

The opioid crisis in the United States is having a devastating impact on individuals, their families, and the health care industry. This multi-part series will focus on the role technology can play in addressing this crisis. [Part one](#) of the series proposed a strategic framework for evaluating and pursuing technical solutions.

Innovation Amidst Crisis: Health IT and the Opioid Abuse Epidemic

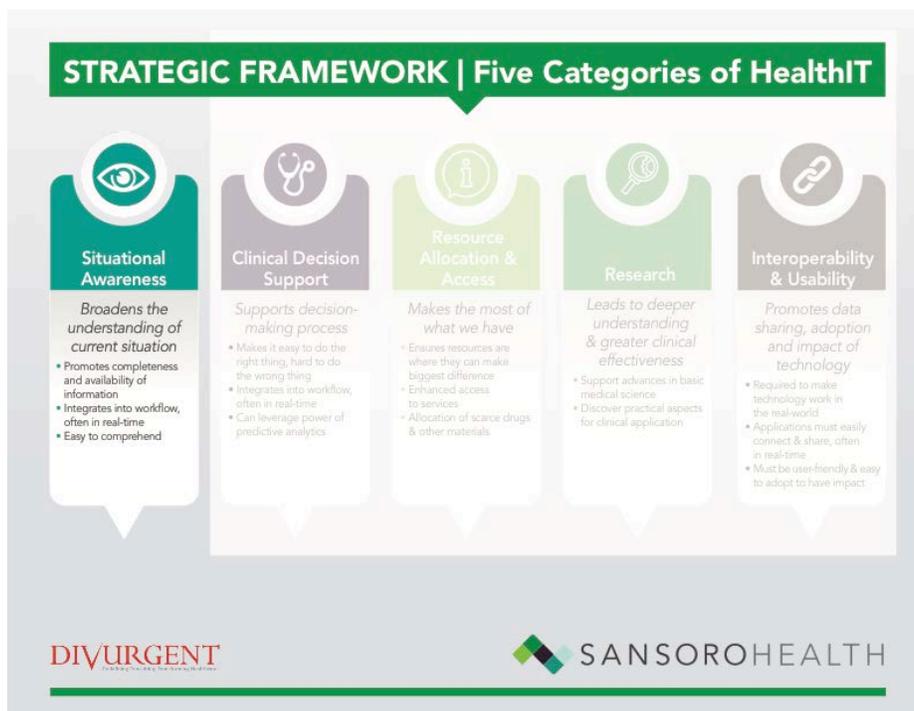
Part 2 – Fostering Situational Awareness

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A Framework for Innovation

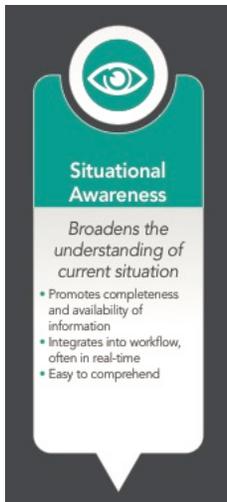
Deaths from drug overdoses in the United States jumped nearly 10 percent last year, according to recent estimates by the Centers for Disease Control. One major reason for the increase: more Americans are misusing opioids.

Health IT (HIT) can play a pivotal role in addressing the opioid-abuse epidemic. To maximize impact, however, we believe it’s essential to organize and prioritize IT innovations and approaches. In part one of this series, we proposed a conceptual framework that sorts opportunities based on five types of functionality. In this article, we will explore one of these categories: technologies that enhance situational awareness.



The Importance of Situational Awareness

Situational awareness centers on the perception of environmental elements and events, and how big and small changes affect the overall situation and its future state. The concept, which is widely used in military training and complex industries like aviation and oil refining, is essential to the successful execution of high-risk, high-performance activities. Situational awareness improves effectiveness and safety. In health care, we believe, the concept can be leveraged to identify, prevent, and curb opioid abuse.



