

# Expanding Access to Hepatitis C Care in Community and Correctional Settings via Non-Traditional Models in Saskatchewan, Canada

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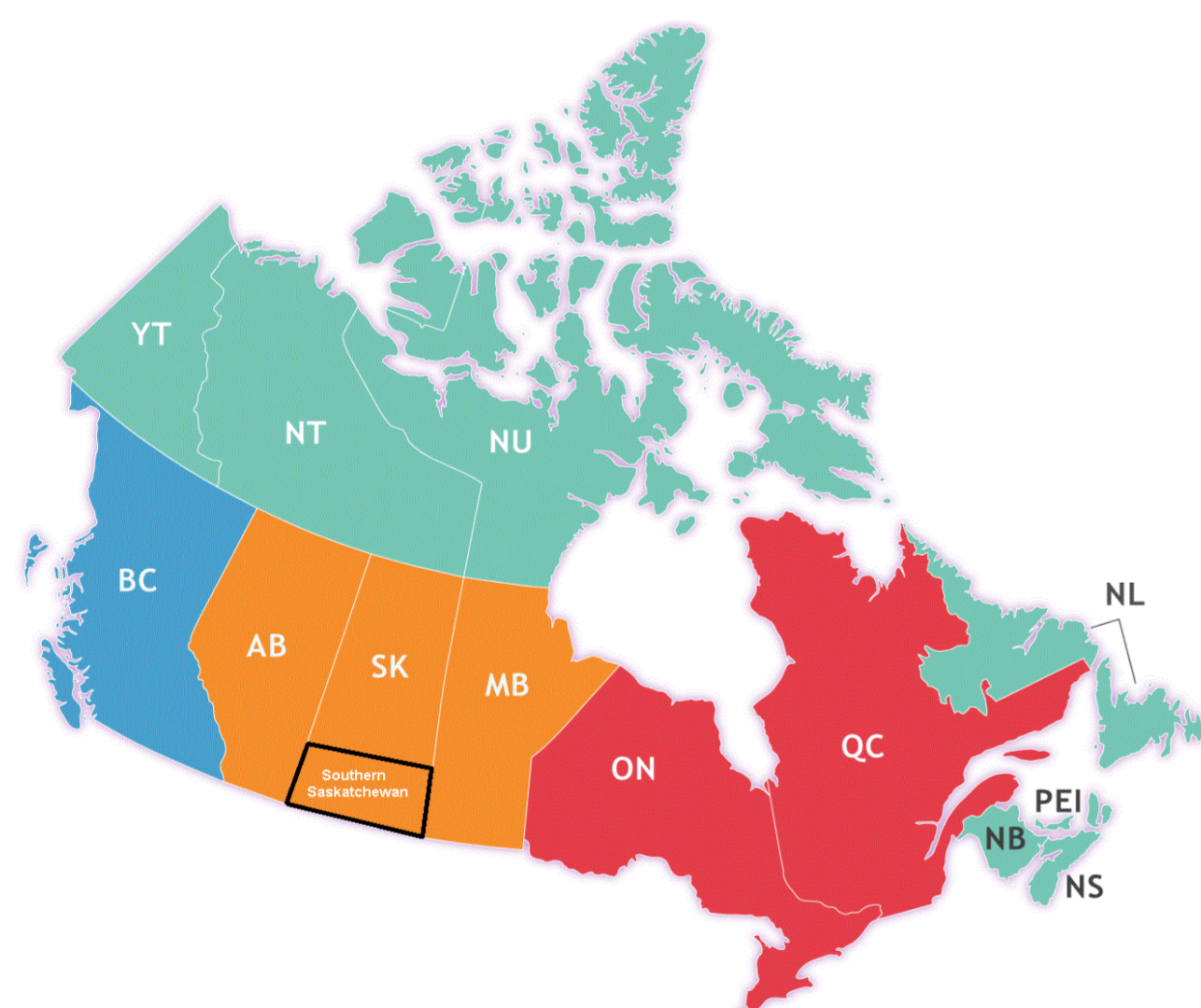
## BACKGROUND

Saskatchewan is a Canadian Prairie province with a population of over 1.1 million (**Figure 1**). Care for persons with hepatitis C (HCV) is provided primarily in two tertiary centres, Regina and Saskatoon. The province currently is in the midst of a unique HCV epidemic characterized by extremely high rates of transmission through injection drug use and disproportionate representation of persons of self-declared Indigenous heritage.

