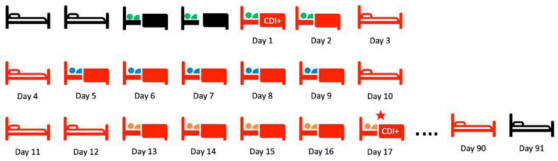

Figure 1. ***Exposure to a C. difficile "contaminated" bed.*** *Beds are considered contaminated starting with the positive C difficile test of an occupant (green occupant). The bed remains contaminated for 90 days in this figure. Subsequent patients were only considered to have an associated HO-CDI if they developed their infection within seven days of occupying a contaminated bed and after at least three days in the hospital (orange occupant). Occupants were required to have spent only one night in a contaminated bed to have an associated CDI. The blue occupant did not develop CDI.*

Table 1. Patient Characteristics

	Total encounters (n = 25,032)
Age, median (IQR)	61 (47-71)
Female, n (%)	12,938 (51.7)
Race	
Black	13,231 (52.9)
White	10,373 (41.4)
Other, unknown	1,428 (5.7)
Hospital	
A	13,836
B	11,196
Hospital length of stay	5 (4-9)
ICU length of stay	3 (2-6)
Elixhauser comorbidity score, median (IQR)	4 (2-5)
Received antibiotics (excluding oral vancomycin)	16,596 (66.3)
Received proton pump inhibitor	11,199 (44.7)

Table 2. Odds of C diff following exposure to a contaminated bed at 90 (primary analysis), 60, 30, 14 and 7 days (sensitivity analyses)

	90 days		60 days		30 days		14 days		7 days	
	Unadj OR (95% CI)	Adj OR (95% CI)	Unadj OR (95%)	Adj OR (95%)	Unadj OR (95%)	Adj OR (95%)	Unadj OR (95%)	Adj OR (95%)	Unadj OR (95%)	Adj OR (95%)
Exposure to contaminated bed*	1.77 (1.36 - 2.31)	1.60 (1.22 - 2.08)	1.64 (1.23 - 2.19)	1.47 (1.10 - 1.97)	1.85 (1.4 - 2.71)	1.75 (1.25 - 2.43)	1.97 (1.30 - 3.00)	1.75 (1.15 - 2.67)	2.03 (1.20 - 3.44)	1.77 (1.04 - 3.00)
Age >65 years	1.01 (0.78 - 1.31)	0.86 (0.66 - 1.13)	1.01 (0.78 - 1.31)	0.86 (0.66 - 1.12)	1.01 (0.78 - 1.31)	0.86 (0.66 - 1.12)	1.16 (1.10 - 1.23)	0.86 (0.66 - 1.12)	1.01 (0.78 - 1.31)	0.85 (0.66 - 1.11)
Elixhauser comorbidity score	1.16 (1.10 - 1.23)	1.16 (1.09 - 1.23)	1.16 (1.10 - 1.23)	1.16 (1.10 - 1.23)	1.16 (1.1 - 1.23)	1.16 (1.10 - 1.23)	1.01 (0.78 - 1.31)	1.16 (1.10 - 1.23)	1.16 (1.10 - 1.23)	1.16 (1.10 - 1.23)
Received antibiotics	3.29 (2.26 - 4.77)	3.26 (2.24 - 4.74)	3.29 (2.26 - 4.77)	3.28 (2.26 - 4.77)	3.29 (2.26 - 4.77)	3.27 (2.25 - 4.76)	3.29 (2.26 - 4.77)	3.28 (2.25 - 4.77)	3.29 (2.26 - 4.77)	3.29 (2.26 - 4.78)
Received PPI	1.70 (1.31 - 2.20)	1.43 (1.10 - 1.86)	1.70 (1.31 - 2.20)	1.44 (1.11 - 1.88)	1.70 (1.31 - 2.20)	1.44 (1.11 - 1.88)	1.70 (1.31 - 2.20)	1.45 (1.11 - 1.88)	1.70 (1.31 - 2.20)	1.46 (1.12 - 1.89)

