policy efforts are beginning to manifest in everyday life, such as with the Apple-supported personal health record on our smartphones. The recent regulations from the U.S. Department of Health and Human Services significantly build upon this work and stand to enable a more fluid data environment that will bring actionable information to our fingertips.

As the work to liberate healthcare data progresses, a new challenge is already on the horizon: The flurry of activity around addressing the social determinants of health (SDOH) both inside and along-side the health-care system is creating a demand for a health information technology system to support collecting, storing and sharing SDOH information. Examples range from assessing individual SDOH profiles, to care plans, to social program eligibility and enrollment. A significant challenge in addressing SDOH is the fragmented communication and coordination between community-based organizations (CBOs) and health care entities. This impacts health care and social service payers, as well as providers’ ability to coordinate efforts around SDOH, address patient and caregiver needs, and track patient outcomes.

One approach unfolding in the field is building capabilities into the clinical workflow of the electronic health record (EHR). At the University of Miami, SGIM member Ana Palacio and team are collecting SDOH data in a system-wide fashion via the patient portal without disrupting clinical operations. They are link-

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ing the patient reported SDOH to census-based and other geocoded variables and to all EHR data. They translate this data into insights on an interactive dashboard that the clinical team can access. The functionality includes the ability to look at cross tabulations for associations between SDOH risk factors and specific outcomes. They see broader uses for this data beyond improving health outcomes, including utility for advancing health equity research (Dr. Ana Palacio, personal communication, June 20, 2019).

Some SGIM members may already work in clinical settings where digitized resource guides like Aunt Bertha make resource information searchable and allow identification of resources tailored to match patient characteristics such as location, language, or access on public transportation.¹

The venture capital and digital world has been active in designing platforms to meet the need of sharing SDOH data between healthcare organizations and CBOs to facilitate care coordination. These software platforms support an array of needs including referrals to appropriate service or resources, coordination between the various health and social care providers and also population level data to understand needs at the community level and the quality of resources.² The good news is that these platforms are using non-proprietary standards that align with those expected of EHRs in the next generation.

These platforms also offer a feature that I consider essential: a shared care plan that includes access to it for the patient and their caregivers. They also provide the additional important feature of letting patients rate the service of the social care providers in a “Yelp-like” fashion. North Carolina (led by a general internist Dr. Mandy Cohen) is currently a national darling, and rightly so, for its unique approach in a state-

wide, single digital platform funded by the private sector, but required by the state for use by all Medicaid Managed Care companies.

These privately developed digital platforms are not the only pathway under development for supporting referrals and communication between consumers, social care and health care providers. In some communities, the traditional health information exchanges (HIE) built principally to support healthcare provider data exchange are expanding their reach to support sharing of SDOH data. San Diego may have the most maturity in doing this work and serves as a model for others moving down the path. I am happy to see this expanding function for the HIEs given the investments that the taxpayers have already made in them and the potential for a “network of networks” model to dramatically shorten the timeline to interoperability. A good place to track on this progress is through the Strategic Health Information Exchange Collaborative (SHIEC).³

For this activity and excitement around data collection and sharing related to the social determinants of health, there are a host of challenges on the horizon. The following are at the top of my mind:

1. **Weak social services data and digital infrastructure.** The healthcare sector benefited from billions in new dollars to support accelerating uptake of digital technology, but those dollars didn't extend to the social services sector and in most cases the IT infrastructure of CBOs that provide services is incapable of meeting the data standards, cybersecurity, and other technological needs to build a robust health care and social care data sharing infrastructure.
2. **Privacy and security challenges.** The data used in some models

of social care information will move between health care systems and social services partners who are unaccustomed to the regulatory expectations included in HIPAA that govern the protection of personally identifiable data.

3. **Data and tech skills in the social care workforce.** Technology can enable skilled workers to focus on more technically complex activities while expanding access and enhancing operational efficiency, but the social care workforce will need to build skills in using data and technology.
4. **Consumer demand and expectations.** Early data suggests that consumers will embrace the use of data and technology to support their social care needs; however, some may not want their physician to know whether they receive meals from a food pantry, or how often they sleep in a shelter.
5. **Balancing technology and human capital investments.** SDOH IT stands to accelerate the care models that can address, and where needed mitigate, social factors that influence health. But data and technology alone are not the solution and the goal should be to augment human capital and processes rather than supplant them.
6. **Inequitable access to technology and unintended consequences.** There are instances when digitizing the social and health care infrastructure can result in negative consequences and exacerbate disparities.
7. **Ethics of social risk profiling.** Finally, potentially serious eth-

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ical considerations will need to be addressed in the application of artificial intelligence and other modalities in decision-making and resource allocation for integrating social care into health care. There is a risk that these technologies replicate the biases within our social and health care systems that result in disparities in outcomes.

These challenges should not halt our work to leverage data and health information technology to support our patients in addressing their SDOH. But, we should be thoughtful about this work. Healthcare sector adoption of these SDOH technology tools and

platforms is accelerating, driven in many ways by policy and payment change like in North Carolina. For all the good it could do, as the social care experiences of our patients are digitized, we should be intentional to not replicate our mistakes from our work to digitize the healthcare experience of our patients. Thus far, the tools being developed are more interoperable, better at respecting privacy and at sharing information with the consumer and are more affordable than the EHRs we implemented. This gives me hope that we will have a national social care information technology platform that is useful for many important purposes beyond clinical care.

References

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