

WRITTEN TESTIMONY

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The Opioid Crisis: The Role of Technology and Data in Preventing and Treating Addiction

Good morning Chairman Alexander, Ranking Member Murray, and Members of the HELP Committee. My name is Sanket Shah and today I am going to provide you my view on how the role of technology, and more specifically, analytics may help curb the overuse, misuse, and abuse of opioids. Healthcare data and analytics can play a key role in helping to combat this national crisis. Descriptive, diagnostic, predictive, and prescriptive analytics make it possible to identify individuals who are at risk of becoming opioid dependent. Armed with this information and the right technologies, healthcare providers and communities can be better informed about the risk of possible dependency.

The first area we all should start with is descriptive analytics. Descriptive analytics identify what's happening and where. According to a 2017 study published by the Blue Cross Blue Shield Association, opioid use disorder diagnoses increased 493% from 2010 through 2016. The same study also has identified that women aged 45 and older have higher rates of opioid use disorder than males, while males under the age of 45 have higher rates of opioid use disorder than females. We also know females fill more opioid prescriptions than males across all age groups.¹

Once we understand what is happening, our focus must shift to why it's happening. This is where diagnostic analytics come into play. For instance, we know potential determinants for opioid dependency include gender, age, whether the patient sought treatment for an acute injury or a chronic condition, and the size of the dosage and duration of the prescription.² We also know that many patients engage in doctor and pharmacy shopping practices to obtain harmful quantities of opioids from various sources. According to a report published by the Inspector General of the United States Department of Health & Human Services, one such egregious case in Illinois revealed a Medicare enrollee received 73 prescriptions for opioid drugs from 11 prescribers and filled them at 20 different pharmacies.³ When you couple these factors with the lack of effective risk assessment and decision support tools available to providers, we miss the early-warning signs for potential dependency.

So here we are, we already know the *what* and the *why*. The role of technology and analytics can help prevent addiction. Here is where we must focus on predictive analytics. Predictive analytics enables us to leverage data to anticipate what is to come. For example, according to a study published in the British Medical Journal, the duration of opioid treatment is a far more potent predictor of abuse and overdose than just dosage. In fact, each additional week of opioid use increased the risk of dependence, abuse, or

¹ "America's Opioid Epidemic." Blue Cross Blue Shield Association (BCBSA), 29 June 2017, www.bcbs.com/the-health-of-america/reports/americas-opioid-epidemic-and-its-effect-on-the-nations-commercially-insured

² America's Opioid Epidemic. BCBSA

³ "Opioids in Medicare Part D: Concerns about Extreme Use and Questionable Prescribing." HHS OIG Data Brief, July 2017, oig.hhs.gov/oei/reports/oei-02-17-00250.pdf.

overdose by nearly 20%. Each additional refill boosted the risk by 44% with the first refill more than doubling the risk.⁴

To truly have accurate predictive analytics we need more data sources. Currently, we find ourselves in data silos across the public and private healthcare sectors. My recommendation is to open the lines of communication and pathways to share data for a “holistic view” to help combat this epidemic. The federal government has the means and infrastructure to create an integrated data environment which we can source from at local and state levels. Having access to such a vast data repository will enable the creation of robust predictive analytics that leverages multiple variables such as social determinants of health, family and medical history, and access to complete episodes of care. A secure and encrypted data repository would empower our healthcare informaticists to administer and deploy innovative technologies to enhance our predictive capabilities. We can collaborate on advanced machine learning algorithms for deeper pattern analyses from both the provider and patient fronts. The insights gained could be tremendous. We all can potentially benefit by knowing which patients might respond better to non-pharmacologic, multi-modal therapies, or targeted care management programs.

To accomplish this, we simply need access to more substance abuse data. I ask you all to consider and support the Prescription Drug Monitoring Act of 2017 (S.778) which requires any state that receives federal grant funding to establish a prescription drug monitoring program to share their data with other states. In addition, this act also contains components to help fund a data sharing hub which I spoke of earlier. I also ask you all to consider supporting the Protecting Jessica Grubb’s Legacy Act (S.1850) which calls for modernizing Part 2 to align with HIPAA regulations and will grant appropriate sharing of substance use disorder records to ensure persons with opioid use disorder and other substance use disorders receive accurate diagnoses and effective treatment.

Once predictive analytics have identified at-risk individuals for developing an addiction, we can use prescriptive analytics to offer up actionable insights. Providers and health plans can predict what may happen and make the necessary changes to treatment plans. Armed with actionable insights, new treatment models and alerts can be developed to de-emphasize opioid medication use for at-risk individuals. This includes the right decision support tools for our providers at the point of care.

Ultimately, technology alone will not be able to curb this epidemic. We must also use the information and insights we have gained to continue to educate our providers, patients, and communities on the proper adherence and potential risks of opioid use. America’s prescription opioid epidemic continues to be a public health crisis. Using descriptive, diagnostic, predictive, and prescriptive analytics, we have an opportunity to identify at-risk individuals and change the course to help address the epidemic.

We have the data. We need your help to share it.

List of recommendations to consider:

- Pass S.778 - Prescription Drug Monitoring Act of 2017
- Pass S.1850 - Protecting Jessica Grubb's Legacy Act
- Create and enable authorized access to an integrated, secure data repository for opioid prescriptions, treatments, overdoses, and individuals at risk

⁴ Brat, Gabriel A, et al. “Postsurgical Prescriptions for Opioid Naive Patients and Association with Overdose and Misuse: Retrospective Cohort Study.” *Bmj*, Dec. 2017, doi:10.1136/bmj.j5790.