

Optimizing Clinical Care in the Inner-City Population: Innovative Community HCV-Based Clinic

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Background

Vulnerable and marginalized inner-city residents commonly face multiple barriers in accessing healthcare including issues related to stigmatization and discrimination. Over the past decade, we have developed an innovative model to conduct community-based outreach events to favor long-term, multidisciplinary engagement in care that would favor an increased uptake of hepatitis C (HCV) treatment in this key population. With COVID-related public health restrictions, we have been unable to conduct these events as originally designed since March 2020. This barrier, in addition to the absence of supportive infrastructures and community programs on which these individuals relied in their daily lives, has led to further disengagement from care and a significant reduction in HCV diagnosis and treatment starts exceeding 30%. In this context, there is an urgent need to design novel structures that are compatible with public health imperatives but will restore engagement in care to deal with medical issues such as HCV infection. To evaluate the benefit of a residence-based outreach program conducted in the inner city on the diagnosis and treatment of HCV infection among inner city populations.

Methods

The Vancouver Infectious Diseases Centre (VIDC) has developed an outreach model of Community Pop-up Clinics (CPC) conducted at community-based locations in the inner city, where residents normally seek services, nutrition or emergency shelter. A team of 4-5 individuals (including 1-2 healthcare providers along with support staff and peer workers) would evaluate up to 30 individuals in a half-day. After obtaining informed consent, demographic information is collected, and participants are offered point-of-care HCV antibody testing (OraSure[®] saliva test) as a diagnostic intervention. For individuals who disclose a prior diagnosis of HCV infection, this diagnosis can be verified with a central laboratory, including documentation of viremia, if available. If a positive result is obtained (or existing HCV infection is confirmed), immediate medical consultation with a nurse or a physician is provided in a confidential manner with a plan of care with the participant to identify and address their urgent needs within a multidisciplinary care to additionally address medical, social, psychiatric and addiction-related needs (Figure 1). It is in this context that HCV treatment is provided, following attendance at the VIDC clinic which is facilitated and incentivized within a week of the initial contact at the CPC event.

Our CPC program was temporarily halted during the height of the COVID-19 pandemic between 03/20 – 07/20 (Figure 2). We resumed our activities in 08/20 and were fully operational by 01/21. The basic structure of the CPC was preserved with the following modifications to accommodate the COVID world and to reduce barriers to engagement in care:

1. CPC events were held with single room occupancy dwellings in the inner city, where large central common rooms served as a staging area for the event. Only residents of the building and their guests were invited to participate. The room was set up to favor social distancing and minimize the time of interpersonal contact that occurred.
2. To accommodate restrictions and permit mask wearing at all times, rapid HCV HCV POC testing by finger-prick was offered in lieu of oral swabs along with social distancing and proper personal protective equipment (PPE) to adhere to COVID-19 guidelines.
3. Phlebotomy and FibroScan testing were done on site, to minimize patient movement and to mitigate the severe reduction in laboratory services that were available.
4. Those requiring ongoing care were given the option of coming to our clinic (which remained open for in person visits under appropriate COVID-related protocols) or receive ongoing care at their place of residence. The latter could be facilitated by telehealth with one of our providers or by the services of a medical van where the nurse could make weekly visits to the place of residence and provide the same model of multidisciplinary care that would be available on site at VIDC.

To evaluate the performance and impact of the CPC AT HOME program, we report on overall participant uptake, demographics, HCV infection status and disease characterization and uptake of HCV treatment over 15 months between 01/21 – 03/22.

Results

Between 01/21 - 03/22, 841 participants were evaluated. Key demographic characteristics include median age of 47 years (range: 25-76), 75% male, 98% history of injection drug use, 80% active fentanyl use, 85% on opioid agonist therapy (Table 1). Among all participants, 306 (36%) were HCV antibody positive, with 181 (59%) being viremic (Figure 3). It is encouraging that, of those with HCV infection, 118 (39%) had been successfully treated, and 48 (16%) had documented spontaneous clearance. Of the 181 viremic individuals, 84 are being prepared for treatment (by our centre or in collaboration with other centres), 4 (2%) were lost to follow up and 93 (51%) have already initiated treatment, 47 (51%) of whom received treatment through weekly visits at their place of residence. While on treatment, 1 individual died of a drug overdose, and 3 (3.2%) were lost to follow up. Of the 78 individuals in whom post-treatment HCV RNA measures are available (4-12 weeks post-treatment), 76 (97.4%) are considered cure. Data are awaited on the other 11 individuals that remain engaged in care and on treatment. Overall, it is encouraging that of viremic individuals, only (3.9%) have been lost to follow up since treatment initiation.

