EXECUTIVE BRIEF

The LTC Transfer Vector
Closing the Highest Risk CDI Entry Point in Your Hospital

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A targeted $33.6K investment to address $140K–$160K in avoidable cost exposure

CFO Summary

Long–term care transfer patients are a pathway for *Clostridioides difficile* (C. diff) colonization entering your hospital. This pathway is quantifiable and may be an unmitigated source of Clostridioides difficile infection-related (CDI) financial exposure entering through admissions, the ED, and high-acuity units. Clinical evidence shows meaningful colonization rates and conversion risk, while existing protocols do not address contamination carried on personal items—creating a persistent gap between clinical effort and financial outcome.

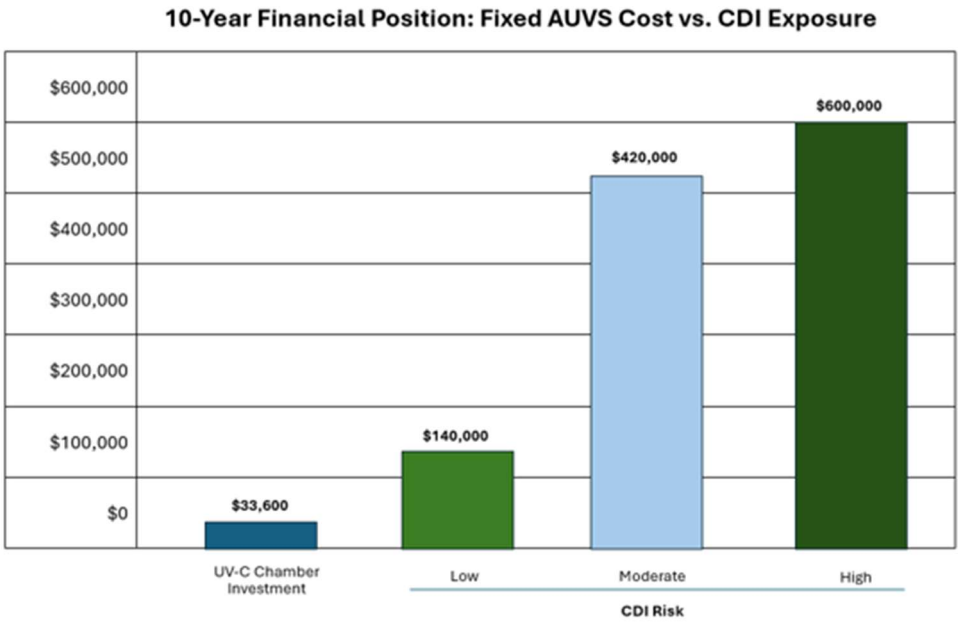
A targeted AUVS deployment of UV-C disinfection chambers reframes this from an operational challenge to a risk containment decision: a one-time $33.6K investment aligned to the highest-risk entry points, with breakeven at approximately 1–2 avoided CDI cases and a modeled 10-year cost exposure reduction of $140K–$600K+.

This is not an efficiency initiative, but a controlled intervention designed to reduce predictable, repeatable cost events.

This is an uncontrolled, recurring cost driver entering the system.

Even a low CDI incidence creates immediate cost exposure—turning a clinical risk into a predictable, recurring cost profile.

CONTROLLED INVESTMENT	BREAKEVEN	LOW EXPOSURE	HIGH EXPOSURE
$33,600	**1–2 cases**	**$140K**	**$600K+**
6-unit UV-C disinfection chambers targeted deployment	Low threshold	1 case/year equivalent	5 cases/year equivalent



Financial model based on published attributable CDI cost per case ($13.9K–$30K) and representative 1–5 case-equivalent scenarios per year. Values are directional exposure ranges, not guaranteed savings; actual impact varies by facility. Page 1 under citations for sources.

Executive Overview

Long-term care (LTC) resident transfers represent a concentrated and measurable CDI entry risk. Published data shows meaningful rates of asymptomatic C.diff colonization in this population, meaning patients can enter the hospital carrying spores without clinical detection at intake. Because spores persist on surfaces and high-touch belongings, this risk is not limited to the patient alone—it can be introduced through personal items such as mobile devices, bags, and footwear at the point of transfer.

Existing infection prevention protocols are designed to manage hands, rooms, and known infections, but they do not consistently address contamination entering with LTC patients and their belongings during admission. As a result, risk can move from patient → objects → care environments before standard controls are applied.

