

Addiction medicine involvement is associated with improved hepatitis C and blood-borne virus screening and reduced health care utilisation among hospitalised incarcerated people who inject drugs

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Background: Incarcerated people who inject drugs (PWID) experience a burden of blood-borne viruses (BBVs), yet opportunistic diagnosis during hospitalisation is underutilised. Integrated addiction medicine models may improve case finding and outcomes. We examined whether Addiction Medicine Unit (AMU) involvement was associated with BBV screening, hepatitis C virus (HCV) care cascade outcomes, and healthcare utilisation among incarcerated PWID admitted with injection-related infections.

Methods: We conducted a retrospective cohort study of incarcerated adults admitted with IRIs to a tertiary secure unit over six years. Primary outcomes were HCV RNA testing and composite BBV screening (HCV RNA, HBsAg, HIV serology). Secondary outcomes included HCV linkage to care, patient-initiated discharge, 30-day readmission, and length of stay (LOS). Multivariable logistic regression (adjusted for age, sex, First Nations identification, LOS, surgical source control, and blood culture positivity) and cost-minimisation analyses were performed.

Results: Among 391 admissions, HCV RNA testing was performed in 58.8%, with 45.5% demonstrating viraemia. AMU involvement was associated with an aOR of 5.07 (95% CI 3.10–8.30) for HCV RNA testing, 5.78 (95% CI 3.48–9.60) for HBsAg testing, 5.07 (95% CI 3.13–8.23) for HIV testing, and 4.60 (95% CI 2.91–7.26) for composite BBV screening (all $p < 0.001$). AMU involvement was also associated with reduced patient-initiated discharge (aOR 0.35, 95% CI 0.15–0.84; $p = 0.019$) and 30-day readmission (aOR 0.49, 95% CI 0.24–0.97; $p = 0.041$). Despite longer unadjusted median LOS, adjusted models demonstrated a 31% reduction (95% CI –42% to –18%; $p < 0.001$). Total inpatient costs were approximately \$3.24 million (30%) lower with AMU involvement.

Conclusion: AMU involvement was associated with improved BBV screening and clinical outcomes among incarcerated PWID. Case identification, rather than linkage to care, represented the principal barrier in the HCV cascade. Integrated addiction medicine models may provide clinical and economic benefits and represent a key strategy for hospital-based HCV elimination.

Disclosure of Interest Statement: Andrew Palmer served on an Abbvie advisory board for acute hepatitis C and chaired AbbVie-sponsored educational events; all payments were made to charity, and no personal remuneration was received. Andrew Palmer also participated in International Network on Health and Hepatitis in Substance Users educational activities on a pro bono basis, with no personal payment received.