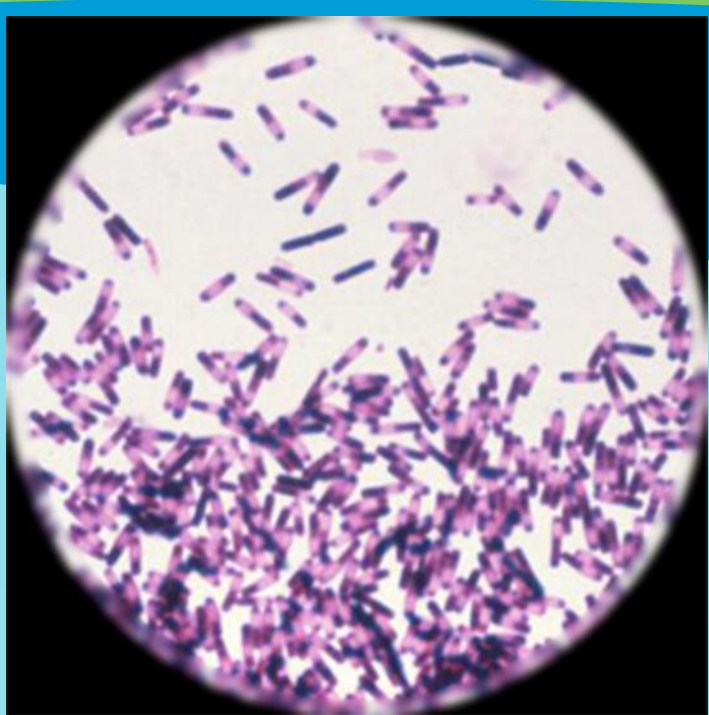


Single-Use Disposable Commode Pan/Bedpan Liners to Reduce Future Risk of Hospital-Acquired Clostridium Difficile Infection

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Purpose (background/significance)

At a rural acute care hospital in western Canada, a hospital acquired (HA) Clostridium difficile infection (CDI) outbreak began in early October 2015 and was declared over late January 2016. The CDI outbreak resulted in:

- 13 HA infections
- 5 in-patient deaths (one directly related to the acquisition of CDI).

In addition to daily CDI outbreak meetings involving interdisciplinary team members, a debriefing was conducted at the end of the outbreak to discuss what went well and what could have been ‘done better’ in the form of a patient safety review. The clinical concern or problem findings from the patient safety review were comprised of system related issues.

Though outbreak management, communication and education, isolation room cleaning concerns have been resolved, the issue of human fecal waste management and reusable commode pans and bedpans remained problematic as a source of potential spread of CDI.

Through interviews conducted with nursing staff on the CDI outbreak unit, it was discovered reusable commode pans and bedpans used to collect loose stools from hospitalized in-patients with CDI were being ‘dumped’ into the patient room toilet and flushed. Water from the bathroom sink tap was then used to remove any residual fecal matter in the reusable commode pan or bedpan, which in turn was ‘dumped’ into the toilet and flushed. Toilet flushing is known to cause aerosolization of human waste. Nursing staff did wear personal protective equipment (PPE) during care for all isolated CDI patients.



Alternatively, human fecal waste from hospitalized patients collected in commode pans or bedpans could be taken to the dirty utility room for disposal in the hopper. Although, the hopper does cause aerosolization when flushed, if not covered with a lid. Nursing staff are to wear appropriate PPE during this procedure as well.



The first issue addressed was how nurses disposed of human fecal waste in reusable commode pans and bedpans when they could not to leave the room of the isolated CDI patient wearing their PPE. It was suggested and implemented, during the CDI outbreak, if a commode pan or bedpan required emptying, a second nurse would assist by putting on and taking the soiled commode pan or bedpan to the dirty utility room for disposal. This process was not sustainable.

