

## **GEOGRAPHIC CASCADE OF HCV CARE: A TOOL FOR TARGETED INTERVENTIONS AND PROGRAM EVALUATION**

Butt ZA<sup>1,2</sup>, Wong S<sup>2</sup>, Yu A<sup>2</sup>, Alvarez M<sup>2</sup>, Bartlett S<sup>2</sup>, Samji H<sup>2</sup>, Mckee G<sup>3</sup>, Buxton J<sup>1,2</sup>, Darvishian M<sup>4</sup>, Pearce M<sup>2</sup>, Binka M<sup>2</sup>, Wong J<sup>2</sup>, Gilbert M<sup>1,2</sup>, Kraiden M<sup>1,2</sup>, Janjua NZ<sup>1,2</sup>

<sup>1</sup>University of British Columbia, <sup>2</sup>British Columbia Centre for Disease Control, <sup>3</sup>Vancouver Coastal Health,

<sup>4</sup>British Columbia Cancer Agency

**Background:** The HCV care cascade has been used in various settings to monitor HCV program progress. Identifying gaps in the care cascade geographically can inform targeted interventions to enhance case detection, referral, treatment uptake and retention in care. We used geographic mapping to describe the HCV care cascade in British Columbia (BC), Canada using the British Columbia Hepatitis Testers Cohort (BC-HTC) between 1990-2018.

**Methods:** The BC-HTC includes ~1.7 million individuals tested for HCV or HIV linked to healthcare administrative databases. The seven HCV care cascade stages defined were: 1) HCV diagnosed; 2) RNA tested; 3) RNA positive; 4) genotyped; 5) initiated antiviral treatment; 6) sustained virologic response (SVR) and 7) HCV re-infection. Proportions at each care cascade stage were mapped by Forward Sortation Area (FSA) across BC, which enables both granular geographic analyses and protection from re-identification.

**Results:** Gaps in the care cascade were identified across geographic regions. RNA testing was proportionately lower (59-73%) in FSAs in Northern BC (NBC [Prince George]), Interior BC (IBC [Kelowna]) and Metro Vancouver (MV [Vancouver, Burnaby]). Lower proportions (67-76%) of HCV genotyping were observed in parts of NBC and MV (Vancouver, Richmond). Treatment initiation showed markedly lower proportions (29-47%) in NBC, IBC (Kamloops, Kelowna), MV (Vancouver downtown, Surrey) and Vancouver Island (VI). Lower proportions for SVR (56-66%) were reported from parts of NBC, North Shore, IBC (Kamloops, Kelowna), MV (Vancouver, Langley) and VI. Re-infection was highest (7-9%) in urban centres of MV (Vancouver, Vancouver downtown).

**Conclusion:** Geographic mapping can serve as an important tool to identify localized care cascade service gaps to inform service delivery and evaluate implementation impacts. Interventions can be tailored to each cascade stage component based on local geographic needs. This approach can be used to monitor the delivery of high-quality equitable services across urban, rural and remote regions.

**Disclosure of Interest Statement:** All inferences, opinions, and conclusions drawn are those of the authors, and do not necessarily reflect the opinions or policies of the authors' affiliated organisations. Mel Kraiden has received grant funding via his institution from Roche Molecular Systems, Boehringer Ingelheim, Merck, Siemens Healthcare Diagnostics and Hologic Inc. SB is supported by a CIHR and Michael Smith Foundation for Health Research (MSFHR) Health System Impact Postdoctoral Fellowship Award. MP is supported by a CIHR Health System Impact Postdoctoral Fellowship Award.