

## REINFECTION FOLLOWING SUCCESSFUL HCV DAA THERAPY AMONG PEOPLE WITH RECENT INJECTING DRUG USE: THE SIMPLIFY AND D3FEAT STUDIES

**Authors:** Cunningham EB<sup>1</sup>, Grebely J<sup>1</sup>, Dalgard O<sup>2</sup>, Hajarizadeh B<sup>1</sup>, Conway B<sup>3</sup>, Powis J<sup>4</sup>, Bruneau J<sup>5</sup>, Feld JJ<sup>6</sup>, Read P<sup>7</sup>, Cooper C<sup>8</sup>, Amin J<sup>1,9</sup>, Bruggmann P<sup>10</sup>, Lacombe K<sup>11</sup>, Stedman C<sup>12</sup>, Hellard ME<sup>13</sup>, Marks P<sup>1</sup>, Dunlop A<sup>14</sup>, Quiene S<sup>1</sup>, Moriggia A<sup>15</sup>, Applegate TL<sup>1</sup>, Litwin AH<sup>16</sup>, Matthews GV<sup>1, 17</sup>, and Dore GJ<sup>1, 17</sup> on behalf of the SIMPLIFY and D3FEAT Study Groups

<sup>1</sup>The Kirby Institute, UNSW Sydney, Sydney, Australia, <sup>2</sup>Akershus University Hospital, Oslo, Norway, <sup>3</sup>Vancouver Infectious Diseases Center, Vancouver, Canada, <sup>4</sup>South Riverdale Community Health Centre, Toronto, Canada, <sup>5</sup>Centre Hospitalier de l'Université de Montréal, Canada, <sup>6</sup>Toronto General Hospital, Toronto, <sup>7</sup>Kirketon Road Centre, Sydney, Australia, <sup>8</sup>Ottawa Hospital Research Institute, Ottawa, Canada, <sup>9</sup>Faculty of Medicine and Health Sciences, Macquarie University, Sydney, Australia, <sup>10</sup>Arud Centres for Addiction Medicine, Zurich, Switzerland, <sup>11</sup>Hôpital Saint-Antoine, Paris, France, <sup>12</sup>Christchurch Hospital and University of Otago, Christchurch, New Zealand, <sup>13</sup>The Burnet Institute, Melbourne, Australia, <sup>14</sup>Newcastle Pharmacotherapy Service, Newcastle, Australia, <sup>15</sup>Fondazione Epatocentro Ticino, Lugano, Switzerland, <sup>16</sup>Montefiore Medical Centre, New York, United States, <sup>17</sup>St Vincent's Hospital, Sydney Australia,

**Background:** HCV direct acting antiviral (DAA) therapy is effective in people who inject drugs however, little is known about HCV reinfection following DAA therapy among people who have recently injected drugs and/or people on opioid substitution therapy (OST).

### Methods:

SIMPLIFY and D3FEAT are phase IV clinical trials to trial DAA therapy among people with recent injecting drug use (IDU; last six months) or those receiving OST, through a network of 25 international sites (SIMPLIFY: sofosbuvir/velpatasvir for 12 weeks in people with recent injecting; D3FEAT: paritaprevir/ritonavir/dasabuvir/ombitasvir±ribavirin for 12 weeks in people with recent injecting or receiving OST). This analysis assessed HCV recurrence from end of treatment response (ETR) through 24 weeks post-ETR (SVR24).

**Results:** Overall, 179 participants (72% male, median age 48 years) had an ETR and at least one subsequent follow-up visit in SIMPLIFY (n=97) and D3FEAT (n=82). At treatment initiation, 80% (n=144) reported IDU in the past 6 months, 54% (n=97) reported IDU in the past month, and 60% (n=108) were receiving OST. IDU between ETR and follow-up was reported in 70% (n=125). HCV recurrence was observed in nine participants including three cases of HCV relapse and six cases of reinfection. Over 168 person-years (py) of follow-up, the incidence of reinfection was 3.6/100 py (95% CI 1.6-7.9). There were no cases of reinfection among those who did not report ongoing injecting drug use after ETR. The incidence of reinfection in those with ongoing injecting after ETR (124 py of follow-up) was 4.8/100 py (95% CI 2.2-10.7/100 py).

**Conclusion:** HCV reinfection can occur following HCV DAA therapy among people with ongoing injecting drug use following DAA therapy.

**Disclosure of Interest Statement:**

The conference collaborators recognise the considerable contribution that industry partners make to professional and research activities. We also recognise the need for transparency of disclosure of potential conflicts of interest by acknowledging these relationships in publications and presentations.