The Infectious Diseases Clinic (ID Clinic) at Regina General Hospital provides the majority of HCV care for ~400,000 residents of southern Saskatchewan. Despite improving access to direct-acting antiviral (DAA) therapies, the number of persons treated for HCV in Saskatchewan remains suboptimal. In 2017, ~750 persons received a publicly-funded prescription for DAA therapy in the province, equivalent to the number of newly-reported HCV cases in the province over the same year.

Numerous barriers exist to expanding care. Many persons referred to the clinic face significant practical challenges in accessing care, such as lack of transportation. In response, the clinic now sees patients in a variety of low-barrier settings, including inner-city outreach, the provincial correctional facility, and via expedited community-based referral including telemedicine. To best understand major gaps in the provision of HCV care, we visualized HCV cascades of care for each of three major referral populations. Pragmatic solutions to close gaps in care for different referral populations can then be implemented accordingly with repeat analyses to determine efficacy.

**Figure 1:** Map of Canada. The Prairie provinces are highlighted in orange. Saskatchewan is labeled as SK, Southern Saskatchewan labeled within.



## METHODS

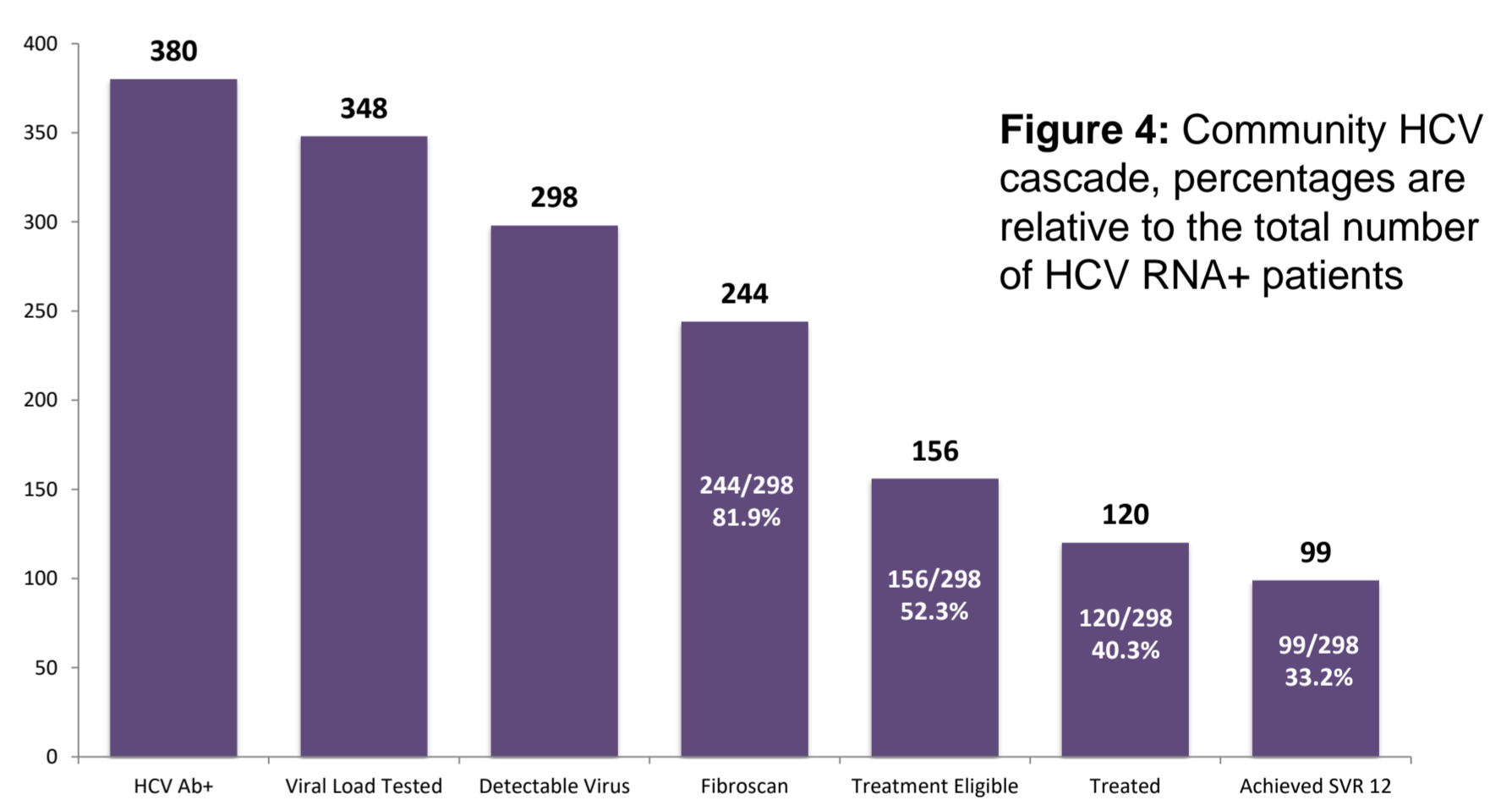
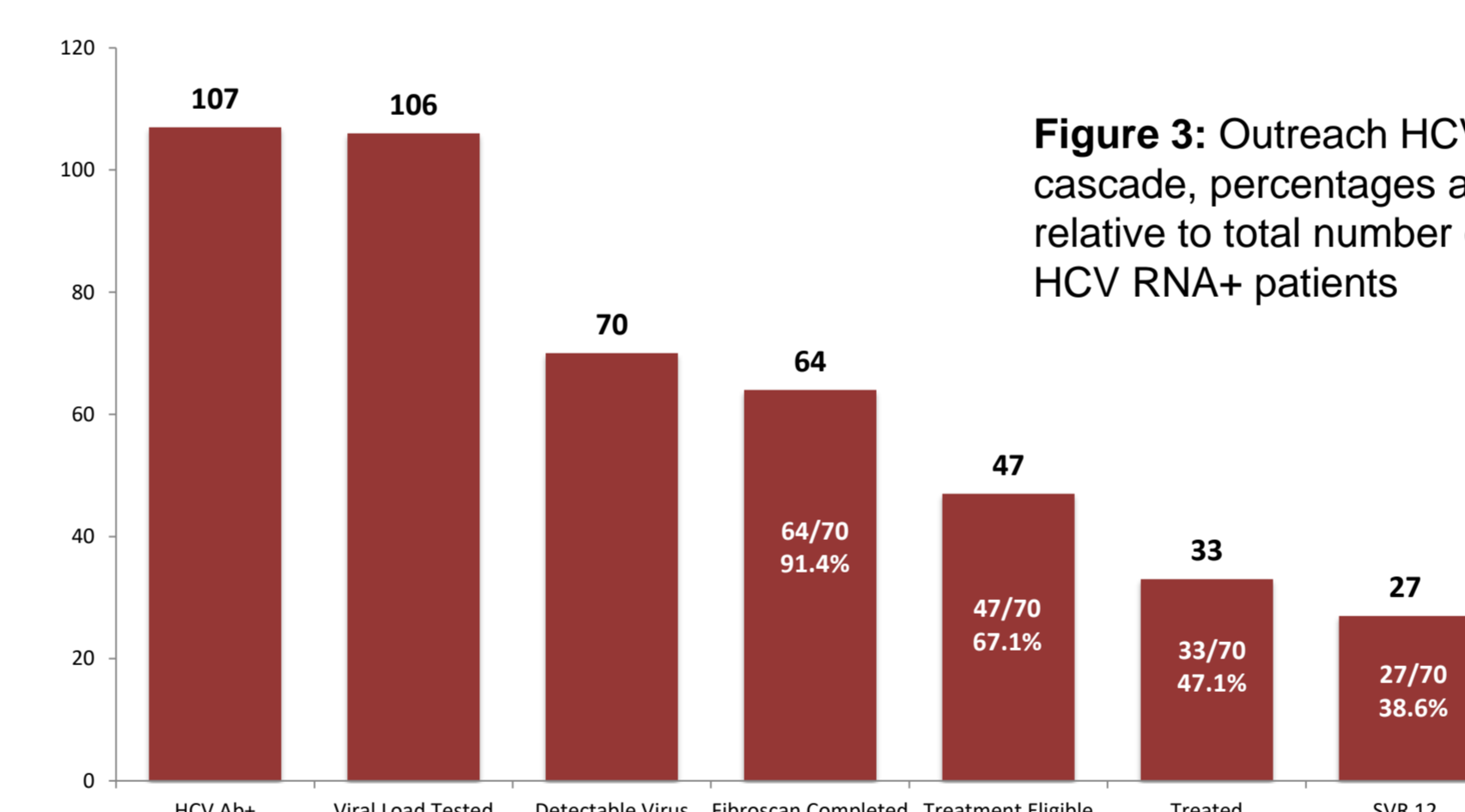
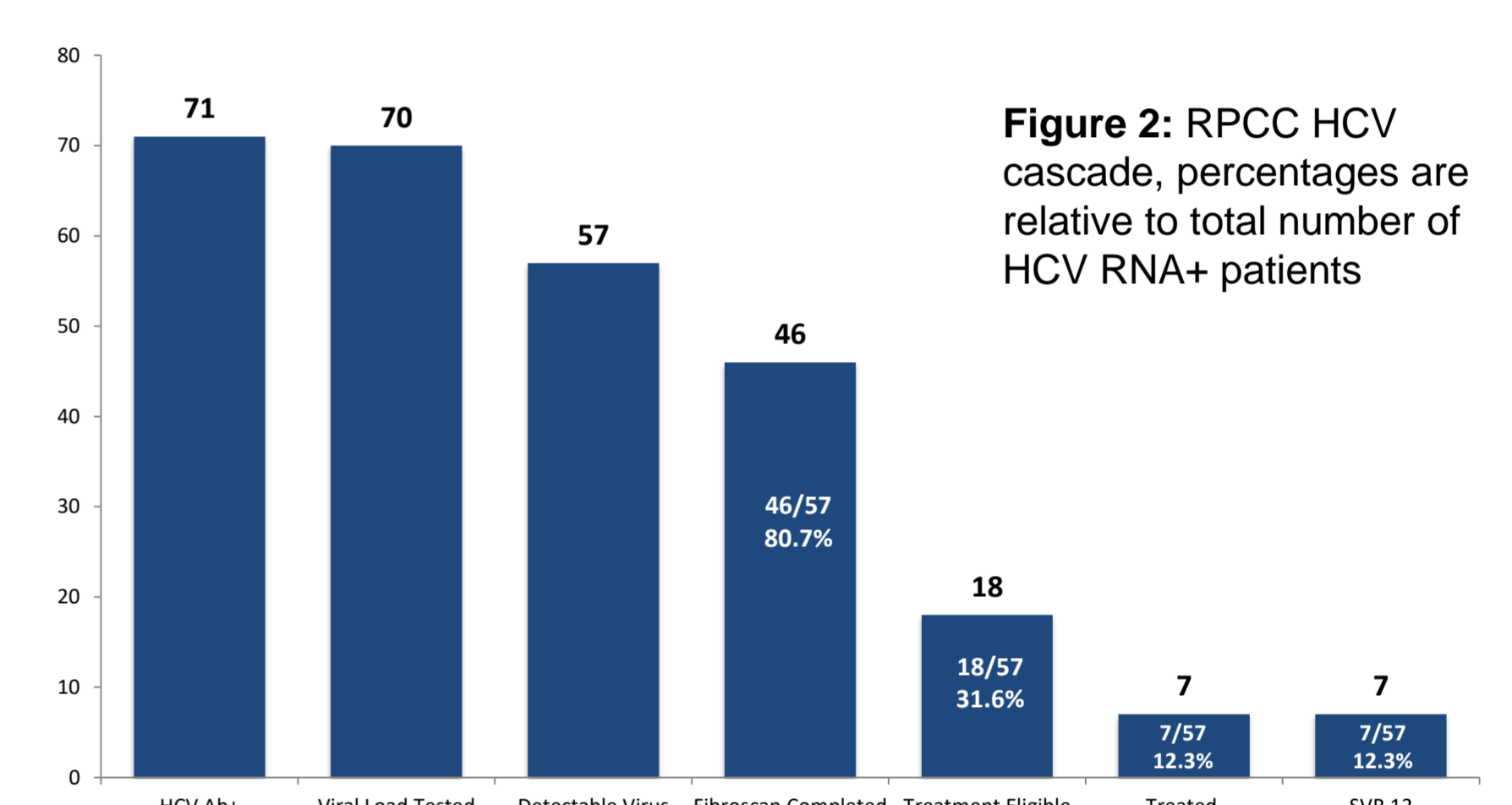
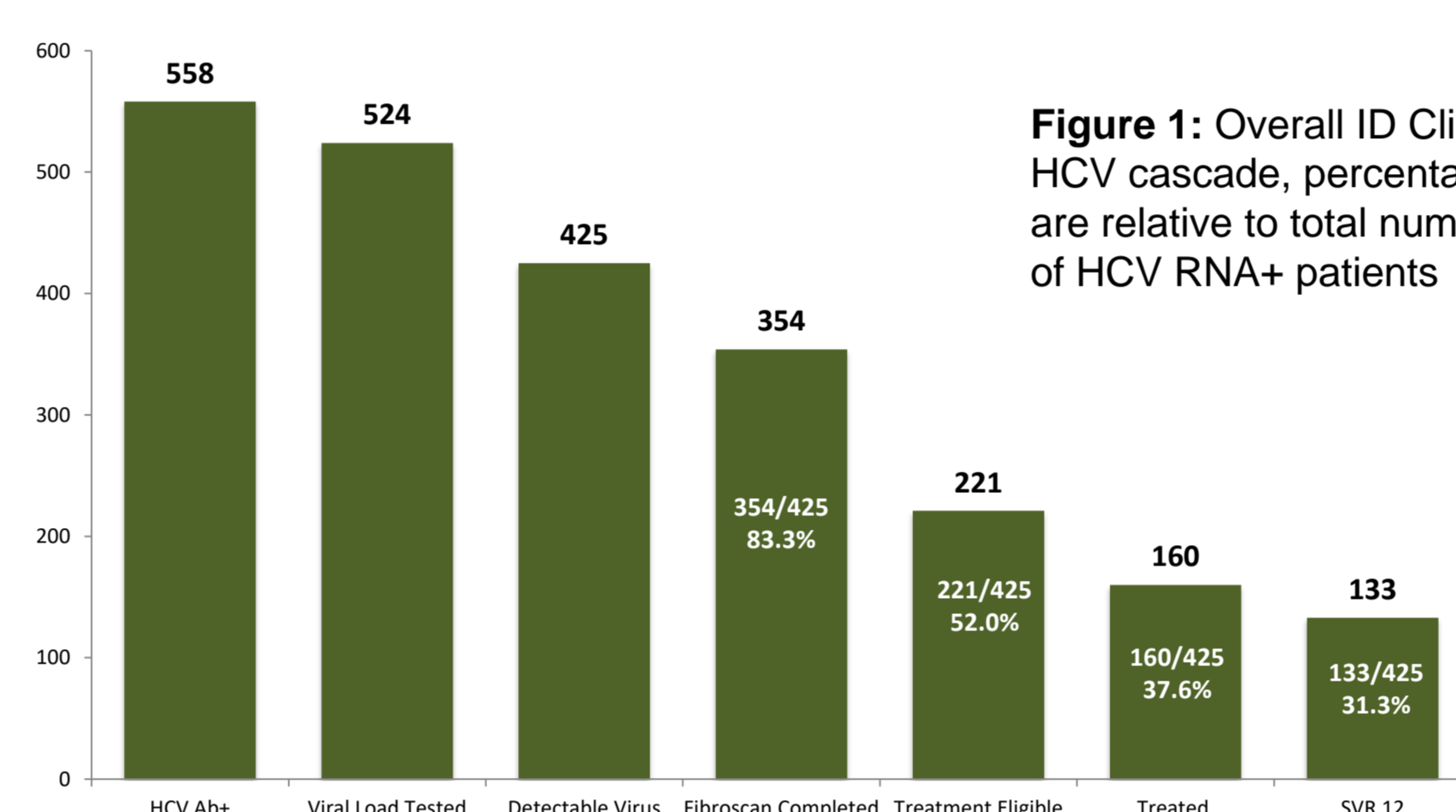
All patients referred to ID Clinic with a positive HCV antibody result between January 1, 2016 and March 31, 2017 were included in the analysis. Patients were divided into three groups based on their initial location of entry to care: inner-city community outreach, corrections (Regina Provincial Correctional Center – RPCC), or from community-based providers. Baseline demographics and clinical characteristics are described in **Table 1**. Missing data was not imputed. Patients were followed through until loss-to-follow-up or determination of cure (SVR12). Cascade definitions were as follows: (1) **Positive HCV antibody**; (2) **HCV Viral Load tested**; (3) **HCV Viral Load undetectable or < 12 IU/mL**; (4) **Fibroscan performed**; (5) **Treatment eligible** (Fibroscan  $\geq$  7.1 kPa if Non-Insured Health Benefits [NIHB],  $\geq$  8.7 kPa if Saskatchewan Drug Plan); (6) **Treatment initiated**; (7) **SVR12 achieved**. No formal definition was used to define ‘gaps’ in care. Cascades were inspected visually.

