

Communicable Disease – Antibiotic Resistant Organisms (AROs)

Why Is This Important?

Infections caused by anti-microbial resistant organisms (AROs) are of concern because there are limited treatment options. Antibiotics are used to fight infections, and, when taken as prescribed, are greatly beneficial to patient care. However, antimicrobial drugs have been so widely used, and for so long, that some infectious organisms have adapted to them, making drugs less effective.

Some pathogens have become resistant to multiple types or classes of antibiotics. Antibiotic-resistant infections can also contaminate the food we eat because of the use of antibiotics in people and food animals.¹

AROs can be present on the skin or in the intestine without causing harm. This is called “colonization” and does not indicate infection so treatment is not required. *Staphylococcus aureus* is a common organism carried on the skin; **methicillin resistant *Staphylococcus aureus* (MRSA)** is a resistant form of the *S. aureus* organism. MRSA becomes more problematic when it causes an infection.

Vancomycin-resistant enterococci (VRE) are strains of enterococci bacteria that are resistant to the antibiotic vancomycin. **Extended spectrum Beta-Lactamase (ESBL)** is bacteria with an enzyme that can break down antibiotics, and transmit this ability to other germs. ESBL is not a reportable infection in Canada and surveillance data is incomplete. See [About the Data](#).

What Is Being Done?

[2016 Disease Control Activities](#)

[Infection Control in SHR Hospitals](#)

To Learn More:

Chief Medical Health Officer's [Call to Action](#)

Highlights

Antibiotic resistant organisms (AROs) are increasing in our Region in part due to screening in hospitals and long term care homes.

- ARO surveillance does not differentiate between non-threatening colonization (in the intestine, urinary tract or on the skin) and active infections. In 2016, 248 cases of VRE and 519 cases of MRSA were reported.
- Between 2012 and 2016, a total of 2,950 cases of antibiotic resistant organisms (AROs) were reported, the majority methicillin-resistant *Staphylococcus aureus* (MRSA) (*Figure 1*). Hospital screening of high risk patients was introduced in 2005. Once reported through screening, a new case in the individual is not reported again. See [About the Data](#).
- In 2016/17, five outbreaks of vancomycin-resistant enterococci (VRE) were reported in the Region's hospitals. One extended spectrum Beta-Lactamase (ESBL) outbreak were reported in a long term care home and one in hospital.

Figure 1: Antibiotic Resistant Organisms, Saskatoon Health Region, 2012 to 2016

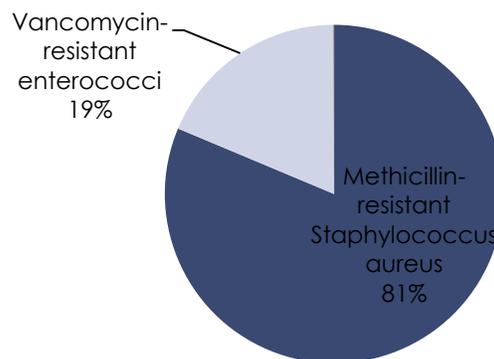
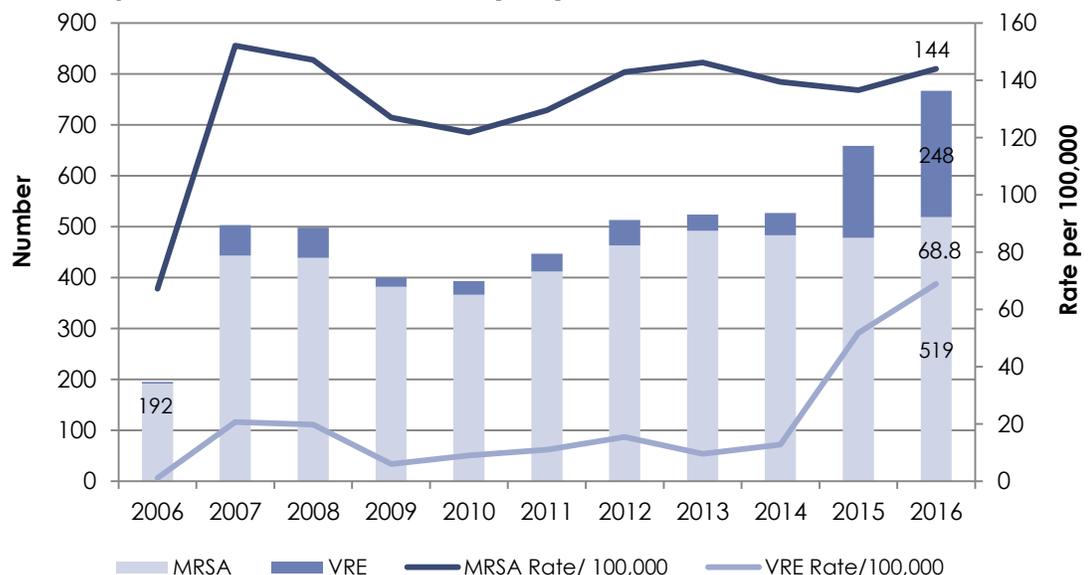


Figure 2: Methicillin-resistant *Staphylococcus aureus* (MRSA) and Vancomycin-resistant enterococci (VRE), 2007 to 2016



Source: iPHIS