

Discharge Against Medical Advice from the HIV Ward at St. Paul's Hospital, Vancouver, British Columbia, Canada from 2005-2014

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Background

- Inpatient admissions for AIDS defining illness have declined with the advent of effective antiretroviral therapy (ART).¹
- Mental health and addictions-related co-morbidities continue to play a role in hospitalizations for HIV-Infected individuals.
- Hospital discharge against medical advice (AMA) may be a significant barrier to providing adequate care for HIV infected individuals with multiple comorbidities.
- We sought to characterize the rates of AMA discharge over time and identify factors associated with leaving AMA from the St. Paul's Hospital (SPH) HIV Ward.

Methods

- We conducted a retrospective analysis of data collected for patients admitted to the SPH HIV ward between July 1, 2005 and June 30, 2014.
- Discharge AMA was defined as leaving hospital against physician recommendations as per the discharge records for each hospital visit.
- Unstable housing was defined as living in a Single Room Occupancy Hotel, Shelter, or having no fixed address.
- We defined need for long-term antibiotics as any discharge diagnosis of endocarditis, osteomyelitis, or septic arthritis.
- A Charlson Comorbidity Index score and a VACS Index score² were calculated for each patient-visit.
- Viral load, ART usage, and CD4 cell count data were obtained through linkage with the Provincial Drug Treatment Program database.
- Factors associated with an AMA discharge were evaluated using generalized estimating equations in a multivariate model.

Results

- 1594 individuals (3901 unique visits) were admitted to the SPH HIV Ward.
- Patients with history of discharge AMA were predominantly male (64%), with history of injection drug use (90%) (see Table 1).
- Median length of stay was shorter for those discharged AMA (median, Q1-Q3: 6, 3-13 vs 9, 5-18)(see Figure 1)
- AMA Discharge occurred in 19% (755) of hospitalizations, was higher for IDU vs non-IDU (incidence rate/100pd) (see Figure 2).
- Being on ART at admission to hospital was inversely associated with discharge AMA (see Tables 2 and 3).
- Unstable Housing (ARR 2.18 95% CI 1.66 - 2.68) and IDU (ARR 2.93 95% CI 1.96 – 4.39) were strong predictors of discharge AMA (see Table 3).

