A .gov website belongs to an official government organization in the United States. A lock ( ) or https:// means you've safely connected to the .gov website. Share sensitive information only on official, secure websites. The following information is a summary of testing offered through the Antimicrobial Resistance Laboratory Network (AR Lab Network), including: Core testing performed by seven regional labs: Additional testing performed by select regional labs: CPOs are types of bacteria that produce a genetically coded an enzyme called carbapenemase. Carbapenemases allow these bacteria to resist the effects of carbapenems and other β-lactam antibiotics. Carbapenems are among the few remaining antibiotics that can treat ESBL-producing bacteria, but resistance is on the rise. Detecting patients who are colonized with CPOs or have an infection caused by a CPO helps prevent spread within and among facilities. The AR Lab Network screens for the following CPOs: Aspergillus fumigatus, a fungus found in the environment, can cause serious illness in people with weakened immune systems. This fungus can develop resistance to azoles during long-term treatment of infected patients or when it is exposed to azole fungicides used in the environment. Infections have been identified in the U.S., increasing the need for awareness and action by clinical and public health professionals. The AR Lab Network tests for azole resistance in A. fumigatus to monitor and track the emergence of azole resistance in the U.S. Candida is one of the most common causes of healthcare-associated bloodstream infections in the U.S., and antifungal resistance in Candida is increasing. New and emerging species, like C. auris, can spread in healthcare settings and cause outbreaks. C. difficile causes severe diarrhea and colitis (an inflammation of the colon), which can be life-threatening. Most cases of infection occur in people taking antibiotics or those who have recently finished taking antibiotics. When antibiotics are newly approved for use, it can take years before susceptibility tests for these antibiotics are made available in clinical labs. CDC's AR Lab Network provides testing for isolates of highly-resistant Enterobacterales that carry MBLs, which can help guide clinical decision making for

highly-resistant isolates. MBLs make bacteria resistant to a broad range of antibiotics, including carbapenems, which are often used to treat antimicrobial-resistant infections. Gonorrhea has progressively developed antimicrobial resistance to the drugs recommended to treat it. CDC's AR Lab Network offers testing to assist in care of patients with potentially drug-resistant gonorrhea. Streptococcus pneumoniae (pneumococcus) is a leading cause of bacterial pneumonia and meningitis in the U.S. It also is a common cause of bloodstream infections, and ear and sinus infections. When labs submit pneumococcus isolates for testing, serotype results can aid clinical practice to evaluate for vaccine failure, immune deficiency and outbreak identification. Clinical isolates are also vitally important to public health programs that monitor changes in circulating serotypes and antimicrobial resistance. M. tuberculosis, most known as Tuberculosis (TB), is a disease caused by bacteria that are spread from person to person through the air. It is a common infectious disease found worldwide and can cause death if not treated. TB can be resistant to more than one antibiotic used to treat it. The National Tuberculosis Molecular Surveillance Center provides testing to identify TB strains, free of charge. Any authorized medical or laboratory professionals can submit samples and in consultation/awareness of their state health department or local authorities per institutional policies. Visit the TB laboratory information page for necessary submission forms. Salmonella bacteria can spread from animals to people through food. Antimicrobial resistance to Salmonella is increasing. Salmonella testing is supported through PulseNet. CDC offers free resources and tools for laboratory scientists to help combat antimicrobial resistance. Email CDC at ARLN@cdc.gov for more information about the AR Lab Network. CDC’s Antimicrobial Resistance Laboratory Networks support domestic and global lab testing across One Health. Languages Language Assistance Languages Language Assistance

Source URL:

https://www.cdc.gov/antimicrobial-resistance-laboratory-networks/php/about/testing-services.html