

Trends in Hospitalization by Sex among People Living with HIV from 2006 to 2020 in the Canadian Healthcare Use Study (CHESS)

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Background

The availability of combination antiretroviral therapy (cART) has reduced morbidity and mortality for people living with HIV (PLWH).¹ However, previous research has suggested that females living with HIV may be less likely to receive cART.² In addition, female sex has been associated with diagnosis of HIV during hospitalization, progression and AIDS-related mortality, and all-cause mortality.³⁻⁶ Recently, female sex has also been associated with higher rates of all-cause hospitalization when compared to males living with HIV in the United States.⁷

Objective: to examine trends in hospitalizations by sex among PLWH across Canada

Methods

We used data from the Canadian Healthcare Use Study (CHESS) which contains longitudinal administrative data for PLWH hospitalized in an acute care facility in Canada from April 2006 to March 2020. PLWH were included if they were >19 years old on or after 1 April 2006 and had at least one hospitalization in the Discharge Abstract Database (DAD) containing an ICD-10-CA diagnosis code indicative of HIV (B24, O98.7, R75, Z21).

For each hospitalization, the most responsible diagnosis (MRD) was tabulated and stratified by sex, jurisdiction of residence, and neighbourhood income quintile. Hospitalizations with a pregnancy or pregnancy-related condition as the MRD were excluded.

Table 1. Participant characteristics

	Female (n 6149)	Male (n 21,250)
Residence	n (column %)	
AB	784 (12.8)	1927 (9.1)
BC	1092 (17.8)	4309 (20.3)
MB	300 (4.9)	633 (3.0)
NB	37 (0.6)	147 (0.7)
NL	22 (0.4)	101 (0.5)
NS	67 (1.1)	285 (1.3)
ON	1478 (24.0)	6589 (31.0)
QC	1373 (22.3)	5618 (26.4)
SK	768 (12.5)	1008 (4.7)
Income quintile*		
1 - Lowest	3096 (50.4)	8437 (39.7)
2	1147 (18.7)	4507 (21.2)
3	742 (12.1)	3140 (14.8)
4	486 (7.9)	2272 (10.7)
5 - Highest	367 (6.0)	2036 (9.6)
Other†	311 (5.1)	858 (4.0)
	Median (Q1, Q3)	
Age	42 (35, 50)	48 (41, 56)

* Neighborhood income quintile (QAIPPE), † Missing, not applicable, or suppressed; Due to small cell counts, individuals whose sex was recorded as 'Other', as well as PE and the territories, were censored in Table 1

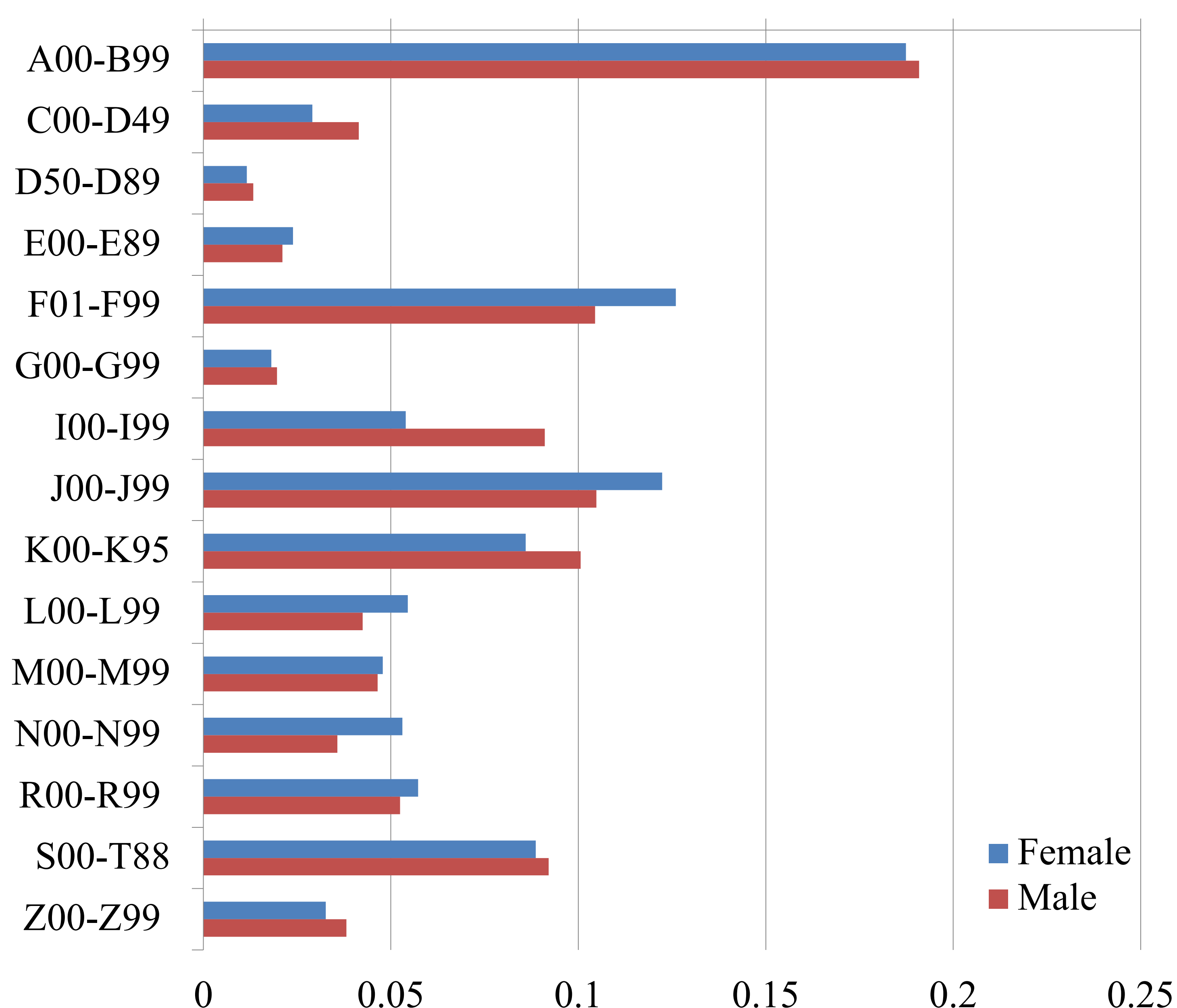


Figure 1. Proportion of hospitalizations for select ICD10-CA code ranges.

Results

Our study included 27,420 PLWH with at least one hospitalization containing an HIV-related ICD-10-CA code—of which 21,250 (77.5%) were male and 6149 (22.4%) were female—from all Canadian provinces and territories. Included females were younger than males (median 42 versus 48 years, respectively) and females were more often from the lowest neighborhood income quintile compared to males.

There was a total of 123,901 hospitalizations contributed throughout the study period, of which 30.0% and 69.9% were among females and males, respectively. For both sexes, roughly 1 in 5 hospitalizations contained 'Certain infectious and parasitic diseases' as the MRD while 11.7% and 11.0% of hospitalizations were reportedly due to 'Mental and behavioural disorders' and 'Diseases of the respiratory system', respectively.

Discussion

Our study demonstrates that among PLWH hospitalized in Canada, females living with HIV were hospitalized more frequently than males from 2006 to 2020.

Excluding pregnancy-related conditions, the top three MRDs for acute care hospitalizations were the same for both sexes. Future work will examine whether females living with HIV were more likely to be hospitalized than males after adjustment for confounders.