

The Paradigm Shift on the Spread of C. difficile Spores

That is Costing Your Hospital Money
That is not Being Reimbursed

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Stopping C. difficile Spore Transmission on Personal Items



A Paradigm Shift in C. diff and Clostridioides Difficile Infections (CDI)

“Recent studies have suggested dramatic changes in the epidemiology of CDI. Members of community populations are acquiring CDI who were previously thought to be at low risk. Community-acquired CDI is defined as the onset of symptoms within 48 hours of admission to hospital or more than 12 weeks after discharge. This case report presents an important paradigm shift: **C difficile can no longer be viewed solely as a hospital-acquired infection.**”

“Community-acquired Clostridium Difficile Infection”
George Kim MD MCISc(FM) CCFP
Nemin Adam Zhu MD

The Chain of Infection is Expanding

41% of CDIs were actually community acquired. Everyday items that travel with patients, visitors and healthcare workers have Clostridium Difficile spores on them that contribute to the reservoirs of spores throughout the healthcare network and community.

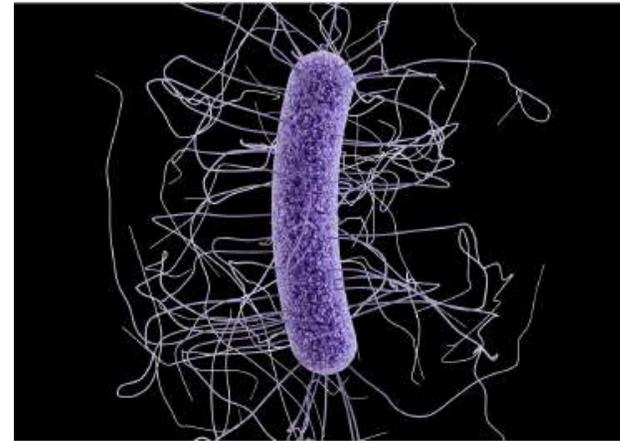
Right now, there is no disinfection barrier that protects hospitals and their surrounding communities from C. diff transmission via the personal items that routinely carry spores.

This critical gap leaves the chain of infection unbroken.

The Urgency

C.Diff is Not Contained

- Nearly half of all cases now originate in the community
- Driven by a growing pool of carriers and widespread environmental contamination
- The problem has outgrown hospital-only strategies



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Spread Across the Care Continuum

C. diff Moves With Patients, Not Just Within Hospitals

- Only 24% of cases occur in hospitals
- 75% linked to nursing homes or recently discharged patients
- Community-associated infections have nearly doubled (63–66 per 100,000)
- Recurrence rate: 16.22% → continuously reseeding the environment



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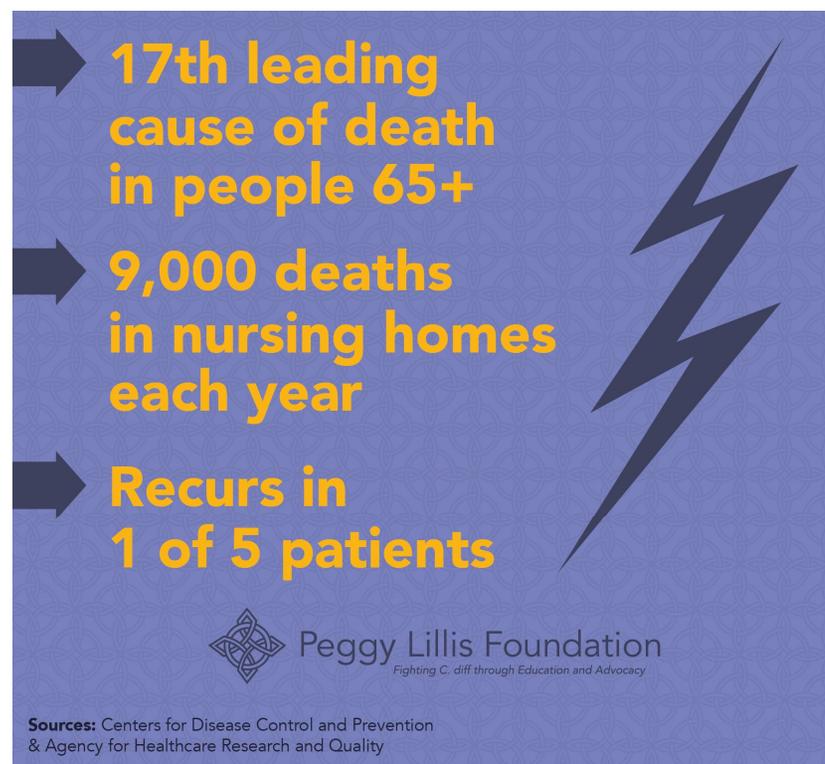
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Environmental Spread Is Now a Dominant Driver