* Defined as being contaminated for 90, 60, 30, 14 or 7 days after positive C. difficile test of prior occupant

measures. Using real-time asset management software (AgileTrac, GE Healthcare) for beds we examined the risk of a patient developing hospital-onset CDI (HO-CDI) when staying in a hospital bed that had a previous occupant with CDI. **Methods:** We retrospectively identified all patients in tracked beds from April 2018 to August 2019 to identify hospital-onset CDI (HO-CDI), defined as a positive PCR test for *C. difficile* in a patient hospitalized for >3 days. A patient was defined as being exposed to a potentially "contaminated" bed if within the preceding 7 days from their HO-CDI diagnosis they resided in a hospital bed that, within the prior 90 days, had held an occupant with CDI (Fig. 1). We used multivariable logistic regression to evaluate the association between being exposed to a contaminated bed and HO-CDI. Model covariates were chosen a priori based on known risk factors for CDI. As a sensitivity analysis, we varied the length of time that a bed could stay contaminated from 90 to 60, 30, 14, and 7 days. **Results:** We analyzed 25,032 hospital encounters representing 18,860 unique patients; we identified 237 (0.9%) hospital encounters with HO-CDI (Table 1). The Elixhauser comorbidity score, being exposed to a contaminated bed, and receiving antibiotics or a proton pump inhibitor (PPI) during the hospital admission were all associated with HO-CDI in the univariable analysis (Table 2). In the adjusted multivariable model, being exposed to a contaminated bed remained a significant risk factor for HO-CDI (OR, 1.60; 95% CI, 1.22–2.08) even after controlling for known risk factors for CDI including age >65, elevated Elixhauser score, and recent antibiotic or PPI use (Table 2). In the sensitivity analysis in which we adjusted the time a bed was considered contaminated after CDI, being exposed to a contaminated bed remained a risk factor for HO-CDI, with a similar odds ratios as the original model (Table 2). **Conclusions:** Residing in a hospital bed that contained a previous occupant with CDI is a risk factor for developing HO-CDI. Hospital epidemiologists, infection control personnel, and environmental services staff should consider this association when developing CDI risk mitigation strategies.

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Assessment of risk factors associated with outpatient parenteral antimicrobial therapy complications

Christina Kaul; Jenny Yang; Matthew Haller; Sadie Solomon; Yaojie Wang; Rong Wu; Yu Meng; Robert Pitts and Michael Phillips

Background: Outpatient parenteral antimicrobial therapy (OPAT) is used in the outpatient setting to treat infectious conditions that require a prolonged course of antimicrobials. OPAT has been shown to decrease length of hospital stay and healthcare costs without compromising patient care and has become a widely accepted practice nationally. Due to this trend, the study of OPAT is of vital importance and will continue to be relevant moving forward. Currently, few studies have explored risk factors associated with OPAT complications, and most are limited in their analysis by indication. Further work should be performed to expand upon what is currently known. We characterized factors associated with increased OPAT complication risk. **Methods:** We conducted a retrospective cohort study at 4 sites across NYU Langone Health in patients admitted from 2017 to 2020. We applied the following inclusion criteria: aged ≥18 years and discharged with OPAT. Complications were defined as follows: vascular-access-related (line occlusion, thrombosis, dislodgement, central-line associated bloodstream infection or CLABSI) and antimicrobial-related (laboratory derangement, drug reaction, *Clostridioides difficile* infection), all-cause 30-day readmission, and OPAT-related readmission. Data were obtained from electronic medical records and the OPAT database. This study was granted a waiver from informed consent by the NYU Institutional Review Board. Multivariate logistic regression was performed, adjusting for confounding variables (sex, age, hospital of admission, history of chronic medical conditions, line type, and line duration). **Results:** Overall, 1,846 patient encounters of 5,951 reviewed met inclusion criteria. The median age was 66 (IQR, 26), 42.2% were female. Moreover, 810 (44%) received a peripherally inserted central catheter (PICC) and 1,036 (56%) received a midline cathether. Also, 563 (30.5%) were discharged to subacute rehabilitation (SAR). The most frequent complications were line dislodgement (4.2% of all patients), laboratory derangement (3.0%), and drug reaction (2.4%). Furthermore, 27 patients (1.5%) developed CLABSI. Patients discharged to SAR were more likely to develop CLABSI (OR, 4.1l; P = .005), and they had higher rates of OPAT-related 30-day readmissions (OR, 2.675; P = .004) compared to those who were discharged home, after adjusting for key confounders. **Conclusions:** Discharge to SAR is strongly associated with increased risk of readmission for OPAT-related complications and CLABSI, after adjusting for key confounders. CLABSI prevention during SAR admission is a critically needed public health intervention.

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