Sub-optimal patterns of HCV Testing in hospitalised people who inject drugs: A Missed Opportunity?

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Background

- People who inject drugs (PWID) is a high burden population at risk for HCV infection and injecting-related injury and disease (IRID), but treatment access and uptake is suboptimal.
- Hospital inpatient management for IRID present opportunities for engagement with HCV treatment in PWID populations
- There is a lack of information on the adequacy of testing for HCV during admissions for co-morbidities including IRIDs amongst PWID populations.

Aims

To describe the patterns of HCV testing and treatment engagement in PWID hospitalised for IRID

Methods

We conducted a retrospective clinical note audit of patients admitted to St. Vincent's Hospital, Sydney with an International Classification of Diseases – 10th Edition (ICD-10) code associated with specific complex IRIDs including:

1. Endocarditis (I33, I38, I39)
2. Osteomyelitis (M86)
3. Discitis (M54)
4. Myositis (M60)
5. Pyogenic arthritis (M00)
6. Spinal abscess (G06)
7. Staphylococcus aureus sepsis (B95)

Study period: 2-years (1st January 2016 – 31st December 2017)
Inclusion Criteria:
1. Admission to St. Vincent's Hospital with IRID-associated ICD-10 code
2. History of injecting drug use documented

PWID were identified from clinical notes and HCV testing patterns were reviewed based on a **best-practice protocol:**
1. Documented HCV Antibody/RNA testing if HCV status unknown
2. Outcome of HCV Antibody/RNA testing documented
3. Documented HCV assessment and plan made
4. Documented HCV treatment post-admission

Appropriate management end-points include:
1. Documented negative HCV RNA results
2. Completion of HCV treatment post-admission documented in inpatient or outpatient clinic notes (at end of study period)

Results

Table 1: Demographics of patients admitted with IRIDs (n=168)

Characteristics	PWID (n=33)	Non-PWID (n=135)
Female (%)	14 (42.4)	31 (23.0)
Indigenous (%)	11 (33.3)	2 (1.5)
Homeless (%)	14 (42.4)	5 (3.7)
Psychiatric history documented (%)	12 (36.4)	13 (9.6)
Heavy alcohol intake (%)	9 (27.2)	15 (11.1)
HIV-positive	2 (6.1)	2 (1.5)
Median age/years (IQR)	45.7 (39.2-50.2)	62.4 (50.3-73.7)
Median length of stay/days* (IQR)	12 (8-21)	14 (5-28)
IRID Primary Diagnoses (%)		
S. aureus sepsis (B95)	9 (27.3)	10 (7.4)
Endocarditis (I33, I38, I39)	10 (30.3)	28 (20.7)
Osteomyelitis (M86)	6 (18.2)	52 (38.5)
Discitis (M54)	2 (6.1)	3 (2.2)
Myositis (M60)	1 (3.0)	11 (8.1)
Abscesses (G06)	2 (6.1)	1 (0.7)
Pyogenic arthritis (M00)	4 (12.1)	16 (11.9)
Others	-	14 (10.4)

***Does not reflect discharge to Hospital In The Home (HITH)**

Results

Table 2: PWID hospital admission details & documented drug-use

Details	PWID (n=33)
Opioid Substitution Therapy (OST) status (%)	
On OST **AT ADMISSION**	13 (39.4)
On OST **AT DISCHARGE**	16 (48.5)
No medications recorded at discharge	9 (27.3)
Drug & Alcohol specialist consult **DURING ADMISSION**	27 (81.8)
Discharge against medical advice	13 (39.4)
Discharge to HITH	4 (12.1)
Deaths	2 (6.1)
Drug Use (%)	
Heroin	27 (81.8)
Oxycodone	3 (9.1)
Methamphetamines	26 (78.8)
Benzodiazepines	9 (27.3)
Cannabis	8 (24.2)
Cocaine	3 (9.1)
Others	2 (6.1)

