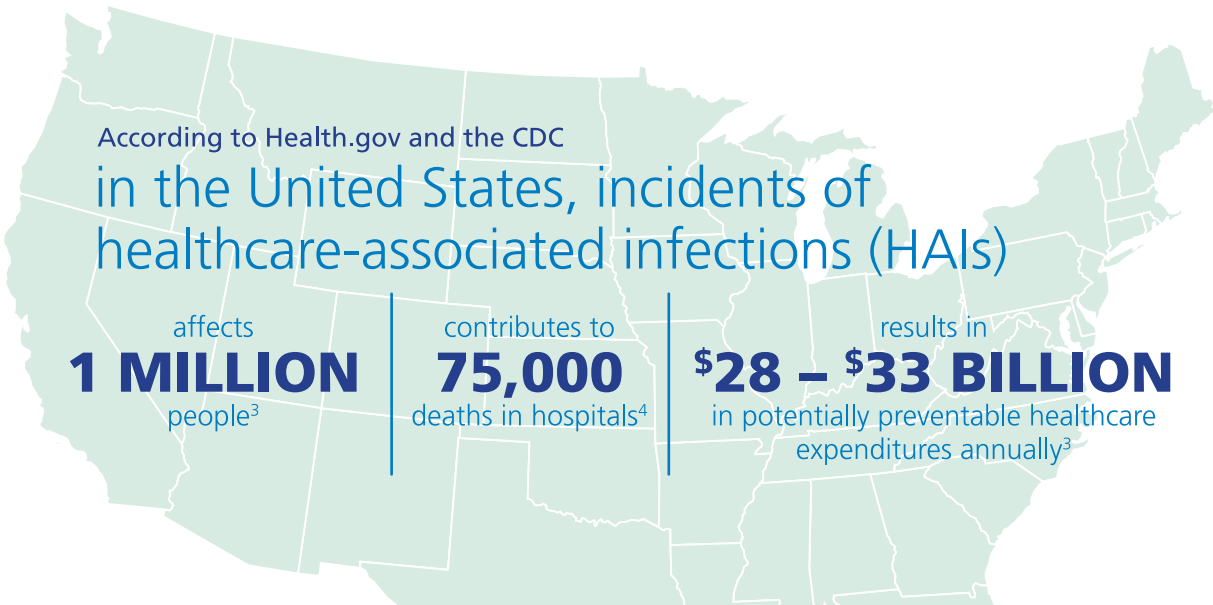


Single-use vs Reusable Sharps Containers

Proper disposal of sharps waste containers

is key to infection control in a clinical setting.

Research suggests that reprocessed, reusable sharps waste containers are potential sources of microorganisms^{1, 2}



Concerns about reusable sharps containers are not new!

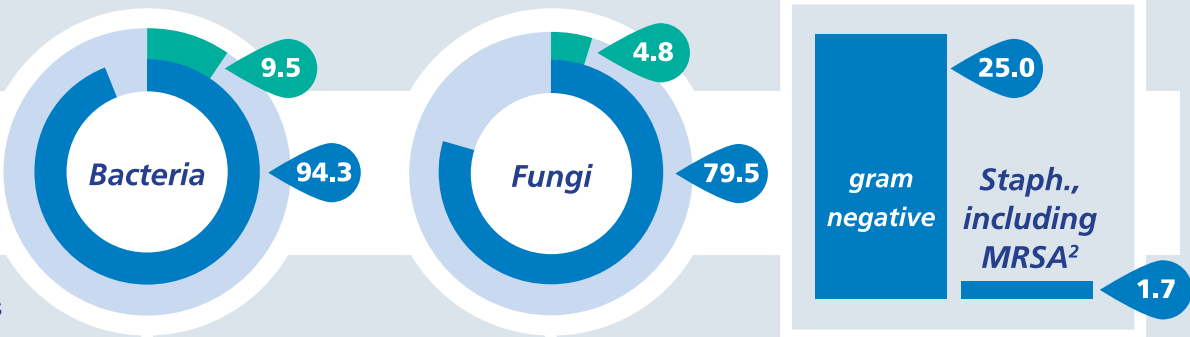
Neely, 2003

A Cincinnati, Ohio, burn hospital conducted a comparison study on reusable plastic vs single-use cardboard infectious waste containers after receiving soiled reusable containers²

380 single-use and reusable infectious waste containers were swabbed monthly

● Reusable containers ● Single-use containers

Percentage that tested positive for...



