News and Perspectives

Ethics of Surveillance in the Public Health Response to the Opioid Crisis

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Abstract

While opioid deaths in the United States have been declining, the opioid crisis remains a major public health issue. In this *News and Perspectives* article, JMIR Correspondent Jenna Congdon reports on the benefits and complexities associated with evolving opioid surveillance efforts.

Key Takeaways:

- Opioid surveillance tools can identify medication risks and potential overdose threats, but incomplete data and algorithmic errors may lead to inappropriate prescribing decisions or restrict access to care.
- Surveillance is most effective when risk identification leads to timely, patient-centered treatment, harm reduction, and improved quality of life.

Opioid surveillance tools—from prescription databases, electronic health records, and pharmacy dispensing histories to AI-powered medication risk assessments—are designed to identify potential risks, such as dangerous medication combinations, unsafe prescribing patterns, or misuse of controlled substances that could lead to overdose. These alert systems can support opportunities for both prevention and intervention, helping to ensure that opioid prescriptions are dispensed and used correctly.

But there are ethical complexities around opioid surveillance. A flag in a patient's chart can influence prescribing decisions, shape clinical outcomes, and potentially make it harder for patients to access the care they need. What happens when the algorithm fails due to missing or incomplete data? Who is ultimately responsible when a risk assessment affects a patient's care? How can health care systems use these tools carefully to improve safety without undermining patient trust or restricting access to appropriate treatment?

How Opioid Surveillance Works

The opioid crisis in the United States has long been a topic of discussion due to its deep impact on health and human safety. According to a recent qualitative study, "in 2017, the US Department of Health and Human Services declared a national opioid crisis. In 2022, an estimated 81,806 overdose deaths involved an opioid." The current opioid management and delivery model is fragmented across many care modalities, making it difficult to manage any one patient's prescriptions across various providers, appointments, and health systems.

Prescribers, pharmacists, and health systems are obligated to engage in monitoring the prescription and dispensing of opioids, but approaches are again fragmented. Prescription drug monitoring programs are state-run databases that track controlled-substance prescriptions and help clinicians identify prescribing and dispensing patterns. Tracking tools such as digital medical records, medication reconciliation, drug-interaction screening, and automated alerts may flag potential safety concerns. Population-level surveillance provides data about overdoses and other indicators that may help public health agencies detect emerging threats and direct prevention resources.

More recently, predictive risk scores based on AI algorithms have been used to analyze patient data and identify people who may be at elevated risk of overdose or opioid use disorder. These models can more accurately identify patients at risk by flagging details from the medical record such as fluctuating mental status and responses to naloxone, a drug that is used to reverse the short-term effects of opioids in the event of a potential overdose.

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> Natalle Chan, PharmD, RPh

Natalle Chan, PharmD, RPh, is the senior manager of clinical programs at HumanisRx, a health technology company that uses a pharmacist-built platform to help insurers, employers, and payors manage medication-related risks. She explains that "the purpose of [opioid surveillance tools] is not simply to identify misuse. They help create a comprehensive picture of a patient's overall medication burden, risk factors, treatment history, and functional goals."

She goes on to explain how pharmacists' role in opioid surveillance has shifted over the past decade.

"There is greater emphasis on proactive monitoring, risk mitigation, naloxone education, opioid stewardship, and interdisciplinary collaboration," she says. "Pharmacists are increasingly expected to participate not only in dispensing medications but also in helping ensure opioids are used safely and appropriately."

Risk Scores vs Real Patients

There are limits to opioid surveillance, including automated monitoring. While automated monitoring may help identify potential concerns, it cannot fully account for an individual's medical history, pain severity, treatment response, or functional goals. Monitoring may pressure clinicians to change prescribing decisions because of regulatory or liability concerns rather than individual patient needs, and patients may fear judgment, stigma, or losing access to medication, affecting their willingness to discuss pain or substance use openly.

A paper by Elizabeth Chiarello, PhD, refers to today's increasingly intense opioid monitoring practices as "smuggling criminal-legal logics into healthcare practice," which she asserts "...route[s] patients out of the healthcare system and leave[s] them vulnerable to the criminal-legal system."

One jarring example that illustrates how opioid monitoring can negatively impact access to health care came to light in a settlement from last year, in which two North Carolina long-term care facilities agreed to end automatic denials for potential residents with a history of chronic opioid use. Previously, applicants with this history had been denied access to these facilities.

Chan provided an example of the flip side, where monitoring helped to improve care. One woman was taking multiple opioid medications for long-term neuropathic pain. Her combination of prescriptions was flagged as concerning, and Chan was able to review her medication list and suggest alternatives, which ultimately improved the patient's pain and quality of life.

"The most important outcome wasn't that opioid use decreased," Chan shared. "It was that the patient experienced better symptom control, fewer side effects, and an improved ability to participate in daily life."

Turning Overdose Data Into Prevention

An ethical distinction exists between using data to direct resources toward communities and using individual data to potentially restrict access to care. Surveillance can inform prevention without necessarily identifying or labeling individual patients. Population-level surveillance tracks overdose trends, toxicology results, and emerging drug-supply threats. That population data may help public health agencies target naloxone distribution, expand treatment capacity, and respond to emerging overdose patterns.

Libby Jones, associate vice president of the Overdose Prevention Initiative at Global Health Advocacy Incubator, asserts that while clinicians may use opioid risk scores to inform clinical decisions for patients, this data needs context and must not take the place of clinical judgment.

"Using opioid surveillance tools to flag someone is the easy part," she said. "The harder part is connecting that person to treatment services. And the real test is whether that person is still in treatment a month later."

Incomplete data and algorithmic risk assessments can reinforce disparities; patients with less documented health care contact may be overlooked, while others may be incorrectly flagged. However, robust monitoring, even through less-conventional means such as via social media, provides crucial data to inform interventions both in the public health sphere and for individuals. Safeguards such as restricting access to identifiable data, logging its use, enabling patients to challenge incorrect information, and monitoring outcomes after implementation could mitigate both privacy and equity concerns.

Connecting Surveillance to Treatment and Better Outcomes

A flag in a patient's chart alone does not ensure treatment, harm reduction, or overdose prevention. "A clear pathway to treatment requires a warm handoff," Jones argues. "A warm handoff for people with substance use disorder means an active, personal connection to the next step in care. Instead of leaving a person to navigate the system alone, a health care provider, peer specialist, or other trusted professional helps connect them directly to the services they need."

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>
> Libby Jones

Chan's emphasis on patient-centered medication management, shared decision-making, and measuring outcomes such as safety, pain control, and functional improvement echo this. For her, the goal of monitoring is not simply reduced opioid prescribing, but helping the individual patient enjoy a better quality of life.

Ethical opioid surveillance requires more than identifying risk. Its value depends on whether the information leads to effective interventions while protecting privacy, preserving autonomy, reducing disparities, and maintaining access to appropriate care.

Keywords: opioid-related disorders; opioid epidemic; public health surveillance; prescription drug monitoring programs; artificial intelligence; electronic health records; patient privacy; health equity

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