MODELING HEPATITIS C ELIMINATION AMONG PEOPLE WHO INJECT DRUGS ALONG THE US-MEXICO BORDER: IS MICROELIMINATION POSSIBLE?

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Background:
High prevalence (>90%) of hepatitis C (HCV) has been observed among people who inject drugs (PWID) along the US-Mexico border. In 2019, the Mexican government committed to providing HCV treatment, but resources remain limited and treatment distribution stalled during the COVID-19 pandemic. Updated treatment estimates required to achieve the World Health Organization (WHO) elimination goal of 80% incidence reduction by 2030 along the border region are needed.

Methods:
We adapted a previously published dynamic deterministic model of HCV transmission among PWID to determine direct-acting antiviral (DAA) treatment allocations when scaled-up in combination with harm reduction interventions (opiate substitution therapy [OST] and needle/syringe programs [NSP]) needed to achieve the WHO elimination goal between 2021 and 2030. Our model is parameterized to epidemiological data from Tijuana and Ciudad Juarez (HCV seroprevalence among PWID: Tijuana—91%; Ciudad Juarez—92%) and minimal harm reduction.

Results:
Similar annual treatment rates are required in Tijuana and Ciudad Juarez to achieve the WHO incidence target using treatment alone beginning in 2021 (895 DAA treatments/10,000 PWID year in Tijuana; 910/10,000 PWID year in Ciudad Juarez). Overall, fewer treatments are required if combined with harm reduction. If OST+NSP are scaled-up to 50%, approximately 30-40% fewer PWID would need to be treated each year (Tijuana: 570/10,000 PWID/year; Ciudad Juarez: 650/10,000 PWID/year). Between 2021 and 2030, using DAAs alone, an estimated total of 8,060 PWID in Tijuana and 8,190 PWID in Ciudad Juarez would need to be treated.

Conclusion:
Due to high HCV prevalence observed among PWID along the US-Mexico border, HCV treatment with DAAs should be prioritized to PWID in this region and progress towards HCV elimination should be monitored. Regional HCV microelimination among PWID could be possible if national treatment allocations are prioritized and distributed to PWID as planned and in the presence of harm reduction programs.

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