# Drug-resistant superbugs spreading rapidly in intensive-care wards

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Drug-resistant superbugs are spreading rapidly in intensive care units across the country, “startling” results from a national survey reveal.

On average, 20 per cent, and as many as half, of “staph A” infections in critically sick patients that can cause pneumonia and infections of the skin, blood, heart and bone are now resistant to commonly used antibiotics.

“This is startling. The last studies that we looked at, it was about five per cent,” says Dr. George Zhanel, professor in the department of medical microbiology at the University of Manitoba in Winnipeg.

“It’s gone up dramatically, despite the aggressive efforts that we have ongoing across Canada.”

One in 20 E. coli infections in ICU patients are now “virtually untreatable,” added Zhanel, primary investigator with the Canadian Intensive Care Unit Surveillance Study.

The researchers are urging physicians to hit superbugs “hard and early” with broad-spectrum antibiotics designed to kill many types of bacteria, rather than waste time waiting for lab tests to identify the specific bacteria.

Without more infection control and hand washing, more prudent use of antibiotics and the development of new drugs, “we’re going to be in bigger trouble,” Zhanel said.

So far, his team has tested specimens from 4,180 patients from 19 intensive care units. The survey began in September 2005; samples have been collected from respiratory and urinary tracts, blood, skin wounds or IV sites to determine what kinds of infections are occurring, and how many are due to antibiotic-resistant “superbugs.”

The most worrisome is MRSA, or methicillin-resistant staphylococcus aureus, a rapidly dividing organism that can live on the skin or nose. It secretes enzymes that break down tissue. In rare cases it can be fatal.
“It’s a more vicious organism,” said Dr. John Shepherd, vice president of Vancouver Coastal Health. “It has a high propensity under the right circumstances to be a really deep, invasive infection, the kind of thing that chews up heart valves and joints.”

Drug-resistant “staph A” is the leading cause of pneumonia, wound and blood infections in the intensive care unit.

In an ICU, the organisms can lurk everywhere, Zhanel says — on staff, lab coats, stethoscopes, doorknobs and bed rails. “They can be on a patient, in their nose, in their armpit, on their legs.”

The researchers also found a 6.8 per cent prevalence of VRE, or vancomicin-resistant enterococci, which can cause urinary tract, wound and blood infections. Nearly five per cent of E. coli infections were multi-drug resistant, “which is a shocker,” Zhanel says. “We thought we were going to be less than one per cent.”

The most important way to keep the infections from spreading is hand washing.

“Yes, there’s hand washing in intensive care units. Is it enough? No, we need more, and on each and every medical ward. We need continuous ongoing pressure on people so they realize how important this is,” Zhanel said.

The study involved hospitals in Victoria, Vancouver, Edmonton, Regina, Saskatoon, Winnipeg, London, Hamilton, Toronto, Ottawa, Montreal, Moncton, Saint John, Sydney and Halifax. More details will be released later this month at an international meeting.

While most MRSA infections are picked up in hospital, researchers found at least seven cases of community-acquired MRSA. People at the highest risk include IV drug users and First Nations people.