A Retrospective Case Series Investigating the Incidence of *Clostridium Difficile* Infection in a Hospital at Home Program

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Background & Rationale

HIGH C. diff Infection (CDI) Burden

Morbidity, mortality, $42k/case in 2018

Hospital-at-home (HAH)

Decreased mortality, 30-day readmissions

Unknown CDI Incidence in HAH

Objective

describe *Clostridium difficile infection* cases in UMass Memorial's Hospital-at-Home program in order to evaluate our quality of CDI care and inform future research on this topic

Methods

Step 1:
Defining a Case

-Stool collected during HAH stay
-Positive PCR, GDH antigen, toxin A/B

Step 2:
Chart Review

-Identified non-modifiable and modifiable risk factors

Step 3:
Data Analysis

-Demographics & risk factor tables
-Case timelines

Step 4:
Discussion

-Evaluated our HAH quality of care w/ CDIs
-Proposed future research directions

Results

DEMOGRAPHICS

4 Cases
100% Over 65
75% Male
25% Female
100% White

Non-Modifiable Risk Factors

75% Antibiotic Usage in Previous 90 Days

25% Previous CDI

- **100%** Previous CDI Treated

50% Obesity

0% IBD, Cirrhosis, Organ Transplant, Chemotherapy, GI Surgery or Index Admission Steroid Use

25% Index Admission Enteral Feeding

- **100%** Appropriateness of Enteral Feeding

100% Index Admission PPI Use

Results

Modifiable Risk Factors/ QI Metrics

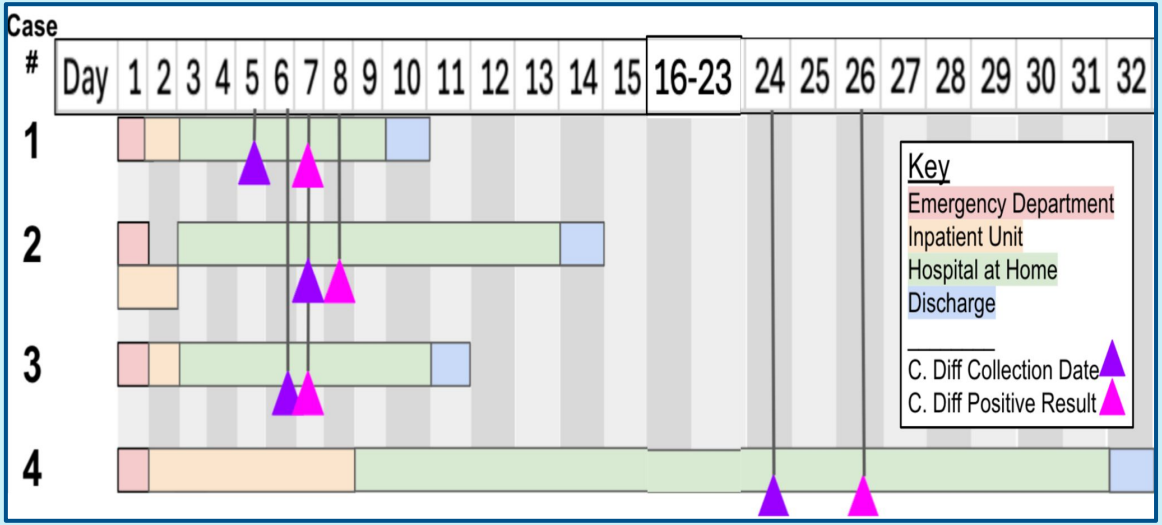
100% Broad Spectrum Antibiotic Usage during Index Admission

100% Contact Precautions

100% CDI Treated

27.5 Average Hours to Treatment after Stool Collection

Case Timelines



Conclusions and Discussion

Brick & Mortar vs HAH

- Greater distance between patients
- Homes not disinfected before/after admission
- Limited timing of nurse visits → systemic antimicrobial use differs
- Patient populations may differ (sicker/less sick) and thus, have different risk factor distributions

Future Research Qs

- Is CDI incidence higher or lower in HAH compared to B&M hospitals?
  - If lower, are systemic HAH practices protective?
- How do we illustrate to the CDC that HAH CDIs are indeed hospital-acquired?

Thank you!