## DEMOGRAPHICS

	Total (n=558)	RPCC (n=71)	Outreach (n=107)	Community (n=380)
<b>Gender</b>				
Male	339 (60.8%)	71 (100%)	46 (43.0%)	222 (58.4%)
Female	219 (39.2%)	0 (0.0%)	61 (57.0%)	158 (41.6%)
<b>Self-Declared Ethnicity</b>				
Indigenous	250 (63.8%)	32 (86.5%)	68 (82.9%)	150 (54.9%)
Caucasian	129 (32.9%)	5 (13.5%)	13 (15.9%)	111 (40.7%)
African/Caribbean/Black	4 (1.0%)	-	-	4 (1.5%)
Other	9 (2.3%)	-	1 (1.2%)	8 (2.9%)
<b>Age (Years)</b>				
18 – 35	194 (34.8%)	42 (59.1%)	41 (38.3%)	111 (29.2%)
36 – 55	279 (50.0%)	26 (36.7%)	61 (57%)	192 (50.6%)
$\geq$ 56	85 (15.2%)	3 (4.2%)	5 (4.6%)	77 (20.2%)
<b>Genotype</b>				
1 / 1a	264 (62.1%)	39 (67.2%)	44 (60.3%)	181 (61.5%)
1b	3 (0.7%)	-	1 (1.4%)	2 (0.7%)
2	26 (6.1%)	-	3 (4.1%)	23 (7.8%)
3	128 (30.1%)	19 (32.8%)	25 (34.2%)	84 (28.6%)
4-6	4 (0.9%)	-	-	4 (1.3%)

**Table 1:** Selected clinical characteristics for persons seen between January 1, 2016 and March 31, 2017 in correctional setting (RPCC), community-based outreach clinic setting (Outreach), and via standard community referral (Community).

## CASCADES OF CARE



## DISCUSSION

Gaps in care are unique to our different referral populations. Treatment eligibility remained a major overall limiting factor across all referral groups. A large proportion of persons seen at RPCC were treatment-ineligible, reflecting a younger overall population. Very few persons were treated at RPCC owing mainly to uncertainty around length of stay, and concerns regarding loss-to-follow-up upon discharge. A large percentage of persons seen in outreach had spontaneously cleared, perhaps due to the largely Indigenous make-up of this cohort and the fact that persons of Indigenous background spontaneously clear HCV at higher rates than other ethnic groups. Due to reflex viral load testing performed in RPCC and outreach settings, virtually everyone had an HCV viral load tested.

To address these gaps in care, we have initiated several pilot initiatives. Coinciding with the universal access of DAA-based therapies for HCV in Saskatchewan as of April 1/18, we are exploring several approaches to task-shifting care of uncomplicated HCV-positive individuals away from specialist physicians to community-based nurse practitioners and registered nurses who work in a protocol-driven manner. Additional treatment capacity has been shifted into RPCC and the community outreach settings. To expand treatment capacity further, we have trained primary care physicians across several regional centers in southern Saskatchewan to be able to provide local HCV care. Complex cases will continue to be seen in the ID clinic. Further cascade analysis and review is planned for 2019-20.

## ACKNOWLEDGEMENTS

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