



Technology is there — healthcare has to learn to use it

By Lia Novotny | January 15, 2019

The healthcare industry has never produced or had access to more information – but how do physicians, patients, and communities make sense of all the data in a way that leads to better outcomes and improved health? Allen Gee, M.D., a neurologist at Frontier NeuroHealth in Cody, Wyoming, and a pioneer in technology adoption, sat down with athena**insight** to discuss how medicine can solve the challenge of information overload and put data in the service of better patient care.

Q In recent years, a wealth of health information has become available to physicians through the EHR and other technology. How do you think this has changed the practice of medicine, for better or for worse?

A We're getting all sorts of new information, overwhelming amounts of information. Not just the basic medical information we are taught to collect in medical school like history and medications, social history,

family history, social determinants, and so on – everything to get a picture of that individual and the story that they tell.



Allen Gee, M.D.

Add on activity monitors, digital devices that can acquire information about an individual continuously in real time, genomics, metabolomics, proteomics, exposomics, and there's even more available information. We are overwhelming providers with data.

Then you have an EHR electronic file cabinet, and it's fantastic because the cabinet's full of information, but you don't know what drawer it's in. So, it's how we contextualize all that information that is the interesting challenge.

I used to say the best care happens when we provide the relevant information to a prepared mind in the moment of

care. I don't know that any of us know what all the relevant medical information is anymore. And when there's a fire hose in your mouth and you're just trying to swallow as fast as you can, a prepared mind will miss opportunities to make connections, to pick up on clues that are relevant for the care of the individual.

Technology is the only way to decrease the amount of information that's being fed to the prepared mind, to contextualize and surface the relevant information. That's when the best medical decisions are going to be made.

Q ▪ **Is technology ready to tackle the challenge of contextualizing all the available data?**

A ▪ Yes, I think that machine learning and AI are ready to be deployed – and we are making some steps in that regard, even in my small practice. But the challenge is the inertia of healthcare.

The key is for us to show how this technology will make life easier and more enjoyable, so providers and patients are clamoring to adopt it. Start with quick, small steps. Do the proof of concepts in a small-batch, iterative way to find and illustrate the value, to identify the failures, to build upon them so we can, hopefully, move healthcare at the speed of tech. Because the technology is there. The capabilities are there.

Q ▪ **What impact does this technology have on the patient in the moment of care?**

A ▪ In my opinion, the point of care is really now a continuum of care. Certainly, there is the emphasis on visiting with the patient. But we should connect with individuals where they live, at the moment when their decisions can be influenced. Whether it's through geofencing, microeducation apps, or continuous feeds of relevant information, we need to help educate individuals to make better choices and decisions all the time, not just at annual visits. That really is the continuum of care now – in both directions.

And the patient wouldn't necessarily see the tech in the moment of care. It should help the provider determine what to discuss in the brief conversation with the patient, what information is relevant to help them in how they live their life. Because ultimately, being able to understand

and discuss and communicate the information – and the relevance of that information – still relies on a prepared mind and on the healthcare provider being able to translate, to communicate, to encourage, to engage, to connect with individuals to help change behavior.

Where the patient would see the tech in the continuum of care is between visits, delivering relevant, contextualized information to the individual when and where they need it. It can give a little bit of a push every day to move people and their behaviors in a certain direction.

Q ▪ **Beyond the individual patient, what impact can this refined data have on the broader picture of public and population health?**

A ▪ Well, I think that's where AI is going to have great value as well. Once we can collect and organize good-quality data across the spectrum, we can start looking for relevant new health information, looking for patterns, looking for how patients fit together. We can start at the macro level. Connections will likely surface – connections we never dreamed of.

That's going to be the excitement of big data in population health, using AI to sort macrodata within regions and communities. I can only guess what the insights might be, but I suspect we're going to have some revelations that are relevant. And then AI can help us take that big-picture information and deliver it in small bites that we can act on. The dream is eventually that this kind of analysis drives healthcare's integration with public policy, education, legal advocates, and so on to impact the kind of real-world decision-making that can address the social determinants of health.

At both the macro- and the individual level, we need to connect the right person and the right information at the right place and the right time. Then the prepared mind can see patterns, can surface other relevant information that machines just can't identify. Put that all together in the continuum of care to facilitate the right conversations and that's where we're going to have the most impact on how people live their lives, the decisions they make, and ultimately their health.

Lia Novotny is a contributing writer to athenainstight.

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