



Prevalence, Trends, and Mortality of Clostridium difficile Infection in hospitalized elderly patients with HIV - A Nationwide analysis from 2016-2019

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Keys Points

1. Declining trends in CDI in HIV patients hospitalized from 2016 to 2019 were noticed
2. Improving trends in survival between 2016 and 2019 in HIV with CDI even though mortality is twice as higher compared to non-HIV

Background:

Patients living with HIV are expected to be at higher risk for CDI due to increasing antimicrobial use and disease related alterations in gut microflora. We aim to study its prevalence, hospitalization trends, and outcomes in elderly patients with HIV.

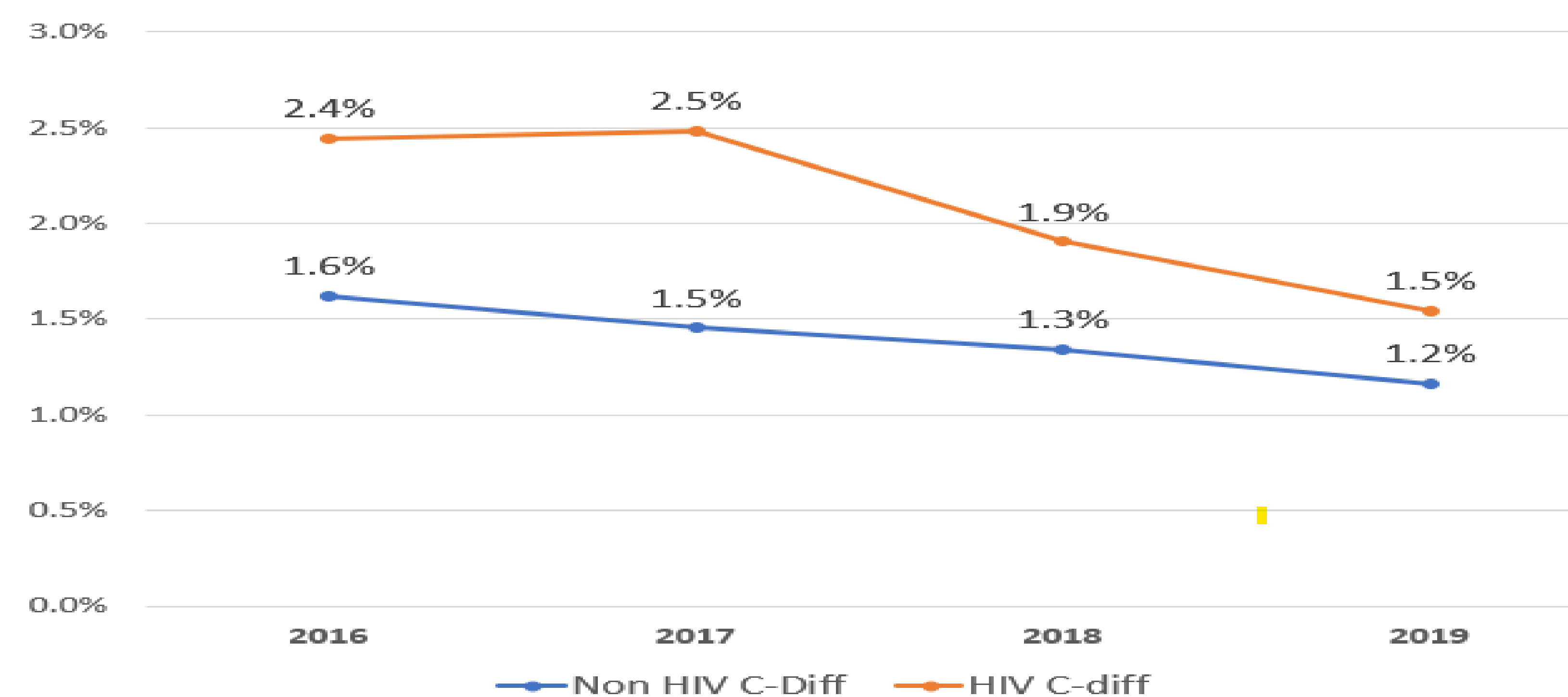
METHODS:

The National Inpatient Sample (NIS) 2016-2019 database was queried for geriatric HIV patients (≥ 65 years) hospitalized with a primary diagnosis of CDI using ICD-10 codes. Baseline characteristics, comorbidities, hospitalization trends, and in-hospital mortality were compared in hospitalized patients with CDI between HIV and non-HIV cohorts. Trends in mortality were assessed using a linear by linear association test.