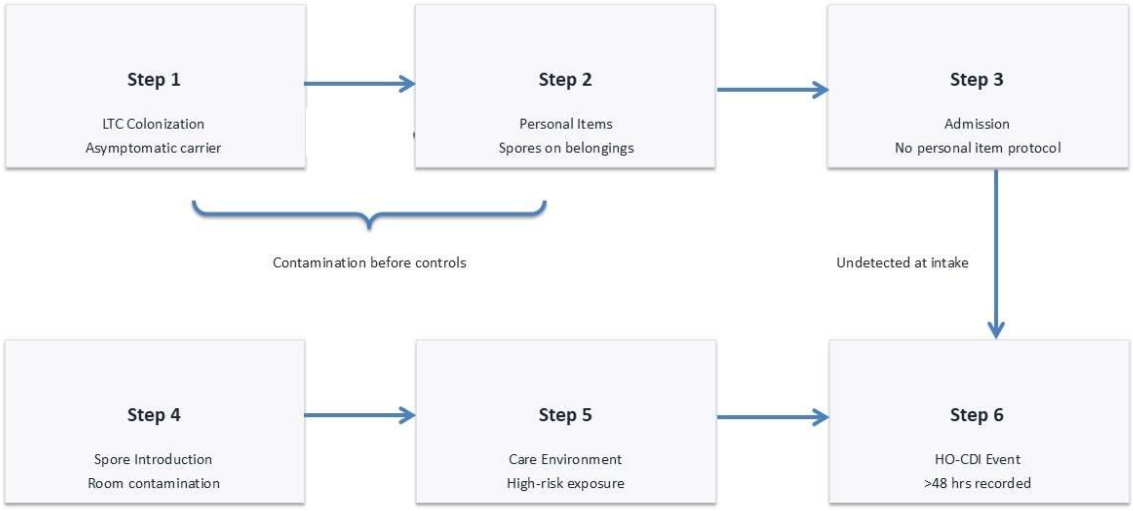
This matters because the epidemiology of CDI continues to evolve. Community-associated CDI now exceeds healthcare-associated CDI. Although recent emergency department data suggest that diagnosed CDI presentations have declined, reflecting improved antimicrobial stewardship, hospitals continue to admit patients who may be asymptomatically colonized before infection is recognized. Each CDI case creates multi-layer costs through longer stays, isolation expenses, readmissions, and CMS reimbursement risk. This is not a random or isolated event—it is a recurring exposure pathway where upstream contamination may translate into downstream clinical and financial consequences.

Sources

CDC Emerging Infections Program (2024); Guh AY et al. New England Journal of Medicine 2020
Patel MJ, O'Brien J. *Am J Infect Control.* 2026. Published online July 10, 2026. PMID: 42431317

How LTC Transfers Become CDI Risks Inside Your Hospital

Stepwise pathway from colonization to hospital-onset CDI



This is a recurring exposure pathway where contamination enters, spreads, and converts into hospital-onset CDI.

Clinical Evidence Supporting LTC Transfer CDI Risk

Each step in the pathway is supported by published clinical evidence

LTC populations represent a documented reservoir for C.diff colonization. Unlike symptomatic infection, colonization is often not detected at admission, allowing risk to enter and propagate within acute-care environments.

LTC Colonization

More than 14.8% pooled asymptomatic carriage. Higher ranges reported in LTC settings.

Source: PMC4338134

Transmission Potential

Asymptomatic carriers contribute to the spread. Genomic overlap between colonization and infection.

Source: PMID 29848392

Conversion to CDI

Subset of colonized patients convert post-admission
Progression documented within weeks

Source: PMC28693636

Environmental Persistence

Spores persist for up to 5 months on surfaces.
Movement documented via items + environment.

Source: PMC5781798

Clinical Fact	Operational Implications
Colonization not detected	Risk enters before controls
Transmission without symptoms	Spreading without isolation trigger
Spores persist up to 5 months	Environmental movement
Conversion to CDI	Clinical + financial impact

This is a documented, recurring exposure pathway—not a theoretical risk.

Each step is supported by clinical evidence linking LTC colonization to hospital-onset CDI.

Sources: Peer-reviewed studies including PMC4338134, PMC28693636, PMID 29848392, PMC5781798.