Figure 1. Mean admission duration for individuals discharged AMA vs Not-AMA

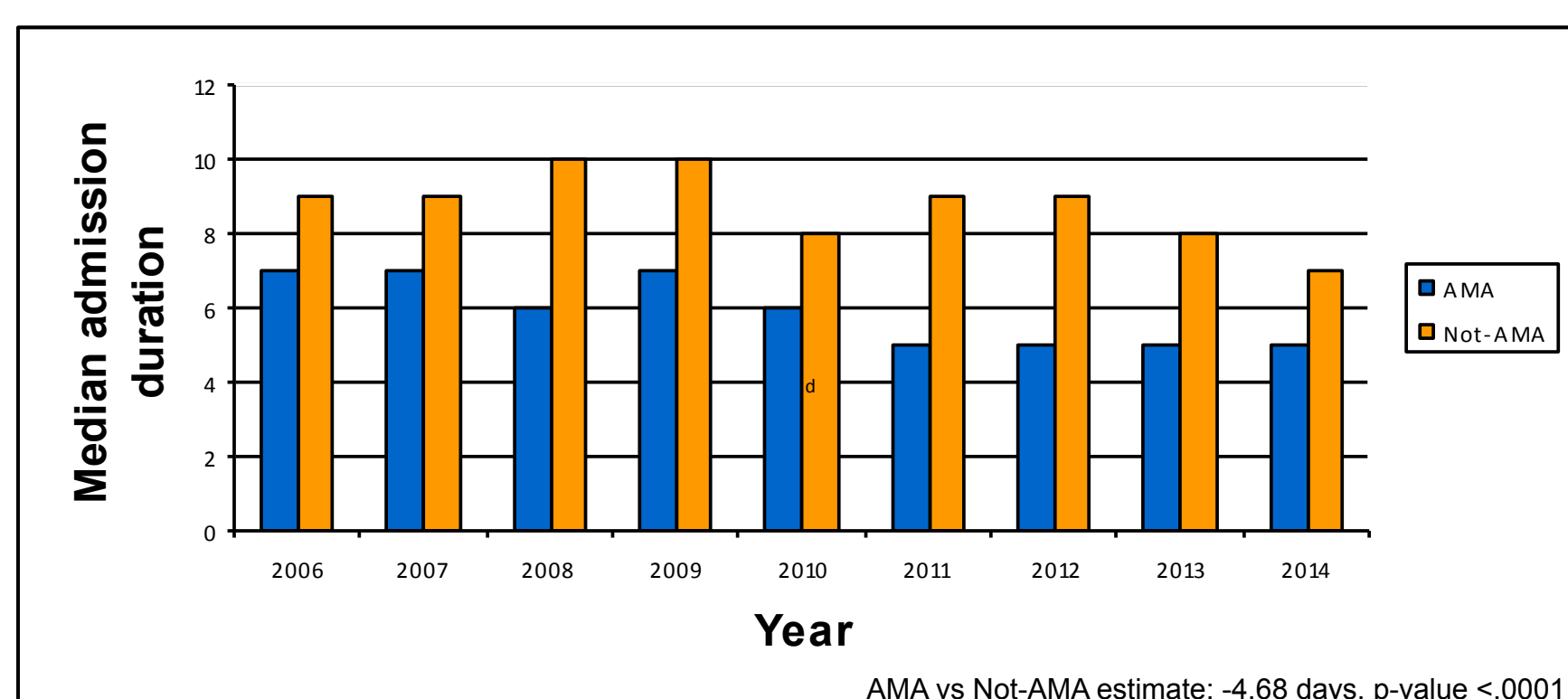


Figure 2. Incidence rates of AMA discharge over time

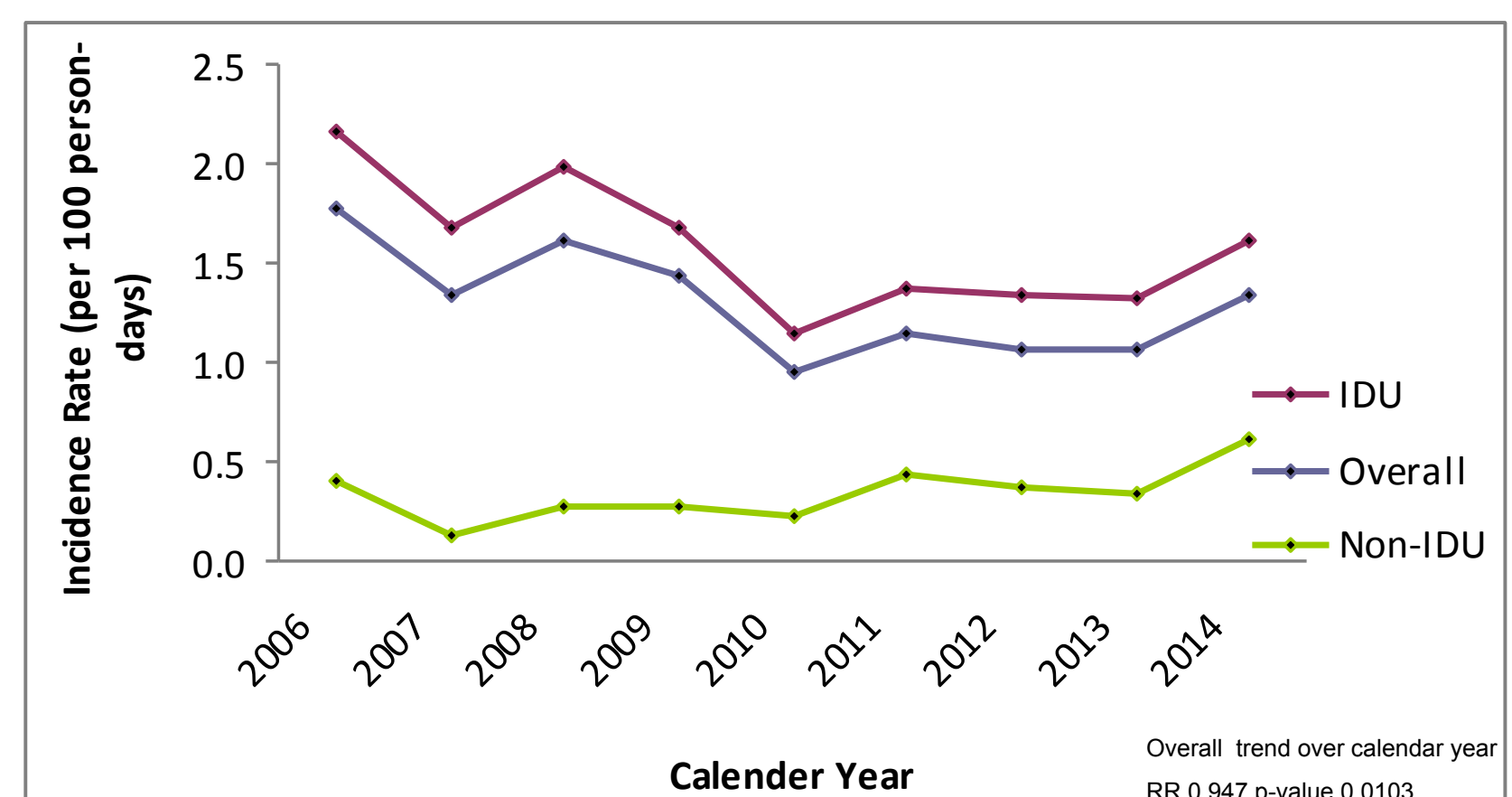


Table 1. Demographic characteristics for individuals admitted to the HIV ward 2004-2014 by discharge history

	Never discharged AMA (n=1204)	≥1 discharge AMA (n=387)	p-value
Female - n (%)	214 (17.8)	139 (35.9)	<.0001
Ethnicity			
Caucasian - n (%)	685 (69.5)	182 (56.9)	0.0002
First Nations - n (%)	236 (23.9)	145 (45.3)	<.0001
IDU history - n (%)	664 (56.5)	346 (89.6)	<.0001
History of methadone use - n (%)	241 (46.7)	164 (58.0)	0.246

Table 2. Selected factors associated with discharge AMA for admissions to the HIV ward 2004-2014

	Not discharged AMA (n=3119)	Discharged AMA (n=755)	p-value
VACS Index score (median, IQR)	27.2 (15-40)	28.3 (17-40)	0.014
Charlson Index score (median, IQR)	4.8 (2-7)	4.3(1-7)	0.002
CD4 count (cells/uL, IQR)	246.8 (70-350)	218.1 (70-310)	-
On ART at admission (n, %)	2192 (70.3)	410 (54.5)	<0.0001

Table 3. Adjusted multivariate analysis of factors associated with AMA discharge

	RR (95% CI)	ARR (95% CI)
Calendar Year	0.95 (0.91 - 0.99)	0.98 (0.94 - 1.02)
