

CDC-backed app aims to monitor public health via automated cause-of-death reporting

Every death tells a story, both about the deceased and the population around them. But the longer it takes for the Centers for Disease Control to get those details, the more muddled the story gets and the less valuable the vital statistics data at the center of it become. Rather than contend with the lengthy process holding up efficient death reporting, disease surveillance, and prevention, the state of New Hampshire [has launched a mobile app](#) for physicians to quickly report cause of death records to the CDC. Although the essential function of the app, called eCOD, may be grim, the developers of this legitimately first-of-its-kind mobile app are thrilled at the possibilities.

“Historically, this has been a pen and paper process that takes a long time and keeps valuable data from the CDC they could use to track disease and make public health decisions,” Stephen Wurtz, New Hampshire’s state registrar and director of the Division of Vital Records Administration told MobiHealthNews. “With eCOD, physicians or the medical examiner, wherever they may be, can immediately report and certify the death and get that information to the CDC.”

That’s important, Wurtz said, because real-time death data could transform public health surveillance and disease prevention.

“From a surveillance standpoint, a state might have an obligation to the CDC to share data once a month or whatever, but with the enhancement of eCOD, we can currently disseminate

information twice per day," he said. "That's unheard of. We're talking hours. Other states are talking days and weeks."

The app can serve a variety of purposes, from making it easier to report and gather information to formulate a more complete cause of death to enable a push for additional questions and public health surveillance, all of which can be quickly collected and disseminated.

"It could turn into a real-time surveillance tool," Wurtz said. "And it also opens up the door for more observations to become part of the COD report."

For example, while it provides a simple reporting tool for straightforward or "normal deaths" as Wurtz described, more complicated or multiple death cases that must be certified by the coroner's office could move quicker on documenting what information they have before a case is even solved.

"They don't have to make a complete report and have it certified before they can start centralizing the data and helping state and other government agencies," Wurtz said.

The app is the product of a year's work, funded by the CDC's National Center for Health Statistics and developed with the IT company CNSI. The app was originally launched in October, but only used by New Hampshire's chief medical examiner and 30-some death investigators. Wurtz and the rest of the team are continuing to update the app and run pilots around the state in hopes of developing a national model for mobile cause of death reporting and certification.

"The ability to have cause of death right in the phone or tablet of physicians, and most importantly, in public health surveillance, already puts us above and beyond the standard reporting requirements as identified by the CDC," said Wurtz.

The eCOD app also uses CDC's death certificate audit program called Validation and Interactive Edit Web Service (VIEWS), to

ensure all information is accurate and understandable, and can even correct for things like misspellings or the all-too-common problem of indecipherable doctor's handwriting.

"This makes it faster because it prompts physicians with the official COD terminology and real-time editing fixes, and it's in a format that every person who needs to access the information can reliably read," Wurtz said. "In the pen-and-paper process, those are the kinds of issues that would set reporting back months."

But the part of eCOD that has the most potential impact is the situational surveillance features. As part of a CDC initiative, this allows for instant access to vital statistics in a timely manner – updated twice daily rather than monthly – that can reveal important insights about disease outbreak, natural disaster impact or even the effects of the opioid crisis.

Wurtz, who described this as "absolutely cutting edge" in the death registry world, said the idea for the app first came to him about a year ago during his morning commute, when he heard a radio show discussion of Zika virus in Miami.

"I heard on NPR how they were able to identify Zika on neighborhood level and thought, 'Now, that's an important thing to know. How do we go about finding that out for different diseases based on causes of death?'" Wurtz said. "So we started thinking about all the questions we would need to ask to get the basics and get a litmus for what is going on."

While Zika isn't so much a concern in New England, deaths from opioids are, and Wurtz said the app could eventually provide rich enough data that could be shared with law enforcement or other agencies to pinpoint hotspots of drug use and prevent deaths.

"The possibilities are really endless with the ability to have data on the fly," he said. "You start with a pretext of asking

three questions about deaths – yes, no and unknown – and the details can be chased down later. For example if they just know a few facts right now about the deceased, they can plug into other information sources and know that they are in a part of the city that is hot right now for drug use. From there, they can get specific information out to the right agencies.”

New Hampshire provides a nice case study – it’s small, and there are only 10,000 deaths per year, but Wurtz says the technology is transformative enough that, so long as the CDC could keep up, every state should be able to adopt it. Over the next few months, Wurtz will be rolling out the eCOD app to larger territories and said they will offer the technology to any state that wants it.

“Obviously, the CDC would need to gear up a little, but once an automated process is established, the system doesn’t care if its 10,000 per year or per day,” he said.

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