

Antibiotic Stewardship Background Content

Role of Environmental Services in Saving Lives

Antibiotic resistance occurs when germs no longer respond to the drugs designed to kill them. Antibiotic-resistant bacteria cause more than **2 million illnesses** and at least **23,000 deaths each year** in the United States.

Patients and healthcare workers contribute significantly to the environmental contamination of surfaces and equipment, especially in intensive care areas, because of the nature of the medical equipment (e.g., ventilators) and the moisture associated with this equipment.

- How antibiotic resistance is spread in healthcare settings:
 - Hands
 - High touch surfaces (e.g., bed rails)
 - Improper cleaning and disinfection of devices that may be used on patients
- Hand hygiene programs are not effective alone, especially if hands come into contact with contaminated surfaces.
- While high touch surfaces which are commonly contaminated are important, cleaning the entire room adequately is imperative.
- Environmental services is often not recognized as critical to patient safety.
- Models of staffing based on square footage may require review given changes in the modern hospital in which shorter lengths of stay and increased room turnover have become more common. Staffing needs to fit the clinical function of the hospital rather than the space.
- Multiple studies and experts recognize environmental cleaning is essential for stopping the spread of multidrug resistant organisms and *Clostridium difficile* infection, a potentially fatal form of diarrhea.
 - In one hospital, new environmental cleaning practices were credited as a significant factor in reducing unusually high rates of *Clostridium difficile*.
 - In another study, a dedicated cleaning crew that adequately cleaned and disinfected rooms contaminated by *Clostridium difficile* using a standardized process were more effective than other disinfection interventions.

This workgroup aims to initiate a culture change in which environmental service workers understand the pivotal role they play in the life-saving nature of their work and their role in improving patient outcomes. This will include sharing information and tools for facilities to tailor the program to their own needs and resources.

Commonly Contaminated Items in an ICU Room:



How Long Can Bacteria Live On Surfaces? A Long Time!

Pathogen	Survival Time on Surfaces (range)
<i>S. aureus</i> , including MRSA	7 days – 7 months
<i>Enterococcus</i> spp., including VRE	5 days – 4 months
<i>C. difficile</i> spores	(5 months)
<i>Acinetobacter</i> spp., including MDR	3 days – 5 months
<i>E. coli</i> , including ESBL	1.5 hours – 5 months