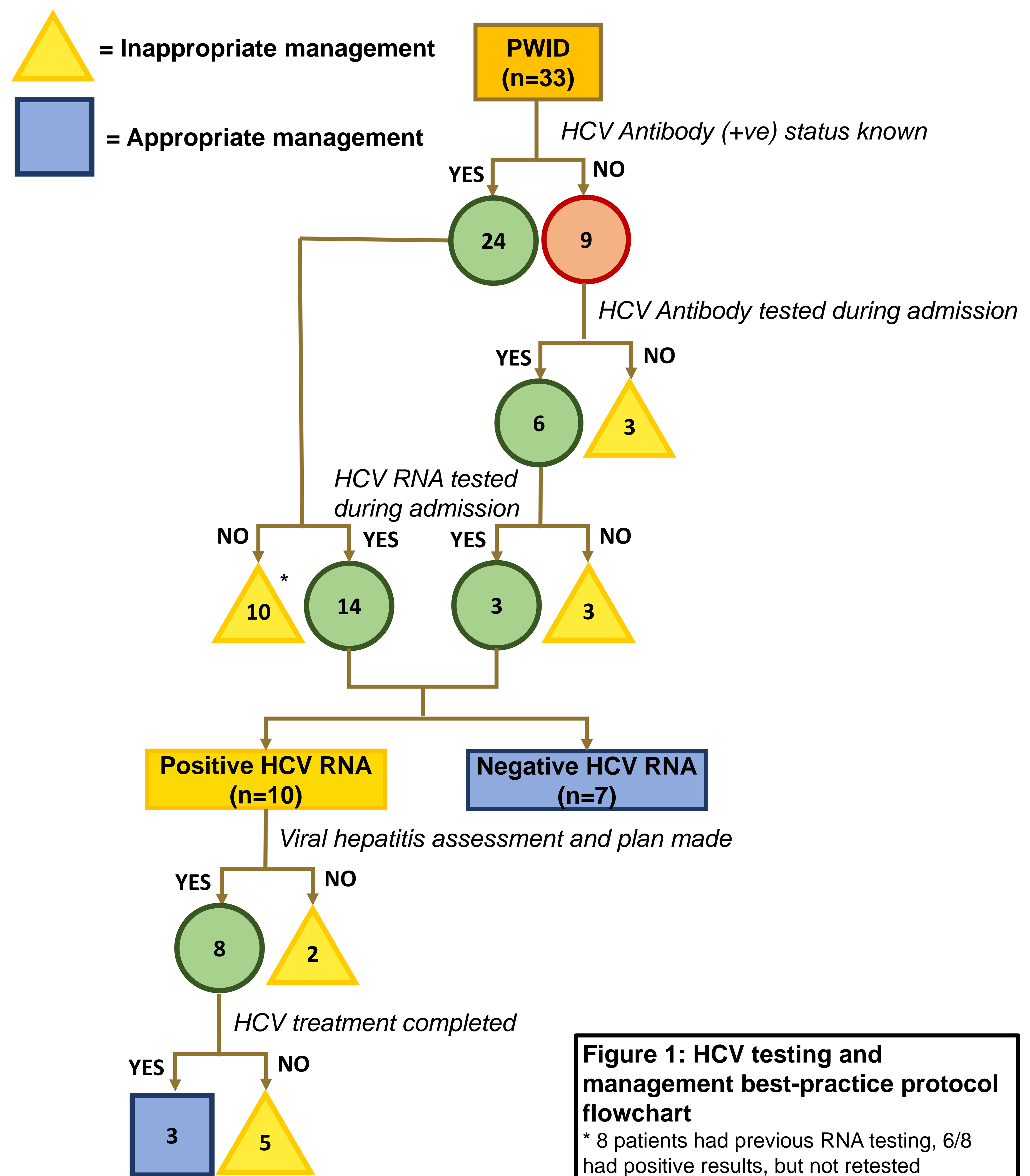

Figure 1: HCV testing and management best-practice protocol flowchart
* 8 patients had previous RNA testing, 6/8 had positive results, but not retested

- 16/33 (49%) of PWID admitted for an IRID were inappropriately tested for HCV according to best-practice protocol
- Of patients with documented HCV RNA testing (n=17), 2/10 (20%) had no appropriate management plan and 5/10 (50%) did not complete HCV treatment post-admission.
- Overall, 23/33 (70%) of PWID did not receive adequate testing and engagement to HCV care and/or treatment during an admission for an IRID.

Conclusions

- PWID represent a challenging cohort for engagement to care for HCV management and treatment.
- HCV diagnosis and linkage to appropriate treatment and care is **suboptimal** in PWID hospitalised for an IRID to a tertiary hospital.
- Greater prioritisation and training amongst staff on best-practice protocols for HCV testing is needed, with continued evaluation of inpatient HCV treatment initiation for at-risk groups.
- New models of service delivery and opportunities to engage with HCV amongst PWID, including inpatient initiation should be explored to overcome substantial barriers to care outside the health system (e.g: peer-group engagement, dedicated staff training/employment, heightened tracking or surveillance of at-risk individuals)
- Limitations of this study include: a small sample size, under-representation of HCV treatment completion due to incomplete documentation and/or loss-to-care, overlap of study period with universal availability of direct-acting antivirals (DAA) in Australia on 1st March 2016, and the lack of data regarding HITH which may provide further information of engagement to HCV care.
- Further research is warranted to assess the engagement to HCV treatment amongst PWID hospitalised for an IRID post-DAA availability and effectiveness of new proposed models of care.

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