There are several keys to achieving and maintaining situational awareness. First, the value of the concept must be accepted by those involved. Without broad acceptance, change isn't possible. Consider this example from commercial aviation:

Prior to the 1980s, little attention was paid to interpersonal communication between pilots within the cockpit, increasing the possibility of disastrous human errors. The [1977 Tenerife airport](#) disaster, when two Boeing 747 aircraft collided on the runway killing 577 people, is often seen as the moment when attitudes began to change. Training procedures for communication that heightened situational awareness among the crew were introduced. Today, the opioid crisis could serve as a similar turning point in health care, but the concept of situational awareness must be integrated into workflows in order to be impactful.

Second, for situational awareness to work, systems and processes must be in place to provide basic relevant information to decision-makers. In the best-case scenario, technology can provide complete, real-time information about specific patients (or populations in the case of population health activities)—optimizing situational awareness. After absorbing the information provided by technology, individuals and teams can act, responding to events or other changes in the environment.

How PDMPs Improve Situational Awareness

As we see it, the Centers for Medicare and Medicaid Services (CMS) recognized the importance of situational awareness when they announced new [final rules for payment](#) in August 2018, including new requirements and measures related to prescribing opioids (Schedule II controlled substances). Reporting on provider queries of Prescription Drug Monitoring Programs (PDMPs), an important tool in increasing situational awareness, will be optional in CY 2019, but required beginning in CY 2020.

PDMPs increase situational awareness by giving clinicians a robust view of all the medications a patient has been prescribed, regardless of prescriber or location. Typically, PDMPs incorporate information from an array of sources, including electronic health records (EHRs), prescription fulfillment systems, and health information exchanges. In theory, this increases the situational awareness of providers as they consider a patient's needs, clinical best practices, and the wisest course of treatment. PDMPs may decrease "doctor shopping" by making it harder for patients to take advantage of gaps in the records

maintained by providers. PDMPs can also impact “Pill Mills,” highlighting providers who may be over-prescribing or otherwise misusing their prescriptive power.

For PDMPs to be effective, they have to be both robust and easy to use. The best PDMPs easily connect and consume data from a variety of sources. That data is distilled, consolidated, and presented in ways that are easy for the clinician to access and incorporate into their plan of care and other documentation in real time. Unfortunately, some PDMPs lack these qualities making them at best a waste of time, and at worst counterproductive.

Getting the Most Out of PDMPs

Lack of integration into the EHR remains a significant problem. Too many PDMP workflows require a provider to leave their EHR, log in to a PDMP, look up a patient and then copy/paste or transcribe relevant information back into the EHR. This squanders time and is error prone. It limits adoption and use of the PDMP and improves situational awareness only marginally. What’s more, some states mandate the use of a PDMP by prescribers, legally forcing providers to use inadequate and inefficient tools.

Some states and health systems are responding by requiring meaningful integration. And some PDMP vendors are offering API-based integration. This is progress, but it is limited in that APIs are relatively new to many health systems. Health care providers often struggle to figure out how to configure their EHRs to take advantage of the PDMP API.



PDMP Vendor-supplied API “plugs” may not fit existing EHR “sockets”

A better approach would be for PDMP vendors to use APIs that are already plug-and-play with the major EHRs, thereby eliminating both work and guesswork on the part of the health system IT team. In other words, rather than offer an API “plug” that requires the health system to build a custom EHR “socket”, the PDMP vendor should offer a plug that already fits an existing EHR socket. Such solutions already exist in the marketplace, and health systems should encourage PDMP vendors to offer these options. Wider adoption of these APIs would smooth connections with EHRs, improve access to information and enhance situational awareness. That’s a meaningful contribution to improving health care delivery—and a potentially key step in reducing opioid abuse.

What's Next: More Deep Dives and a White Paper

In the coming articles in this series, we will take a deep dive into the other categories in our framework. We will explore in more detail the technologies that fit these categories and their potential role in innovating amidst this crisis. For those with even greater interest, we have published a white paper that provides a more in-depth perspective on clinical, sociological and technical factors impacting the opioid abuse epidemic.

[Download White Paper](#)

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