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Toronto water has drug-resistant bacteria
By CBC News

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The water remains safe to drink, he said, but the finding raises the possibility that disease-causing bacteria will pick up the resistance genes.

In the United States, researchers have found bacteria in some municipal water supplies that have evolved to become resistant to some antibiotics.

At his lab in Ann Arbor, Mich., microbiologist Prof. Chuanwu Xi showed a stack of petri dishes, some filled with yellow dots of bacteria that should have been killed off by antibiotics.

The source of the bacteria was drinking water from several communities in Ohio and Michigan.

"In tap water in Toronto, there's antibiotic-resistant bacteria," Xi said, after testing water samples provided by CBC News.

The researchers don't know what kinds of bacteria they've found, just that they can't be killed by antibiotics.

But most bacteria in the environment are not the kinds that cause human disease, so the water is safe to drink, the researchers said.

Drug-resistant infections

The real concern is the genetic pollution created by antibiotic-resistant genes circulating in the environment and the risk that human pathogens will pick up those resistant genes, said Gerry Wright, a researcher at McMaster University in Hamilton.

Bacteria have a remarkable ability to copy the drug-resistance genes of their neighbours, Wright said.

"We're getting to the point ? without being alarmist ? that for some infections we're beyond the point of having anything to treat the infection with," Wright said.

At this point, most superbugs infect patients who are very sick in hospital. But the concern is that doctors are starting to see routine infections that are increasingly drug resistant.

At Grand River Hospital in Kitchener, Ont., infectious disease specialist Dr. William Ciccotelli has watched resistance develop in a bacterial species known as *Acinetobacter baumannii*. The common, formerly harmless water bacteria suddenly emerged as a superbug, resistant to all but the most toxic antibiotic.

"I've personally had experiences where by the start and end of somebody's illness, the organism becomes increasingly more resistant," Ciccotelli said. "So the last antibiotic I used to treat it, the next time I have to treat it, it's resistant to that."

Researchers don't know the source of this resistant strain.

To learn more about resistance in general, public health experts are studying the use of antibiotics in agriculture and medicine.