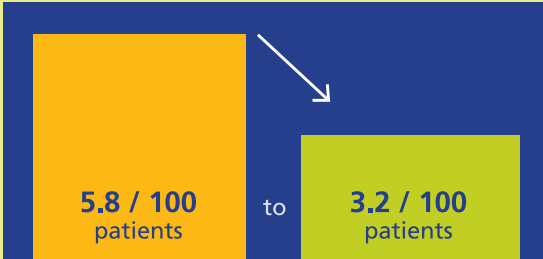
These results led to procedural changes

Reusable containers were **removed from operating rooms**, and spray disinfectants were used to clean all reusable containers upon arrival



Healthcare-associated infections were monitored for **2.5 years** to see if these procedural changes would bring positive results

Mean burn patient infection rate dropped from



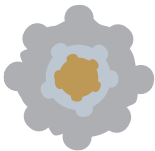
The potential issues of an unclean reusable product are clear.

Decreased infection rate suggests that the contaminated containers may have contributed to the rate of infection at this hospital²

Runner, 2007

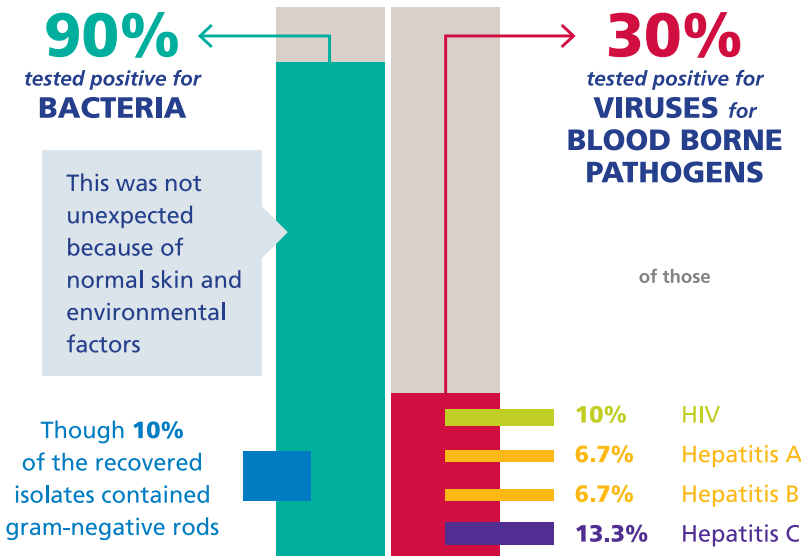
Evaluation of 130-bed community New England area hospital

A pilot study conducted by Jack C. Runner was a single-center, prospective, hospital-based, microbiologic evaluation of 30 reusable sharps disposal containers returned to the hospital from a reprocessing company¹



30 reprocessed, reusable sharps disposal containers were swabbed upon arrival for the presence of bacteria and viruses

These findings call into question the efficacy of the emptying and decontamination process of the reusable sharp containers used in this study¹





- Evidence indicates patients remain at elevated risk for 3 or more months after they have stopped antibiotic treatment⁸



Annually in the U.S. *C. diff* causes

\$3 BILLION¹¹
more than
estimated annual cost burden
for the healthcare system

BD conducted an internal statistical analysis of **817** hospitals and found:

STATISTICALLY

GREATER RATES

of *C. diff* than single-use customers¹²

Two leading single-use collector brands were compared

**NO
STATISTICAL
DIFFERENCE
WAS FOUND¹²**

Statistical difference

**ON AVERAGE, A
300-BED HOSPITAL**
could see up to

\$100,000
annual impact on savings to treat *C. diff*
when using single-use containers¹³

The first independent study, designed and analyzed by **Dr. Monika Pogorzelska-Maziarz** and commissioned and funded by BD, shows an association between the use of single-use sharps containers and lower *C. difficile* infection rates

604 HOSPITALS

Analyzed from a cross-sectional survey of 2,056 hospitals with ≥ 100 beds

Which hospital variables are controlled for?

