

INFECTIOUS DISEASE REPORT FOR SOUTHERN DISTRICT MEETING SPRING 2022

Infectious disease is defined as illness resulting from the presence, growth, or infection of organisms such as bacteria, viruses, fungi (athlete's foot, ringworm), or parasites (roundworms, malaria) ([Mayo Clinic](#)). Many organisms live on or in our bodies and do no harm. But in certain circumstances they can cause disease. Diseases can be transmitted from person to person (colds, pneumonia, HIV), insects (mosquitos, ticks), animals (rabies), environment (airborne such as tuberculosis), or contaminated food or water (typhoid, E coli). Disease causing organisms can be passed by indirect contact such as touching a contaminated surface and then touching our eyes, mouth, or nose. Organisms causing infections vary as does their treatment. Note – vaccines are available to prevent many common infectious diseases.

Viruses, which invade and multiply in healthy cells, are often treated with supportive therapies such as rest or fluids. Antiviral medications are available for certain viral infections, and there are vaccines for others such as measles, influenza, or shingles.

Parasites, which live inside the host causing sickness, are treated by antiparasitic medications specific to the type of parasite – such as antimalarial.

Fungal infections can often be treated with over-the-counter creams, but may need stronger topical prescription medications, or oral medications.

Bacterial infections are treated by drugs known as antibiotics, which prevent the spread of disease, and reduce serious disease complications.

Some infections left untreated cause more serious conditions.

A newer phenomenon known as **antibiotic resistance**, due to misuse and overuse of antibiotic medications, is becoming one of the world's most urgent health problems. This resistance develops when bacteria change in a way that reduces or eliminates the effectiveness of antibiotics. When antibiotics do not work, the results can be increase in disease severity, disease length, health complications and adverse effects, the use of stronger and more expensive drugs, re-hospitalization, and risk of death. When a person is infected with an antibiotic-resistant bacteria, treatment is more difficult, and the antibiotic-resistant bacteria may spread to other people.

Most inappropriate uses of antibiotics occurs when they are prescribed for viral respiratory infections, such as viral bronchitis, ear infections, or sinusitis. Prescribing can be related to clinicians prescribing antibiotics before test results confirm a bacterial infection, patient pressure to receive an antibiotic prescription, patients taking antibiotics they have purchased online or in another country after self-diagnosing a bacterial illness, and patients taking antibiotics left over from a previous prescription. Prescribing the correct antibiotic for the type of bacteria is an important prevention of resistance. Using non–first-line antibiotics, an antibiotic with broad-spectrum activity when that infection may be treated with a narrow-spectrum drug, using left over antibiotics or antibiotics from another's prescription, all contribute to increasing antibiotic resistance. Bacteria that have become resistant to antibiotics include those that cause skin infections, urinary tract infections, meningitis, sexually transmitted diseases, and respiratory tract infections such as pneumonia. (FDA)

One of these is MRSA (Methicillin -Resistant Staphylococcus Aureus), a staph bacteria resistant to many antibiotics previously used to treat ordinary staph infections. It has resulted from years of unnecessary antibiotic use in treating colds, flu, and other viral infections that do not respond to antibiotics. The bacteria evolved to survive the antibiotic treatment becoming resistant to them. According to the CDC, 5% of the population chronically carries MRSA, known as "colonization," which is commonly found in the nose. Several antibiotics are used for treatment as well as new antibiotics being developed. Consulting with an Infectious Disease Specialist is important in serious cases or when there is little response to treatment. When left untreated, MRSA can become invasive in the body and set-up life-threatening infection in the bloodstream (known as sepsis), lungs (pneumonia), heart valves, and bones/joints.