

Deferred Admissions and Reimbursement Report: CDI

Healthcare-associated infections can cause extra days of hospitalization. Preventing these infections can avoid that bed use, providing the potential to admit additional patients.

During a 1 quarter period of time, our facility had 12 CDI events.

- These events caused an estimated 76 additional patient-days of hospitalization.
 - This estimate is based on each CDI resulting in 6.4 additional days of hospitalization.
- Over a 1 quarter period, a sustained 50% reduction in CDI could result in:
 - 6 fewer CDI events
 - 38 fewer patient-days of hospitalization

WHAT COULD BE DONE WITH 38 EXTRA PATIENT DAYS?

6 Kidney Transplant procedures

PROCEDURE	ESTIMATED LENGTH OF STAY	ESTIMATE POSSIBLE # OF PROCEDURES WITH 38 DAYS	REIMBURSEMENT PER PROCEDURE	TOTAL POSSIBLE REIMBURSEMENT
Kidney Transplant	5.5	6	\$26,020	\$156,120

Deferred Admissions and Reimbursement Tool

PURPOSE

This report provides:

- An estimate of how many additional patients could potentially be admitted for various procedures based on a reduction in the number of extra days that beds are filled by Healthcare Associated Infection (HAI) patients,
- An estimate of how much reimbursement those additional patients' procedures are potentially worth, and
- The option to add information about an intervention that could help achieve an applicable HAI reduction

LIMITATIONS

- This assessment is not applicable to facilities that have sufficient bed availability. If your facility isn't deferring admissions because of high bed occupancy issues, this isn't the right tool to use.
- The list of revenue generating admissions that you can select from may not include procedures performed at your facility.
- The beds opened up by reducing infection events may not be applicable to the revenue generating admissions you select. For example, if CLABSIs are reduced by 20% but most of those are in the neonatal intensive care unit, this does not necessarily mean that the facility will have the capability to perform more pacemaker insertions.
- The potential revenue from deferred admissions are calculated using average reimbursements based on the [Inpatient Utilization and Payment national summary data](#) from Centers for Medicare & Medicaid Services (CMS) and are not actual reimbursements. See the Deferred Admissions and Reimbursement Tool (DART) methodology section for more information.
- This assessment assumes that the applicable denominator (e.g., patient-days, central line-days) will remain approximately constant.
- These estimates are based on aggregates, and individual patient events may differ significantly.

METHODOLOGY

- The estimates utilized are based on the most recent available, multi-Institutional, peer-reviewed publications in reputable journals and the most recently available CMS data.
 - The attributable length of stay estimates of HAIs were derived from one of two sources. For all Hospital Acquired Conditions (HAC) the additional days came from a November 2018 publication of healthcare associated infections from a network of 43 hospitals across the United States.¹ For ventilator associated pneumonia and all surgical site infections (not just HAC procedures) the attributable days were derived from a 2013 JAMA meta-analysis of studies published between 1986 and 2013.²
 - The number of potential (yet deferred admissions) as well as the CMS and total payments for said admissions were derived from the most recently available (FY2016) National Summary of Inpatient Charge Data by Medicare Severity Diagnosis Related Group as published by CMS.³ These estimates, specifically the payment information, are likely conservative in that private insurers may reimburse for the same procedure at a higher rate.

EXPLANATION OF OUTPUT

See the sample results of the tool at http://haitools.apic.org/Sample_DART_Report.pdf In this hypothetical example, the Solid Organ Transplant Division would like to expand their kidney transplant program, but the post-operative units had 12 Clostridioides difficile infection (CDI) cases over 1 quarter. A 50% reduction in CDI, which would be six fewer cases, would potentially make an estimated 38 bed-days available. Using a Length of Stay (LOS)* of 5.5 days per kidney transplant allows for 6 additional kidney transplants with an opportunity cost estimate of a CMS payment of \$156,122.

When presenting the results of this analysis, it is important to note that payment for potential admissions is not the same as organizational revenue. Obviously, an extra total joint replacement is not cost-free, but one can reasonably argue that it is certainly better than receiving no additional reimbursement because the higher-level Diagnostic Related Grouping (DRG) is the result of a non-reimbursable HAI event. These estimates of LOS and CMS are conservative but should be readily understood by audiences familiar with CMS, billing, and reimbursement. The estimates for attributable length of stay for the HAIs are largely contemporary and rooted in multi-facility analyses but are certainly subject to interpretation and scrutiny.

* The LOS used by this tool is the geometric mean length of stay (GMLOS) provided by CMS.

REFERENCES

1. Kast R, Grabow C, Fitch M, Tobar S, Malani A, Olmsted R. Financial cost, length of stay, and patient experience associated with healthcare-associated infections across a 43 hospital network. *Open Forum Infectious Disease* 2018;5(suppl_1):S644-5. <https://doi.org/10.1093/ofid/ofy210.1839>
2. Zimlichman E, Henderson D, Tamir O. Health care-associated infections: a meta-analysis of costs and financial impact on the US health care system. *JAMA Intern Med* 2013;173(22):2039-46. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1733452>
3. Data.CMS.gov. National summary of inpatient charge data by Medicare Severity Diagnosis Related Group (MS-DRG), FY2016. <https://data.cms.gov/summary-statistics-on-use-and-payments/medicare-service-type-reports/cms-program-statistics-medicare-inpatient-hospital>