The Operational Gap — Where Current Protocol Scope Does Not Address Intake Risk

Evidence-informed interpretation aligned with CDC / SHEA guidance

Current infection prevention protocols are designed to manage **identified infections and environmental contamination within patient-care areas**. However, **colonization present at admission—particularly from LTC transfer populations—may not trigger enhanced control measures at intake**, allowing potential contamination pathways to enter the facility before escalation.

What Current Protocols Address

- Hand hygiene
- Environmental cleaning & disinfection
- Contact precautions for CDI
- Isolation once infection is identified[1]

Enhanced measures typically begin after diagnosis.

What Is Not Consistently Standardized

No standardized intake disinfection

- Personal belongings (phones, bags, textiles)
- Asymptomatic carriers at admission
- Contamination pathways before patient room placement[2]

Not a primary focus of guideline controls.

Colonization may enter at admission, while enhanced controls are triggered later after infection is identified.

This creates an operational gap between intake and control activation.

Why This Matters Now

The epidemiology of CDI is changing. Community-associated CDI now represents more than half of the national burden. Although diagnosed CDI presentations have declined in recent ER studies, hospitals continue to admit patients who may already be colonized before infection is recognized.

- Contamination before isolation
- Variability across departments
- Manual, inconsistent mitigation
- Aligns with transmission evidence
- Leads to downstream CDI cases
- Drives recurring cost exposure

This is not a failure of protocol—it is a gap in scope. Current systems manage identified infection but do not consistently address contamination risk introduced at intake.

Aligned with CDC and SHEA/IDSA guidelines. Evidence-informed operational interpretation.

1 Sources:

CDC: Guideline for Isolation Precautions
SHEA/IDSA: Clinical Practice Guidelines for CDI
CDC: C. difficile Infection resources for healthcare professionals

2 Supporting Context:

CDC CDI resources (focus on symptomatic infection & environment)
SHEA/IDSA guidelines (focus on diagnosed infection management)
Literature: asymptomatic carriage & environmental persistence

Controlled Solution — Closing The Intake Gap
A targeted, controlled disinfection checkpoint at intake

AUVS disinfection chambers establish a controlled intake disinfection checkpoint—addressing contamination at the point it enters the system, before standard infection control measures are triggered

The Solution System

The UV Box

Enclosed UV-C disinfection chamber for personal items (phones, wallets, small devices).

The UV Cube

Fast-cycle, repeatable process for larger personal item hygiene.

Point Of Deployment

- ED triage/intake
- ED bay /waiting
- Admission processing
- Acuity Unit Entries
- Staff locker rooms

Introduces a control point at entry, where contamination risk begins to translate into downstream cost exposure.

Control The Risk or Continue Absorbing It
$33.6K fixed investment vs $140K–$600K+ exposure

Uncontrolled Risk	Investment	Breakeven	Material Exposure
1. Undetected colonization at entry 2. No standardized protocol 3. Recurring exposure pathway	3 UV Boxes + 3 UV Cubes $33,600 (one-time)	1–2 CDI cases avoided	$140K–$600K+ Exposure (10-year)

WHAT THIS CHANGES

- Standardized intake control step
- Reduced variability in manual mitigation
- Addresses asymptomatic contamination risk
- Complements existing protocols
- Repeatable, measurable workflow
- Defined control point at intake

This is a targeted system that closes a defined operational gap at intake. It complements existing infection prevention practices and antimicrobial stewardship by addressing environmental contamination that stewardship alone cannot prevent.

Unit Pricing & 10-Year Ownership

3 UV Boxes + 3 UV Cubes deployment

The UV Box	3	$2,200	**$6,600**
The UV Cube	3	$9,000	**$27,000**
Total Investment		**Total Investment**	**$33,600**

Operating & Maintenance

- Lamp replacement: ~$252 per 2 lamps
- Rated lifespan: ~9,000–12,000 hours
- Maintenance: minimal (no complex servicing)

10-Year Ownership (Estimated)

Capital: $33,600
Estimated bulb replacement: ~$4,000

Total: $37K – $40K

Citations

Page 1: **Sources:** Attributable cost per CDI case based on AHRQ estimates and peer-reviewed meta-analyses (≈$13.9K–$30K per case). Exposure ranges represent scenario modeling using 1–5 case-equivalent CDI events per year. Breakeven reflects cases required to offset a $33.6K one-time deployment. Values are directional and will vary by facility.