Spores Are Fueling Transmission

- 36–46% of community cases occur **without** antibiotic exposure
- Persistent spores in homes, clinics, and public spaces accelerate spread
- Hospitals remain high-risk, but community reservoirs should be addressed

“Community-acquired Clostridium Difficile Infection”
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17th leading cause of death in people 65+

9,000 deaths in nursing homes each year

Recurs in 1 of 5 patients

 Peggy Lillis Foundation
Fighting C. diff through Education and Advocacy

Sources: Centers for Disease Control and Prevention & Agency for Healthcare Research and Quality

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Containment Today Is Not Enough

Traditional Disinfection Cannot Keep Up

- Spores survive for months
- Resist many disinfectants
- Caustic disinfectants damage personal items
- Spread is via personal items and shared surfaces
- Evade manual cleaning
- Spores are not visible
- There are not enough EVS people

Community-acquired *Clostridium difficile* infection:
an increasing public health threat
Arjun Gupta Sahil Khanna
Division of Gastroenterology and Hepatology,
Mayo Clinic, Rochester, MN, USA



Without identification and consistent spore-level disinfection, containment is impossible

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Hospital Surfaces with High Probability of C. diff Spores

Surfaces Where Spores Live in the Hospital

- Floor corners: 63.2%
- Call buttons: 44.1%
- Chair arms: 43.8%
- Patient beds: 35%
- Bathrooms (Patient and Public)

Any personal item contacting these surfaces can become a cross-contamination vector.

“Cleveland Clinic: Are Hospital Floors an Underappreciated Reservoir for Transmission of Clostridium difficile and Methicillin-Resistant Staphylococcus aureus?”
Abhishek Deshpande, MD, PhD^{1,2,3}



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Findings from a new study have cited that hospital floors are a hotspot for bacteria to breed, creating a route of transfer to patients



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Hospital System Outpatient Clinics: A Major Blind Spot

Overlooked Transmission Hub

- 80%+ of CDI patients visit an outpatient clinic within 12 weeks of discharge
- **These settings rarely use hospital-grade disinfection**
- Spores move easily from:
clinics → community → back into hospitals



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The Hidden Problem

Personal Items Are Carrying Spores Everywhere

C. diff spores can survive for months on personal items that travel:

- Phones, tablets, laptops (Bathroom, Hands)
- Handbags, purses, backpacks, shoes (Floor)
- Luggage and personal accessories (Floor, Patient Beds, and Chairs)

These personal items travel freely across:

- Hospitals
- Long-term care facilities
- Outpatient clinics
- Homes



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The Disinfection Challenge

Needed: A Proven Effective Disinfection Solution for C. Diff Spores that is safe for people and won't damage personal items

- Alcohol wipes or sprays are ineffective
- Bleach & hydrogen peroxide are effective but can damage personal items and void warranties on expensive electronics
- Healthcare needs:
 - 24/7 availability
 - Fast, simple, proven over time
 - Non-damaging to personal items or people



