Carbapenemase Producing Organisms (CPOs)

What are they and why are they important?

CPOs are a type of bacteria that are highly resistant to the drugs used to treat them. They carry mobile genetic elements that can be transmitted from one germ to another. The genetic element allows them to produce an enzyme called a carbapenemase, making the drugs classes of carbapenems and other beta-lactam antibiotics ineffective, spreading resistance.

- CPOs are a concern for patients and residents in healthcare settings becasue they are resistant to the medications used to treat them.

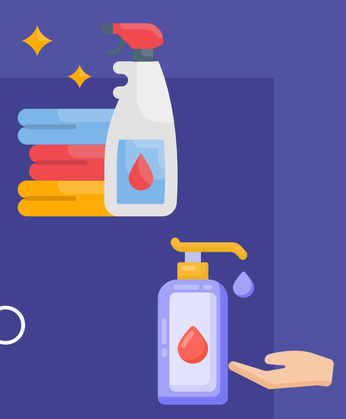
Reservoirs and Pathways of Spread

- CPOs can live in the gut and people can become colonized. Colonization refers to having the germ on, or in, the body but it is not causing infection. Colonized people can spread these germs to others.
- Spread is primarly person to person through direct and indirect contact, such as through:
  - -Contact with wounds or stool and
  - -Contaminated hands, medical equipment or devices and the environment.

Who is most at-risk?

- Patients in hospitals and residents in nursing homes
- Persons who are colonized
- Persons with indwelling medical devices, wounds, or weakened immune systems
- Persons taking long courses of certain antibiotics

Infection Prevention Considerations



- **Standard precautions** apply to patients and residents for all interactions.
- **Identify** patients or residents at risk for CPOs or those with a history of CPO colonization.
- **Transmission-based precautions** should be utilized in hospital settings.
- **Enhanced Barrier precautions** are recommended in nursing home settings.
- **Report** identified cases and work with public health to prevent spread to other patients or residents.
- **Communicate** patient or resident history during transfers.
- **Antimicrobial Stewardship** program & practices should be used to improve antibiotic usage.

Want to learn more about CPOs? Visit the Maine Infection Prevention Forum:
https://maineinfectionpreventionforum.org/

PROJECT FIRSTLINE
CDC's National Training Collaborative for Healthcare Infection Prevention & Control

Department of Health and Human Services