**COST-EFFECTIVENESS OF TREATING CHRONIC HEPATITIS C VIRUS WITH DIRECT-ACTING ANTIVIRALS IN PEOPLE WHO INJECT DRUGS IN AUSTRALIA**

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**Introduction:** Reducing the burden of hepatitis C virus (HCV) related liver disease will require treating people who inject drugs (PWID), the group at most risk of infection and transmission. We determine the cost-effectiveness of treating PWID with interferon-free direct-acting antiviral therapy in Australia.

**Methods:** Using a deterministic model of HCV transmission, treatment and liver disease progression, the expected healthcare costs and quality-adjusted life years (QALYs) of newly HCV-infected PWID were calculated for: no treatment; treatment after initial infection (‘early-treatment’); and treatment prior to developing compensated cirrhosis (‘late-treatment’). Incremental cost-effectiveness ratios (ICERs) were used to compare scenarios.

**Results:**Compared to no treatment, late-treatment was the most cost-effective option, with a discounted average gain of 2.51 (95%CI 2.29-4.52) QALYs for an additional cost of $11,917 (95%CI $9,745-14,480), giving an ICER of $4,754 (95%CI $2,363-4,924) per QALY gained. Early-treatment gained a discounted average of 3.94 (95%CI 2.62-7.07) QALYs for an additional cost of $38,755 (95%CI $36,821-40,064), and ICER of $9,847 (95%CI $4,093-12,765) per QALY gained compared to no treatment. For every 100 newly HCV-infected PWID, there were an estimated 40 (95%CI 37-58) eventual liver related deaths, compared to 16 (95%CI 14-26) and 15 (95%CI 12-24) with early-treatment and late-treatment available respectively—this improved if re-treatment was allowed.

**Conclusion:** Treating HCV-infected PWID with new therapies is cost-effective in Australia, and could prevent a significant number of liver related deaths. Although late-treatment was more cost-effective than early-treatment, the cost per QALY gained for early-treatment was well below unofficial Australian acceptance of $50,000.

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