Geographic Region
Northeast, Midwest, South and West

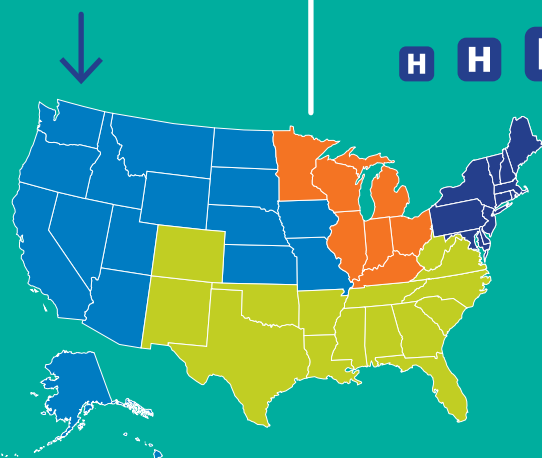
**Hospital
Beds**
*Number of beds
in a hospital*

Teaching Status
Major / Minor / None

Ownership Status
Nonprofit, For-profit / Physician-owned and Government

Discharges
Annual number of
patient discharges

Urbanicity
Rural or urban
setting of hospital



Reusable customers had

15% statistically greater rates of *C. diff* than single-use customers¹⁴

Are you ready to see *C. diff*...differently?

Visit www.bd.com/sharps to learn more,
or email us at seeddifferently@bd.com



Helping all people
live healthy lives

References:

1. Runner J. Bacterial and viral contamination of reusable sharps containers in a community hospital setting. *Am J Infect Control*. 2007;35(8):527-530. 2. Neely AN, Maley MP, Taylor GL. Investigation of single-use versus reusable infectious waste containers as potential sources of microbial contamination. *Am J Infect Control*. 2003;31(1):13-17. 3. Office of Disease Prevention and Health Promotion. *National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination*. Rockville, MD: US Department of Health and Human Services; April 2013. Available at <http://www.health.gov/hcq/pdfs/ha-i-action-plan-executive-summary.pdf>. Accessed June 8, 2015. 4. Centers for Disease Control and Prevention (CDC). *Healthcare-associated Infections (HAIs): Data and Statistics*. Atlanta: CDC; Jan 2015. Available at <http://www.cdc.gov/HAI/surveillance/#prevalence>. Accessed June 9, 2015. 5. Fordtran JS. Colitis due to *Clostridium difficile* toxins: underdiagnosed, highly virulent, and nosocomial. *Proc (Bayl Univ Med Cent Proc)*. 2006;19(1):3-12. 6. Owens RC. *Clostridium difficile*-Associated Disease: An Emerging Threat to Patient Safety: Insights from the Society of Infectious Diseases Pharmacists. *Pharmacotherapy*. 2006;26(3):299-311. 7. Gerding DN, Muto CA, Owens RC. Measures to Control and Prevent *Clostridium difficile* Infection. *Clin Infect Dis*. 2008;46(Suppl 1):S43-S49. Available at http://cid.oxfordjournals.org/content/46/Supplement_1/S43.full. Accessed April 21, 2015. 8. Cohen SH, Gerding DN, Johnson S, et al. Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults: 2010 Update by the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA). *Infect Control Hosp Epidemiol*. 010;31(5):431-455. 9. Elkhazra A, Jung MA. *Clostridium difficile*-Associated Disease in U.S. Hospitals, 1993-2005. HCUP Statistical Brief #50. Rockville, MD: Agency for Healthcare Research and Quality; 2008. Available at <http://www.hcup.us.ahrq.gov/reports/stat-briefs/sb50.pdf>. Accessed April 21, 2015. 10. Center for Disease Control and Prevention (CDC). *Healthcare-associated Infections (HAIs): Clostridium difficile Infection*. Atlanta: CDC; Feb 2015. Available at http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html. Accessed April 21, 2015. 11. Walsh N. C. *difficile* Inpatient Stays Long, Costly. *MedPage Today*. December 8, 2012. Available at <http://www.medpagetoday.com/MeetingCoverage/ASHP/36339>. Accessed June 12, 2015. 12. BD internal memo. Feasibility Data Analysis Sharps Infection. April 2015. Data on file at BD. 13. BD internal memo. Sharps C. *diff* HEOR Analysis. February 2015. Data on file at BD. 14. Pogorzelska-Maziarz M. Relationship Between Sharps Disposal Containers and *Clostridium difficile* infections in Acute Care Hospitals. *Am J Infect Control*; July 28, 2015. Available at [http://www.ajicjournal.org/article/S0196-6553\(15\)00667-7/abstract](http://www.ajicjournal.org/article/S0196-6553(15)00667-7/abstract). Accessed August 25, 2015.