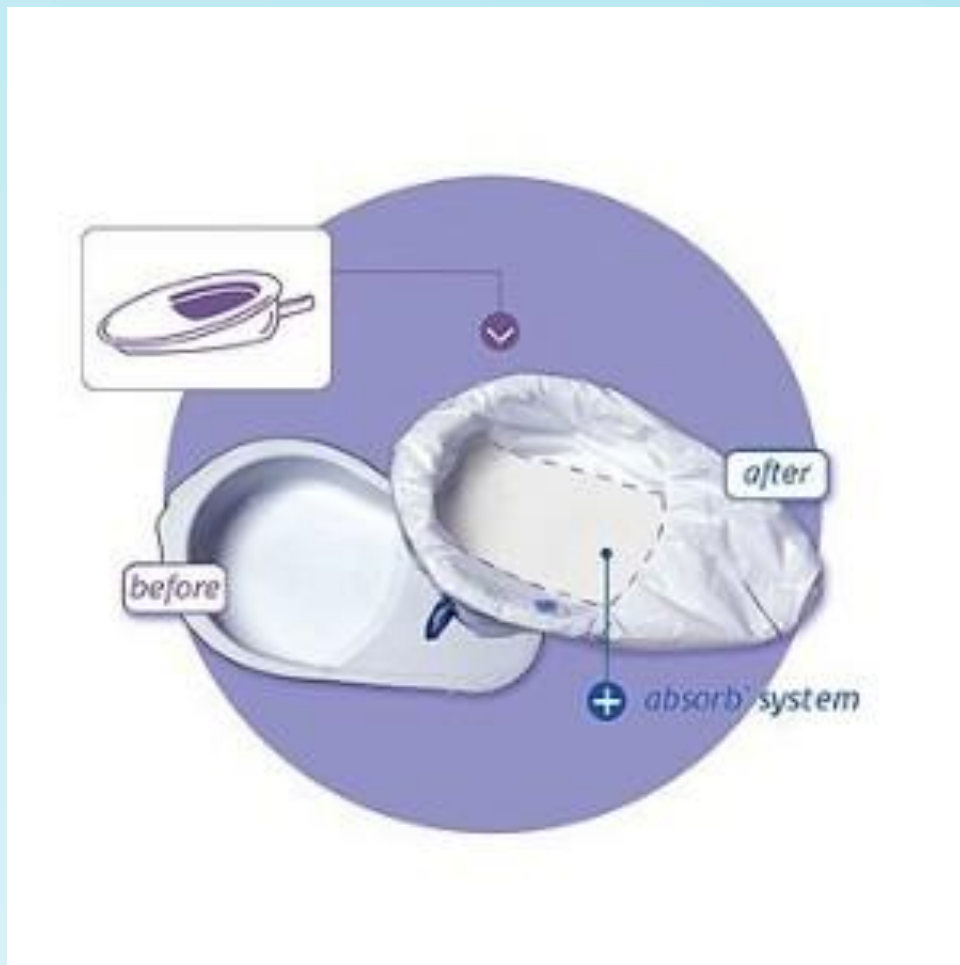


The second issue addressed was the transportation of human fecal waste away from CDI infected inpatient room possibly contributing to the cross contamination of the ‘clean’ hospital environment causing unaffected patients to become infected with CDI.



Method (new initiative)

A pilot project was needed to study the efficacy of a single-use disposable commode pan and/or bedpan liners as a method to better manage human fecal waste for suspected and confirmed CDI hospitalized patients in order to reduce or eliminate the transmission of CDI.



Results

As predicted, frontline health care workers (i.e. the nurse) who piloted the disposable bedpan/commode pan liners found them to be an efficient and simple alternate for human fecal waste management for adults presenting with suspect and/or confirmed CDI. In addition, it was found there was a subsequent decrease in workload and an increase in quality nurse bedside patient care, a positive change to nursing practice. As well, the increase in nurse-care time aided to secure sustainability of the proposed product for human fecal waste management of adults with suspect and/or confirmed CDI. The advantages of the cost-benefit analysis of the liners was presented to hospital leadership. Some of the health and budget implications are:

- there is a decrease in HA CDI transmission, using provincial surveillance data, with the use of bedpan/commode pan liners.
- there is a substantial decrease in frontline nursing time.
- the use of bedpan/commode pan liners is a better way for human fecal waste management with a prevention of HA CDI.
- commode/bedpan liners are cost effective for human fecal waste management compared to past practices related to reusable bedpan and commode pans.
- there are no HA CDI inpatient cases related to human fecal waste management.
- the cost savings of HA CDI inpatient cases has significantly affected financial outcomes.

Conclusion

The strengths and challenges gained from the pilot project process to assess, plan, develop, implement and evaluate change starts with identifying and acknowledging there may be a problem and/or issue.

There are numerous facets of assessment, including cultural, social norms, demographics, and readiness for change plus costs to consider. It is not simply bringing in a new product and expecting a change in practice. It is an interdisciplinary team effort to plan through evidence-based research, engage leadership, build alliances, obtain resources and work plan development strategies to ‘hash out’ the details of the proposed policy or education change.

Implementation may not be limited to the frontline health care worker (i.e. the nurse). One must have a strategic plan of action including budget, time, and resources to market change. Evaluation in this process is crucial to assess the need to re-evaluate outcomes together with ongoing surveillance of compliance.

It is learning how to hold on to the strengths and forecast the challenges that may arise and selling one’s solutions to improve patient safety through quality evidence-based initiatives. The liners are only one aspect in the prevention of inpatient HA CDI.

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