A Novel Hepatitis C Micro-Elimination Model in a Large Healthcare for the Homeless Organization

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Background

To reach WHO Hepatitis C (HCV) elimination targets we must rapidly diagnose and treat HCV in people who inject drugs (PWIDs), including vulnerable and houseless individuals. We need streamlined care pathways addressing barriers including excessive provider appointments, laboratory workup complexity, and burdensome referral requirements.

Method

We designed an integrated, multi-faceted opt-out HCV screening and linkage-to-care program for Central City Concern, a large healthcare for the homeless services institution in Portland, Oregon. Our aim is 80% HCV elimination by 2024 across 24 transitional housing entities, 2 primary health clinics, and 80% screening and linkage-to-care in a medically supported withdrawal center. Front-line staff initiate a 1-click universal screening and referral that triggers a multi-reflex novel lab algorithm (Fig. 1) combining screening, confirmation, and pre-treatment lab workup in a single blood draw or novel dried blood spot card (DBS, Fig. 2). A clinician reviews labs and orders presumptive direct-acting antivirals and insurance authorization is processed. The pharmacist or provider initiates appropriate treatment on the first visit. In our respondent-driven sampling model, patients at housing sites are incentivized to receive lab results after screening, and also to engage others to screen (Fig.3).

Figure 1. One-Click Screening and Workup Algorithm

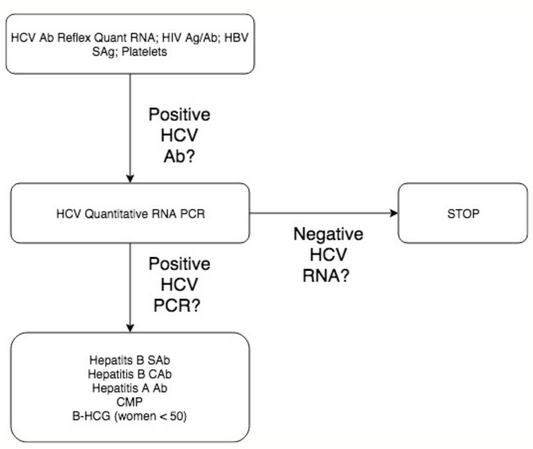


Figure 2. Novel Dried Blood Spot Card Set

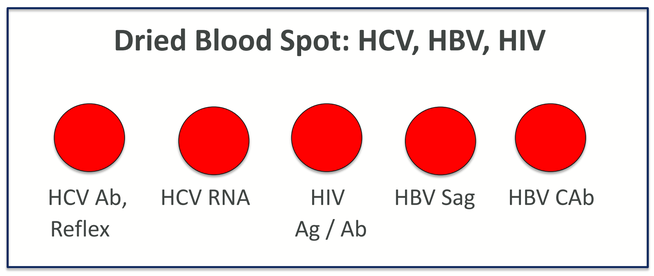
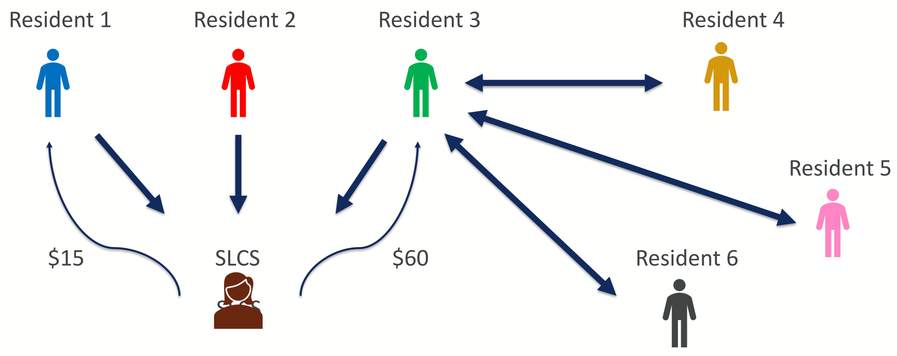


Figure 3. Incentivized Respondent-Driven Sampling in Supportive Housing



Screening Linkage-to-Care Specialist (SLCS) performs venipuncture or dried blood spot; gives $15 incentive to Resident with results and additional incentives for each additional resident engaged by participants.

Results: Proposed Impact

We identified 10,002 patients eligible for HCV screening that predict 1,231 cases of active HCV and 1,043 cases initiating treatment in the first 12 months. We hypothesize that the 1-click screening, workup, and referral process will save health resources, minimize loss to follow-up, and improve case finding among hard-to-reach PWID and transitional housing populations.

Proposed Reach (10/2019 – 10/2020	Organization Total	Health Services Sites	Housing Sites (24 unique buildings)
Unique # patients eligible for HCV testing	10,002	8,462	1,540
# HCV tests to be conducted / % of eligible to be reached	3,848/38.5%	3,337/39.4%	511/40%
# HCV antibody positive	1,655/43%	1435/43%	220/43%
# / % HCV RNA positive	1231/32%	1068/32%	163/32%
# / % linked to medical care (first medical appointment kept)	1,034/85%	908/85%	114/70%

Discussion

We propose that our three unique process simplification interventions will maximize HCV screening and linkage-to-care while diminishing patient effort. The novel lab algorithm is intended to limit the need for repeat lab draws and allow a single provider to review work up labs, order HCV medications, and prepare for treatment initiation on the first clinician visit. The literature suggests that DBS increases HCV screening uptake among PWIDs, and we expect our treatment-ready DBS card to allow for treatment of a higher percentage of PWIDs per year, facilitating services-wide micro-elimination. Financial incentives for both testing and engaging others in screening are economically sustainable for United States-based organizations with 340b pharmacies and should increase case finding and cure rate.

Conclusion

We must utilize opt-out principles and innovative approaches to test and cure hepatitis C in hard-to-reach PWIDs if we are to make progress toward effective elimination targets. This demonstration project proposes three unique and exportable tools to aid in the effort to move toward HCV elimination.

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