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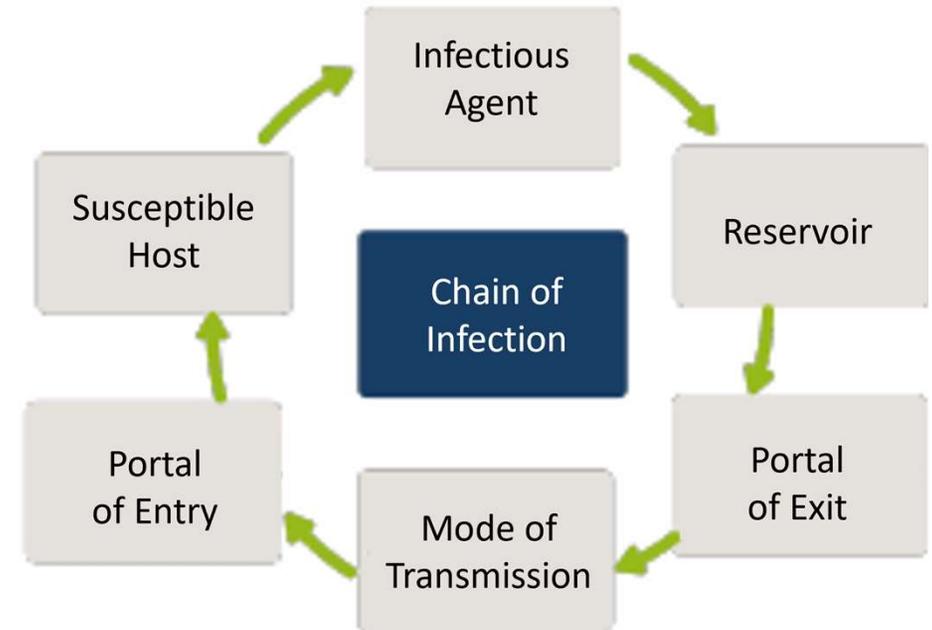
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Impact

Reducing Fomite-Borne Transmission via Personal Items Across the Network Supports CDC-aligned Infection Prevention Strategies.

Objective: Reduce *C. diff* spore contamination on personal items traveling between:

- Hospital ↔ Home
- Hospital ↔ Community
- Hospital ↔ Outpatient Clinics
- Hospital ↔ Long-Term Care



The Solution

AUVS disinfection chambers, are essential to address C. diff spores entering and leaving the hospital.

Our Chambers including **The UV Box** and **The UV Cube** offer:

- Validated, high-level, chemical-free disinfection of C. Diff spores
- Proven elimination of C. diff spores on personal items in hospitals
- A scalable disinfection solution at critical points to break environmental transmission



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AUVS UV-C Disinfection Chambers

AUVS UV-C Chambers:

- Deliver $\geq 99.99\%$ kill rate of *C. diff* spores in just 55 to 90 seconds.
- Have been independently lab tested
- Provide a new infection-control layer that prevents pathogens from entering and leaving the hospital on mobile personal fomites
- Offer Standardized disinfection
- Are Electronics-safe
- Offer a rapid cycle time
- Are Chemical-Free
- Represent a 24/7 disinfection utility

The UV Box

At Work in more than 700 Hospitals



The UV Cube

Large Capacity, Larger Devices



AUVS' UV Box for personal phones and tablets is used in over 700 hospitals. While the UV Cube is eight times larger than The UV Box for large and multiple items.

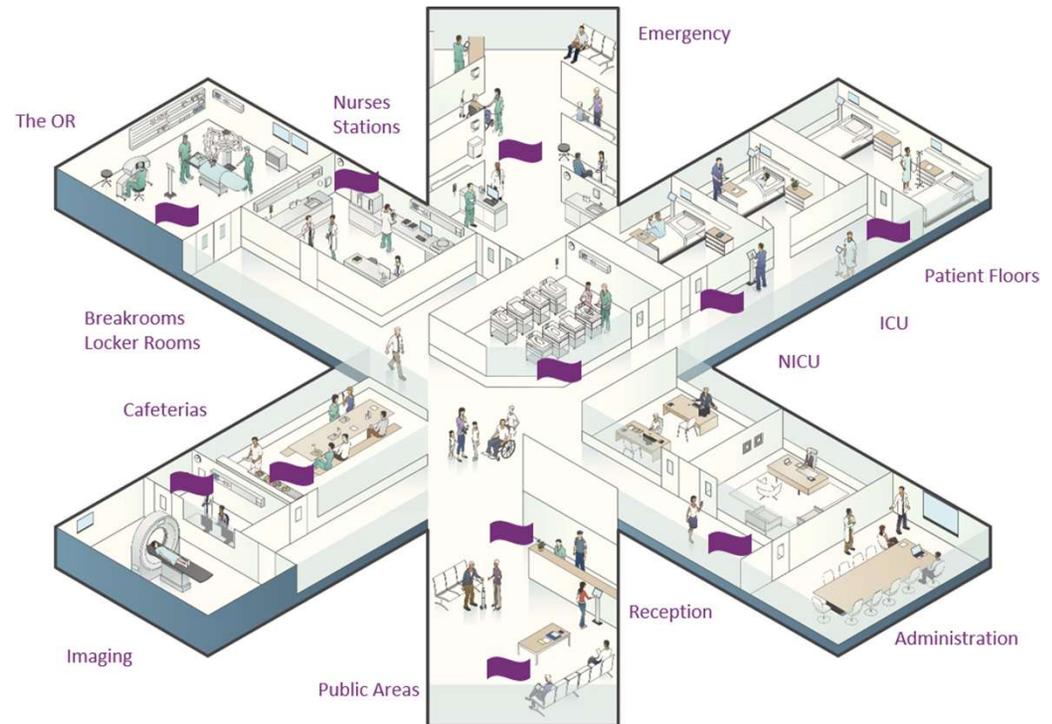
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Possible Locations of Disinfection Utilities for Personal Items

