MASSACHUSETTS GENERAL HOSPITAL

Fact Sheet
Antimicrobial Resistance Research Study

HARVARD MEDICAL SCHOOL

What is antimicrobial resistance?

- Antimicrobial resistance is the ability of organisms to resist the effects of drugs – that is, germs may still grow even in the presence of a specific medication. Infections with antimicrobial-resistant organisms may be difficult to treat.

How does antimicrobial resistance happen?

- The overuse of antimicrobial medications like antibiotics and antifungals in humans and agriculture is the single most important factor leading to the increase in antimicrobial resistance around the world. Organisms that are drug-resistant can spread from person to person, or from the environment or non-human animal sources to humans.

What is colonization?

- Being colonized with an antimicrobial-resistant organism means that you have the organism somewhere on or in your body, but this organism is not making you sick. Risk of infection for colonized people that are otherwise healthy is low. Most people who get infections from these antimicrobial-resistant organisms are already sick from other medical conditions.

A few important things to know:

- We do not know the importance of having an antimicrobial-resistant organism in your stool or on your skin.
- Having an antimicrobial-resistant organism in your stool or on your skin does **not** mean you will become sick from that organism.
- If you are found to have an antimicrobial-resistant organism in your stool or on your skin:
    - We will follow you closely and let you know if we continue to identify an antimicrobial-resistant organism in your stool or on your skin.
    - You should tell your treating physician that you have been identified as having an antimicrobial-resistant organism if you become ill.
    - You will be placed on contact precautions if you are receiving healthcare at a hospital or outpatient clinic. Members of your care team will wear gowns and gloves when in your room to prevent spreading the organism to other people.

Healthcare professional wearing gown and gloves.

You can follow these common-sense practices to reduce the spread of germs:

Handwashing with soap and water.

1. Wash your hands with soap and water regularly, especially after using the bathroom and before preparing and eating food.
2. Always wash your hands with soap and water when they are visibly dirty. Otherwise, for convenience, you can use an alcohol-based hand sanitizer to clean your hands more frequently throughout the day.
3. Avoid unnecessary use of antimicrobial medications. Antimicrobial overuse is the major cause of persistence and spread of antimicrobial-resistant organisms.

These are the organisms we are looking for in this study:

1. Extended spectrum beta-lactamase producing *Enterobacteriaceae* (ESBL)
2. Carbapenemase-producing Carbapenem-resistant *Enterobacteriaceae* (CP-CRE)
3. MCR-expressing colistin-resistant *Enterobacteriaceae* (*mcr*)
4. *Candida auris*

If you would like to learn more about antimicrobial-resistant organisms, you can visit the CDC website:

https://www.cdc.gov/drugresistance