Long-term Antibiotics required during admission	0.69 (0.49 - 0.99)	0.49 (0.35 - 0.69)
Unstable Housing	3.04 (2.35 - 3.94)	2.18 (1.66 - 2.68)
Crack/Cocaine Use	1.86 (1.55 - 2.24)	1.28 (1.07 - 1.55)
IDU	4.78 (3.30 - 6.91)	2.93 (1.96 - 4.39)
VACS Index Score*†	0.99 (0.98 - 1.00)	0.99 (0.98 - 1.00)
Charlson Index Score*	0.94 (0.91 - 0.97)	0.96 (0.93 - 0.99)
On ART at admission	0.68 (0.56 - 0.82)	0.70 (0.58 - 0.85)

*Modeled as a continuous variable

† RR 95% CI 0.984 – 0.998, ARR 95% CI 0.980 -0.996

Conclusions

- Incidence of discharge AMA has decreased over the study period
- Leaving hospital AMA was highly associated with IDU.
- In our model, a higher burden of medical comorbidity, as measured by the VACS and Charlson Index scores, was inversely associated with discharge AMA.
- Strengthening of the addictions medicine inpatient clinical service and support programs may help to reduce AMA discharges among drug users.

References

- 1 Trends in AIDS incidence and AIDS-related mortality in British Columbia between 1981 and 2013. Montaner *et al.* Lancet HIV. 2015 Mar 1;2(3):e92-e97
- 2 Predictive accuracy of the Veterans Aging Cohort Study index for mortality with HIV infection: a North American cross cohort analysis. Justice *et al.* AIDS. 2013 Feb 1;27(2):149-63