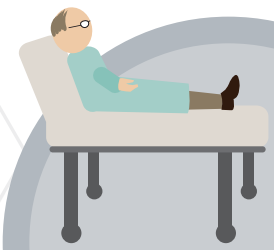
Detect and Protect Against Antibiotic Resistance

CDC's Initiative will speed up antibiotic resistance detection and production of new antibiotics and diagnostics



While in the hospital for surgery, George develops a bloodstream infection and the first round of **antibiotics aren't working.**

The hospital lab results show George's blood has Carbapenem-resistant Enterobacteriaceae (CRE), known as **"nightmare bacteria,"** which has become resistant to all or nearly all available antibiotics.

CRE samples from George's blood will be sent to a lab in the Antimicrobial Resistance (AR) Lab Network for confirmation and characterization.

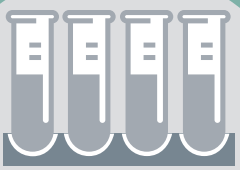
Hospital labs have the ability to identify most but not all types of antibiotic resistance, especially novel forms of resistance.

CDC and 5 Regional Labs

Equipped with CDC's gold-standard capacity to identify any type of resistance, members of the **Antimicrobial Resistance Regional Lab Network** will serve as a national resource to support hospital labs.

The regional labs will have cutting-edge technology that can provide more information on where detected resistance came from and how it is related to other types of resistance across the country.

Through the regional lab network, CDC and public health will be able to accumulate real-time, actionable information about dangerous antibiotic resistant threats.



CDC will work with the AR Regional Lab Network to send samples and data to a **Resistant-Bacteria Bank.**

From this bank, samples will be available to industry and academics for diagnostic and drug development.

Pharmaceutical companies will use samples to test new antibiotic agents.

Biotech and diagnostic companies will use samples to design next-generation clinical tests.

Researchers will use samples to study emerging resistance and investigate spread of AR pathogens.

Using samples from the Resistant-Bacteria Bank, industry and academic institutions will team up with CDC to help patients, like George, receive earlier diagnosis and effective treatment.

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