How Resistance Data Help Doctors Pick the Right Antibiotic
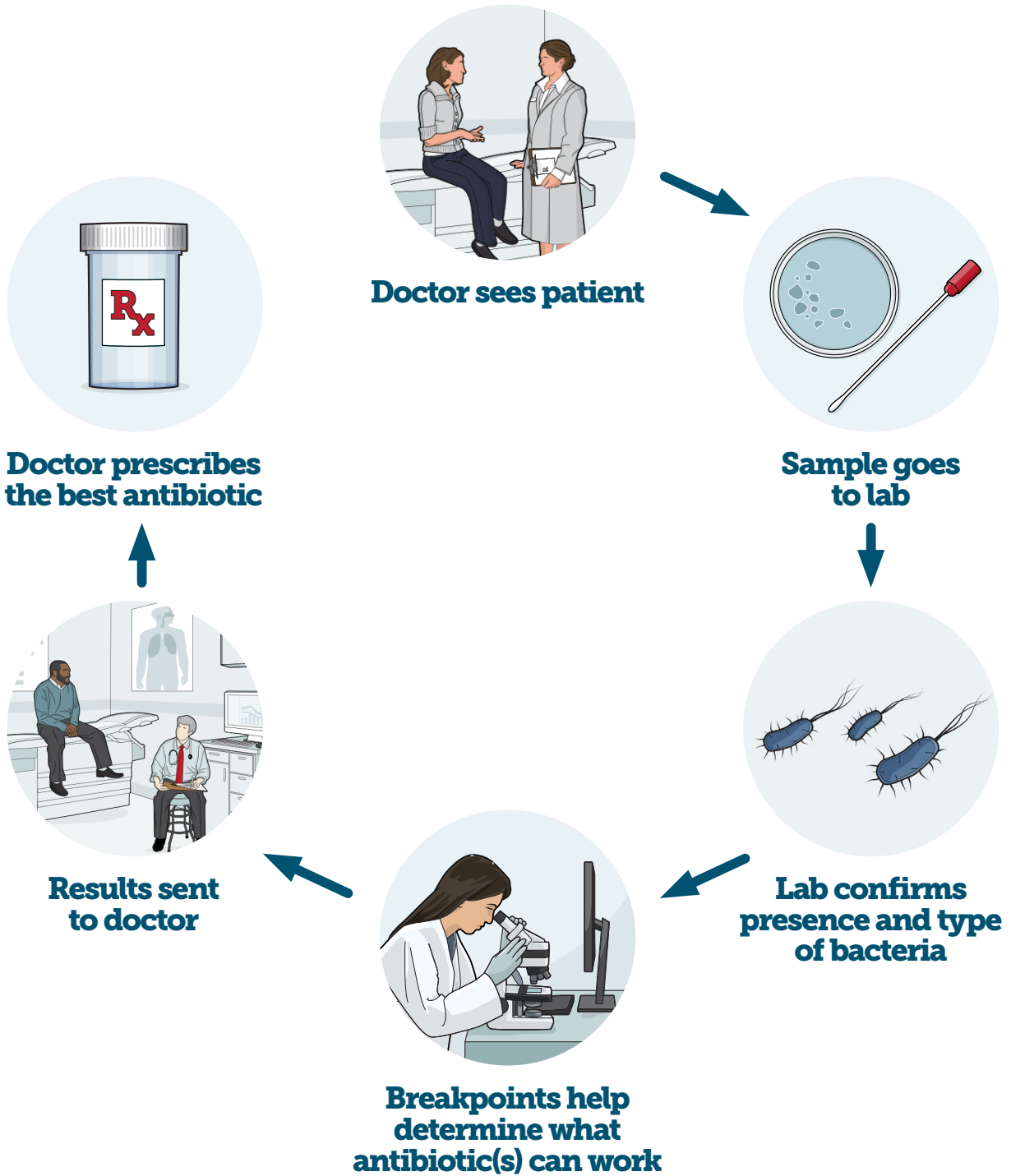
More timely access to 'breakpoints' improves patient care and helps combat superbugs

Doctor sees patient

Sample goes to lab

Doctor prescribes the best antibiotic

Lab confirms presence and type of bacteria

Results sent to doctor

Breakpoints help determine what antibiotic(s) can work

A patient has a high fever, possibly linked to a bacterial infection on her skin. What happens next?

To confirm that the infection is bacterial, and to identify the drugs that will be most effective in treating it, the doctor sends a sample taken from the infection site to a clinical laboratory for testing.

In the lab, a technician uses a testing device that has been calibrated using the Food and Drug Administration website's updated data, known as breakpoints, to determine whether the bacteria in the patient's sample are susceptible or resistant to a range of antibiotics.

The final results of these tests are sent to the doctor, listing each antibiotic as either "S," indicating that the bacteria are susceptible to that antibiotic, or "R," indicating that the bacteria are resistant. The doctor uses this information to help assess what course of antibiotic therapy has the best probability of curing the patient's infection.