Figure 3. CPC HCV Engagement Flowchart

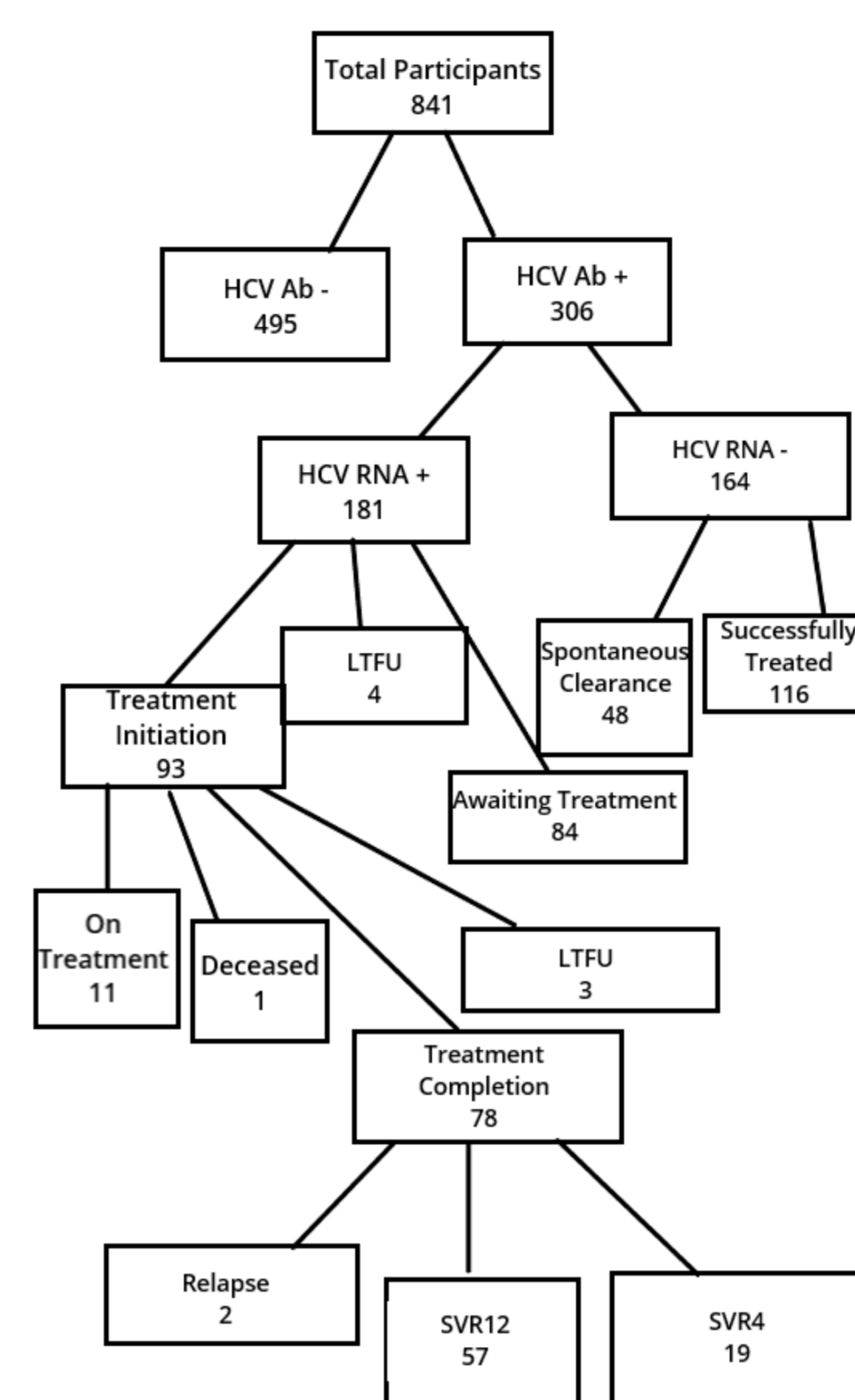


Figure 1. Pre-COVID Community Pop-Up Clinics (CPC)



Figure 2. COVID World CPC – CPC AT HOME



Table 1. Demographic Characteristics of Patients Receiving HCV Therapy

Characteristic	# of Participants (N=93)
Age (median years, range)	47 (25-76)
Gender (n, %)	Male: 70 (75%) Female: 23 (25%)
Drug Use (n, %)	History of injection drug use 91 (98%) Recent injection drug use 70 (75%)
Active Fentanyl use (n, %)	74 (80%)
Opioid Agonist Therapy (n, %)	79 (85%)
Unstable Housing (n, %)	89 (96%)
Cirrhosis (n, %)	8 (9%)
HIV/HCV Co-infection (n, %)	7 (8%)
HCV Treatment Naïve (n, %)	90 (97%)
Genotype (n, %)	GT 1 43 (46%) GT 3 40 (49%)
Oral DAA Regimen (n, %)	S/V 64 (69%) G/P 26 (28%) S/V/V 2 (2%) S+G/P+R 1 (1%)

Conclusion

In COVID world, the CPC at home has been quite successful and continues to target a population with a high prevalence of HCV infection. It is encouraging that we are identifying a significant number of individuals who are viremic (spontaneously or through treatment) and who are potentially disengaged from care and at risk of HCV re-infection. Our structure may facilitate ongoing monitoring of HCV RNA testing according to clinical standards. Many individuals in our target population remain untreated for HCV infection. Our program has successfully identified many such individuals, engaged them in care, provided many with successful treatment, developed a plan of treatment for many others all with a low rate of loss to follow up. The flexibility of our model, its ability to adapt to specific patient needs in safe and patient-friendly environments and to reach out with a mobile van (reducing the loss to follow up) contribute to its success. Approaches to care such as ours will be necessary to link broadly disengaged individuals to care to achieve WHO's mandate on HCV elimination, especially in the pandemic era.

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Disclosures

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