Glitch In Portland's 911 System Prevents Operators From Returning Dropped Calls

By Amelia Templeton. Oregon Public Broadcasting. December 21, 2016.

A system that several of Oregon's most populous counties use to filter out accidental 911 calls from cellphones has serious unintended consequences.

In Portland, it has failed to capture the records of thousands of emergency calls that were potentially from people seeking help but who hung up or were disconnected before they were able to speak with an operator.

"It's a complicated problem with important consequences that the city didn't know about for a long time," said Portland ombudsman Margie Sollinger, who published a report on the issue Wednesday.

Sollinger uncovered the problem while investigating the city's response to a fire.

Last May, a house went up in flames in inner southeast Portland. Firefighters arrived on the scene and pulled a woman named Betty Fry from the house. Fry, 84, died from her injuries.

Afterward, one of Fry's neighbors complained that when she tried to call 911, she was placed on hold. The neighbor hung up and never got a call back. "I asked the basic question, why didn't 911 call this woman back," Sollinger said. "They told me that they had no record of that woman ever making the call."

People dial 911 and then abruptly hang up for a myriad of reasons. There are prank callers, but also people experiencing medical emergencies or domestic violence situations who may not be able to stay on the line.

City policy requires that operators try to call back people who hang up or are disconnected to determine whether there is an emergency. It's also standard practice at most dispatch centers across the state.

Using Verizon cellphone records, Sollinger was able to prove that Fry's neighbor had in fact called, and had waited on hold for more than two minutes before deciding to hang up.

The city's Bureau of Emergency Communications has a significant staffing problem. Hold times can spike when a major incident happens and many people call at once to report it.

In Fry's case, dispatchers had successfully received several earlier calls about the fire and firefighters arrived on the scene in less than five minutes. Dispatch's failure to call the neighbor back is not the reason Fry died.

But that single missing call revealed that the city's filter system has been incorrectly classifying disconnected cellphone calls as completed instead of passing them to an operator for followup.

"As as it turns out, the city couldn't call these folks back, because the system is not retaining the callback number," Sollinger says.

Sollinger says city technology staff estimate that in 2015 alone, the technological glitch affected 18,482 emergency calls.

The bug in the system stems from a piece of hardware the city and several Oregon counties use to screen out pocketdials from cellphoness, a problem for emergency responders across the country.

The proliferation of smartphones has led to a surge in calls to 911 made by people sitting on their phones or otherwise dialing unintentionally.

A recent study of San Fransisco's 911 system conducted by Google, for example, found that nearly one third of cellphone calls placed to 911 were accidental.

Portland's Bureau of Emergency Management adopted a call screening program in 2004 to minimize the impact of pocketdials. Several Oregon counties have followed suit: Multnomah, Clackamas, Washington and Lane counties all use a similar call filtering system that screens cell calls.

It uses a piece of hardware sold by the company Interalia and known as the XMU autoattendant. The autoattendant prompts callers on cellphoness to say 911 or press any number to confirm they intend to place the call before it routes them to a human operator.

"It screened out a ton of calls that we were getting that were not intentional," says Portland Bureau of Emergency Communications spokeswoman Laura Wolf.

Wolf says that before the bureau installed the call filter, operators spent an inordinate amount of time responding to pocketdials, slowing their response to legitimate calls.

"You're spending time doing that while someone who has a true emergency is trying to get in," she says.

In a letter responding to Sollinger's report, the bureau acknowledged that the lost call problem exists, but disputed her assertion that it affected more than 18,000 calls in a single year.

"The actual number of these calls is unknown, but it is very misleading to imply that we lose information from thousands upon thousands of calls," wrote BEOC director Lisa Turley.

"It's a fact," Sollinger says. "It's their number. It's not my estimate."

The Bureau of Emergency Communications says that the cost of disconnecting the cell filter is greater than the benefit. The city's 911 center is already severely short staffed and relies on forced overtime to cover shifts. Turning the flood of accidental calls back on would overwhelm the system — a conclusion with which Sollinger agrees.

Next spring, the city is planning a major technological upgrade of its 911 system, funded by the state. The system overhaul includes the other counties that use the XMU filter. BEOC officials say that upgrade will include a new, better integrated cellphone filter system that will retain the numbers of everyone who calls, fixing the problem.

In the meantime, the bureau has updated the prerecorded message that plays if callers are placed on hold while trying to reach 911.

"The operator will be with you as soon as possible. Do not hang up," the message says. "We may not be able to send help or call you back if you hang up."