

## **Appendix 2 (as supplied by authors): Detailed description of backfill and cascade stages**

### ***Antibody Positive Backfill***

Individuals were backfilled into stage one of the care cascade (HCV antibody positive) if they had an HCV RNA test result with no previous antibody result. This was to account for missing antibody testing records from Public Health Ontario (PHO). As the PHO laboratory dataset does not include all private diagnostic laboratory results, this backfill was done under the assumption that an HCV RNA test was likely ordered under suspicion of the individual being antibody positive. For individuals who were backfilled into the antibody positive stage of the cascade of care with no record of a positive test or dispensation of HCV treatment, their index date was recorded as their first date of HCV RNA testing. HCV RNA testing is only performed (with rare exceptions) with evidence of a previous positive or indeterminate result on an antibody test. Of the 4,962 individuals in the antibody positive stage, 442 (9%) lacked an antibody positive record and were backfilled based on an HCV RNA test record.

### ***Spontaneous Clearance***

Individuals were excluded and separated from the HCV RNA positive and subsequent stages of the HCV care cascade if they showed evidence of clearance of their infection with no record of treatment dispensation. Among individuals who had an antibody positive result at their index date (not backfilled), spontaneous clearance was defined as a subsequent negative HCV RNA test following their antibody positive result with no treatment dispensation record or HCV RNA positive test result in between. Among individuals with record of a positive HCV RNA result, spontaneous clearance was defined as a subsequent negative HCV RNA test within a year and no treatment dispensation record in between.

### ***Genotype, Treatment and Sustained Virologic Response (SVR) Backfill***

Outpatient prescription drugs likely related to HCV infection were captured from the Ontario Drug Benefit (ODB) database. The ODB database contains information about claims covered by the Ontario Drug Benefit plan for eligible individuals.<sup>1</sup> Eligible individuals include Ontario residents who are aged 65

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and older, or living in long-term care facilities, on social assistance, or who have a high drug cost relative to their income.<sup>1,2</sup> This dataset does not contain treatment claims covered by private insurance and/or the Federal non-insured health benefits (NIHB) programming. Based on expert opinion, among individuals who tested HCV RNA positive, we assumed that those who tested HCV RNA negative more than a year after their first HCV RNA positive result likely received treatment. These individuals were assumed to have accessed their pharmaceutical claim through means other than ODB and subsequently achieved sustained virologic response (SVR). For these individuals, their HCV RNA negative test was assumed to be their SVR date and their treatment initiation date was assumed to be six months prior. As treatment is initiated after infection is genotyped, individuals who were backfilled into the treatment stage and had no genotype record, were also backfilled into the genotyped stage.

All individuals who underwent treatment were assumed to have been genotyped. Of the 2,374 individuals in the genotyped stage, 32 (1.3%) had no genotype record and were backfilled based on either a treatment record or SVR (after excluding those who would have been backfilled into the genotype stage but had evidence of spontaneously cleared infection (n=18)). Of the 1,002 individuals in the treatment stage, 509 (50.7%) were backfilled based on HCV RNA testing trends.

### ***SVR***

If the first treatment dispensation record was for an IFN-based treatment, SVR was defined as an HCV RNA negative test result more than 40 weeks after first treatment dispensation date. Forty weeks was based on an estimated average of 24 weeks of treatment and SVR measurement taken at least 16 weeks from last treatment date. If the first dispensation record was for a DAA treatment regimen, SVR was defined as a HCV RNA negative test result 18 weeks or more after first treatment dispensation date. Eighteen weeks was based on an estimated average of eight weeks of treatment and SVR measurement taken at least 10 weeks after treatment completion date.<sup>3</sup>

## *References*

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