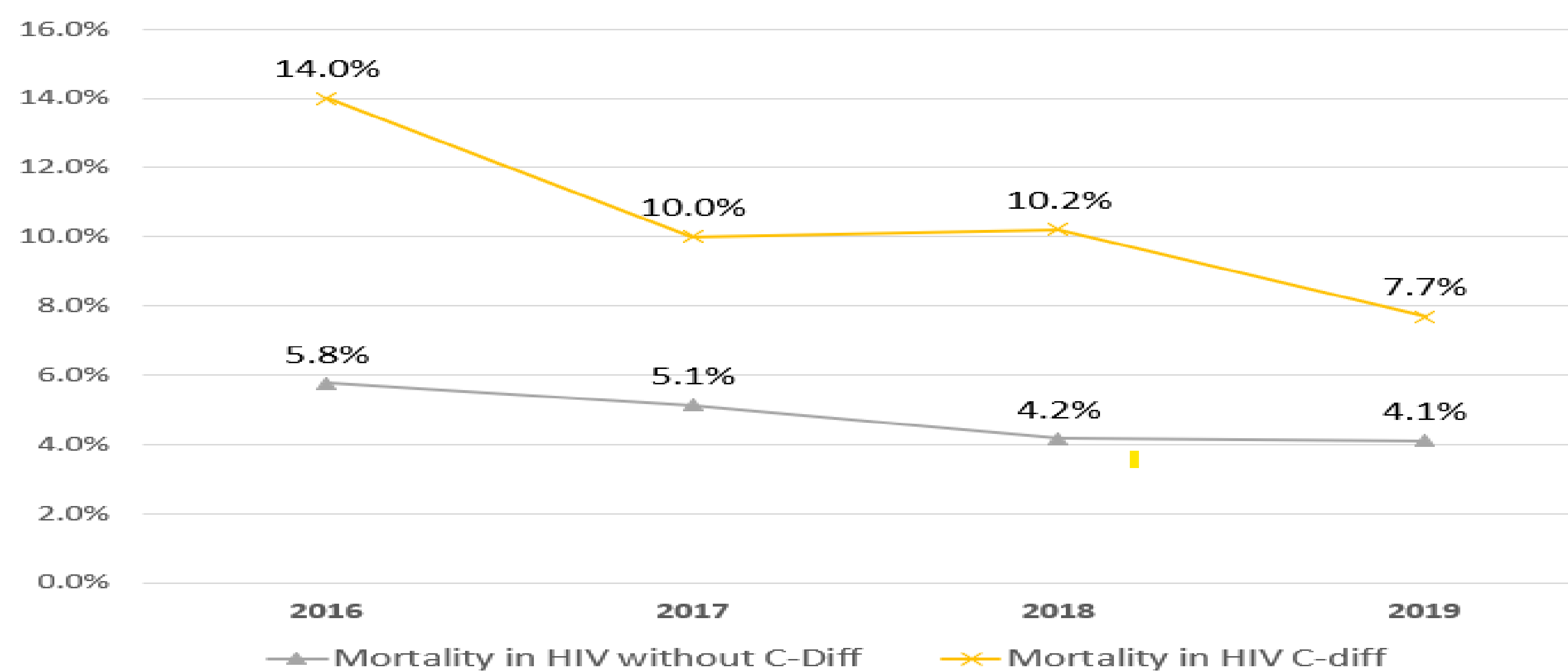
RESULTS:

Of a total of 48025 geriatric admissions among HIV patients, 995 (2.1%) were primarily related to CDI. Prevalence of CDI in hospitalized elderly patients was higher among HIV patients (2.1% vs 1.4%) compared to the Non-HIV cohort ($p < 0.001$) with reassuringly declining trends in CDI hospitalizations in HIV patients between 2016 and 2019 (2.4 % to 1.5%, p -trend <0.001). Among elderly patients with HIV, Females vs. males (2.6% vs. 1.9%) and white race compared to other race groups (2.3% white vs. 2.0%black vs 1.7% Hispanic) showed a higher rate of CDI ($p < 0.001$).

Trends in Clostridium Difficile Infection-related Hospitalization in Geriatric HIV Patients - 2016-2019



Trends in In-hospital Mortality in Geriatric HIV Patients With VS. Without Clostridium Difficile Infections- 2016-2019



Comorbid depression and renal failure were more frequent whereas smoking and obesity were less frequent in the CDI cohort vs. non-CDI cohort. Patients with CDI and HIV tend to belong to lower household income groups and are less likely to be smokers than those with HIV but without CDI. The overall mortality rate was significantly higher for elderly HIV patients with CDI than those without CDI (10.6% vs. 4.7%, $p < 0.001$) with decreasing trends of nearly 50% from 14.0 % in 2016 to 7.7 % in 2019 (p -trend=0.044). Discharge to another facility (38.4% to 26.3%), the median length of stay (8 days vs 5 days), and cost burden (\$70860 vs \$53688) were all higher in the CDI cohort vs non-CDI cohort ($p < 0.001$).

CONCLUSION:

Our study found declining trends in CDI in HIV patients hospitalized from 2016 to 2019, however, the overall rate still remained significantly higher compared to the non-HIV cohort. Similarly, the overall mortality rate was 2 times higher in the HIV-CDI cohort vs. non-CDI cohort with improving trends in survival between 2016 and 2019. Further studies are warranted to understand contemporary trends in hospitalizations for CDI, associated comorbidities, and their impact on patient outcomes and cost.