Areas of consideration:

- Main entrance and Emergency department
- Intensive Care Units (ICU)
- Select Inpatient Units
- Long-Term Care/Extended Care Facilities.
- Oncology and Transplant Geriatric Units
- Outpatient Centers
- Urgent Care
- Cafeteria



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Financial & Operational Value

A Small Impact Can Pay Big Dividends

Atlanticare study estimated that the community teaching hospital had a net loss of \$2,232,997 over the 4-year period due to CDI-related hospitalizations, the study authors wrote. This translates to a net loss per patient of approximately \$77,000 over the 4-year study period.

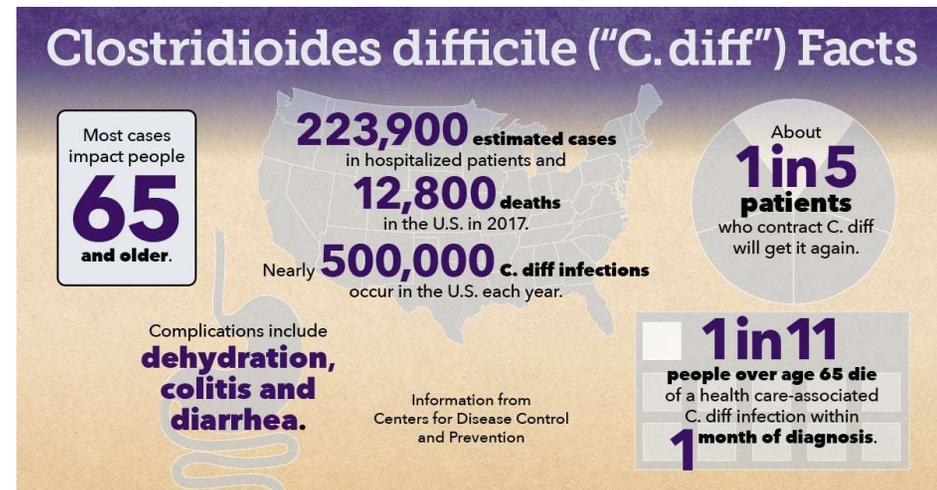
- Added 3–6 days of length of stay
- CMS ties reimbursement to infection rates

Potential Impact of AUVS Disinfection Chambers

- Reduces burden on physicians, nurses, pharmacists, and specialists
- Strengthens infection prevention programs
- Closes a major gap in environmental hygiene
- Save costs, reduce labor
- Help patients and the community

Economic impact of multiple recurrent *Clostridioides difficile* infection in a community teaching hospital

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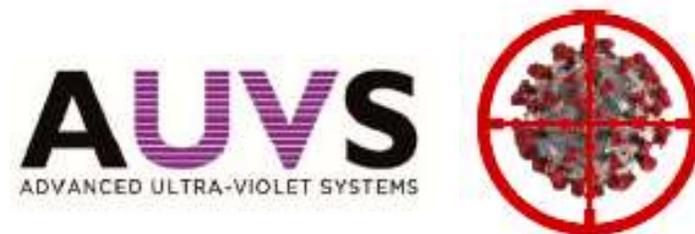
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The Takeaway

AUVS Disinfection System Designed for Personal Items

- Effectively and safely disinfects C. diff spore-contaminated **personal mobile items**
- **Reduce the reservoirs** of C. diff spores in the community and healthcare network
- **Reduces community and hospital transmission**
- **Protects** staff, families, and discharged patients
- Creates a new, **essential layer of infection control**
- **Impacts the fiscal bottom line and gets ahead of the problem**

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Because Hand Hygiene Doesn't Stop with Your Handssm



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