

# Antibiotic resistance is an even greater challenge in remote Indigenous communities

December 10 2019, by Asha Bowen and Steven Tong

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Skin and soft tissue infections are often caused by the bacteria golden staph, which is increasingly resistant to antibiotics. Credit: shutterstock.com

Antibiotic-resistant infections already cause at least [700,000 deaths](#) globally every year.

Although the phenomenon is most concerning for serious infections people are admitted to hospital with, antibiotic resistance means common bacterial infections could one day be impossible to treat.

Appropriately, the issue has received [national](#) and [global](#) attention in public health policy making.

But antibiotic resistance in remote [Aboriginal and Torres Strait Islander communities](#) has garnered minimal attention. Remote Indigenous communities are not mentioned in the current [National Antimicrobial Resistance \(AMR\) Strategy](#), for example.

It's in these parts of Australia, however, that antibiotic resistance is arguably having the most significant impact.

## A key example

Antibiotics are medications used to treat bacterial infections. But when bacteria are repeatedly exposed to antibiotics, they can adapt and survive against the antibiotics previously known to kill them.

Using antibiotics unwisely, for example for a viral infection, taking a low dose when a high dose is needed, or stopping a course of antibiotics before an infection has resolved, [all contribute](#) to antibiotic resistance.

In northern Australia, the bacteria *Staphylococcus aureus*, (or *S. aureus* for short, also known as golden staph) causes skin and soft tissue infections. When *S. aureus* becomes resistant to the antibiotics commonly used to treat these infections, we call it methicillin resistant *S. aureus*, or MRSA.

The rates of MRSA in northern Australia are [significantly higher than elsewhere](#) in the country. Recent government figures show among people

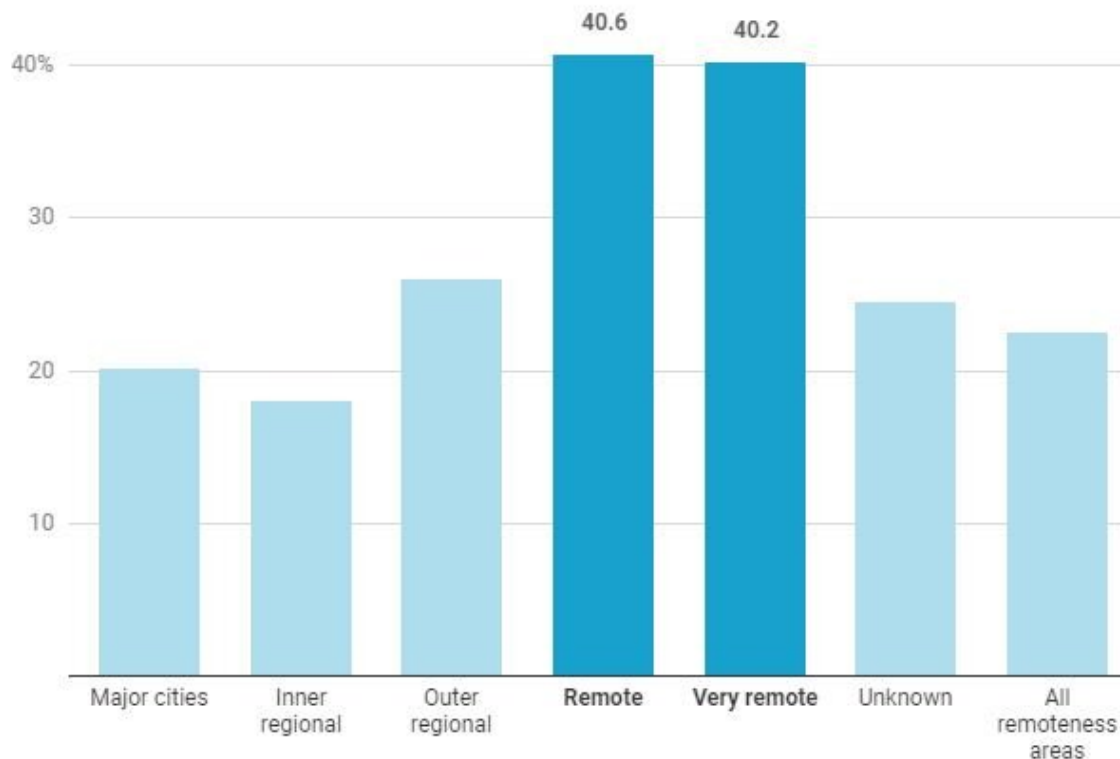
with *S. aureus* infections, the rate of MRSA in remote and very [remote areas](#) was double that of major cities (roughly 40% versus 20%).

Australia [doesn't have](#) a national surveillance system for monitoring rates of MRSA. So the figures can vary depending on the location, time period and the population studied.

Some studies have reported MRSA rates [close to 60%](#) in parts of central and northern Australia, compared to [about 13%](#) elsewhere in Australia.

### What happens when the antibiotics don't work?

Percentage of MRSA by remoteness area, 2017



Credit: Antimicrobial Use and Resistance in Australia

Up to [three-quarters](#) of all people in remote Indigenous communities who attend a [medical clinic](#) each year present at some stage for treatment of a skin and soft tissue infection such as skin sores, boils or cellulitis.

The prevalence of MRSA in northern Australia means these people can no longer rely on simple, [first line antibiotics](#) for treatment.

Treatment failure because of antibiotic resistance means skin and soft tissue infections take longer to get better, and are more likely to spread to other people.

In more serious cases, the infection can invade past the skin and cause a bone, blood or lung infection. If this happens, the patient will likely need to be flown to a hospital thousands of kilometers away.

This issue is compounded when certain antibiotics are unavailable due to shortages.

## **Why is antibiotic resistance so much higher in remote Indigenous communities?**

The heavy burden of infections such as skin infections (as many as [one in two](#) remote living Aboriginal children suffer from a skin infection at any one time), ear infections, [pneumonia](#), and [sexually transmitted infections](#), mean antibiotics need to be prescribed frequently and broadly. This allows antibiotic resistance to spread.

In addition to high levels of [infection](#), underlying [social determinants of health](#) like household crowding and poor access to facilities such as working washing machines and showers facilitate the ongoing transmission of bacteria.

## Antibiotic resistance and closing the gap

Health-care workers in remote clinics come from all across Australia and New Zealand, sometimes only for [short stints](#). So it's important they are educated about local antibiotic resistance rates and [local treatment guidelines](#).

Similarly, doctors in remote clinics need to be able to access real-time local antibiotic resistance rates. Pleasingly, an online atlas for health practitioners of antibiotic resistance rates across northern Australia, called "[HOTspots](#)", is currently being set up.

Addressing [antibiotic resistance](#) in remote Indigenous communities must be part of the ongoing effort to close the gap in health outcomes between Indigenous and non-Indigenous Australians.

Inclusion of remote Indigenous populations as a priority in the [National AMR Strategy](#) is essential. These groups are not mentioned in the current strategy (2015-2019) but we are hopeful they will be included in the new strategy, to be released soon.

Implementing the the National AMR Strategy for remote living Indigenous Australians must be a high priority to ensure [antibiotics](#) are available to treat infections among this already vulnerable section of our population.

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