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Editorials

Challenges for hepatitis C in Mexico: a public health perspective towards 2030

Hepatitis C (HCV) infection is a significant cause of life loss and disability globally. In 2015, viral hepatitis led to 1.3 million deaths, with one-third caused by HCV [1]. The 2030 Sustainable Development Agenda calls to fight viral hepatitis to ensure healthy lives and promote well-being for all [2]. For HCV, the Global Health Sector Strategy on hepatitis defined four specific goals: to diagnose 90% of HCV cases, treat 80% of eligible persons with chronic HCV, reduce HCV incidence by 90%, and reduce mortality by 65% [3]. The outlined strategy to achieve these goals requires continuous assessment of the situation, implementation of impactful interventions, equitable delivery of services, financing sustainability, and innovation to accelerate treatment delivery.

In July 2020, Mexico launched the National Hepatitis C Elimination Program. The Program has four pillars: 1) access to HCV screening, diagnosis, and treatment; 2) a primary health care approach; 3) social communication and a telementoring network strategy; 4) a universal online registry [4]. Based on previous evidence, the Program defined a micro-elimination strategy to be deployed in stages targeting key populations (KPs), starting with people living with human immunodeficiency virus (HIV), people who use intravenous drugs, who are in prison, migrants, patients who require hemodialysis, and people living in high-incidence municipalities.

For the general population, the strategy will start with blood donors, followed by screening campaigns in private and public hospitals, clinics, and laboratories. In 2018, the National Health and Nutrition Survey in Mexico (ENSANUT) found anti-HCV antibodies in 0.38% of adults aged 20 and older, which indicated previous exposure to the virus. Of those, 14.9% had detectable viral RNA, representing 46,000 people in Mexico with an active infection at the time of the survey [5].

The decision to prioritize KPs is supported by epidemiological evidence showing that these groups experience a higher risk of HCV infection. Although there is not abundant evidence on the prevalence of HCV among KPs in Mexico, a few studies provide insights into the magnitude of the problem in a country with over 120 million people. In 2015, a study in Mexico City prisons found a 3.2% prevalence of HCV antibodies in a sample of 17,000 inmates [6]. Furthermore, in a subsample of almost 4,000 inmates who used intravenous substances, the same project found a prevalence of 43.1% [7], illustrating the large concentration of previous HCV infection in some KPs. In Latin America and the Caribbean, a recent meta-analysis estimated a pooled prevalence of HCV antibodies of 35.9% in intravenous drug users, 39.6% in incarcerated individuals, 11.8% in dialysis patients [8], 3% in men who have sex with men (MSM), and 2.0% in male sex workers [9]. While some of these samples do not represent the target population; they provide helpful information on population groups disproportionally affected by HCV.

Some of the KPs will be easier to diagnose, treat, and monitor than others, and the programs will need to be tailored for the specific circumstances of each group. For instance, prison inmates and dialysis patients are easier to find and, at least in theory, to be monitored. However, significant challenges will be faced to identify HCV cases and ensure treatment among other groups who face stigma and discrimination, live in underground settings, or conceal their identities, such as sex workers, intravenous drug users, and MSM.

An initial challenge will be to successfully screen for hepatitis C. Blood bank screening will facilitate the detection of cases that fulfill blood donation guidelines. However, the most considerable challenge will be to develop effective social communication strategies to reach key populations. Social media is now an alternative to reach some of these groups, and we can also take advantage of dating apps, where it is feasible to post ads with information about HCV and the nearest place to get a free screening test. One alternative is to screen in known meeting venues as previously done with HIV screening, such as lesbian, gay, bisexual, and transgender (LGBT+) bars or events [10], or tolerance zones for sex workers [11]. For immigrants and IV users, the strategy could be screening in community dinings or community shelters [12,13]. Generally, it will be wise to use learnings from HIV testing, which already reaches some of the same populations. For example, involving the community has been essential for the success of HIV testing. Peer outreach and navigation to treatment have proven a successful approach that can be applied to HCV. Implementing anti-stigma and discrimination interventions among law enforcement and health care providers is another critical learning from successful HIV testing and treatment programs. Finally, including HCV testing as part of the HIV testing interventions could be potentially very effective and cost-effective.

A second challenge will be to monitor active cases from diagnosis to viral clearance. The federal registry for HCV cases should provide a good tool to evaluate the Program's progress. However, a significant challenge will be to follow the patients to assure treatment adherence and monitor reinfection after viral clearance. Relying on a passive strategy—patients seeking care and maintaining appointments — will likely result in significant losses and low adherence, particularly in highly mobile populations, such as migrants. Health services nationwide will need access to the federal registry to facilitate tracking across states, and public health personnel will need to actively monitor patients in the community. This major challenge will require continuous training, adequate resource allocation, and strong community links. Once again, there are lessons to be learned from the HIV/AIDS experience in this area. There is plenty of evidence on interventions to improve adherence [14–16] and retention in care [17,18]. It is essential to monitor continuously and prospectively in real-time

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to identify loss-to-follow-up promptly. Furthermore, involving peers to enhance adherence among KPs through support groups and outreach activities is, once more, key, as well as creating treatment programs that are flexible and explicitly designed according to the needs of the populations (patient-centered) and using behavioral sciences to create incentives for patients and optimize the programs' choice architecture [19,20].

Finally, treatment efforts will need to be coupled with solid preventive actions. The risk of HCV recurrence five years after viral clearance is 10.7% in high-risk populations, mainly due to reinfection [21]. International recommendations insist on coupling treatment with prevention, such as providing free and accessible needle exchange programs for IV drug users and condoms for people with multiple sexual partners, including sex workers. Also, procedures at dialysis clinics will need to be supervised to ensure all preventive and screening actions to prevent HCV infection are in place [22,23].

Achieving a 90% reduction of incidence by 2030 will be difficult, mainly because as we increase screening, heavily affected subpopulations that were not originally considered will likely emerge. However, the coordination and monitoring system devised by the National Hepatitis C Elimination Program should provide a start to the effort. Implementation poses several challenges that must be addressed as the Program unfolds, tailoring interventions to the specific needs of key populations. A sustained effort will be needed over time for the Program to reduce hepatitis C impact in Mexico significantly.

Declarations of interest

None

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Martha Carnalla
Sergio Bautista-Arredondo
Tonatiuh Barrientos-Gutiérrez*
Centro de Investigación en Salud Poblacional, Instituto Nacional de Salud Pública, Universidad 655, Santa María Ahuacatitlán, 62100, Cuernavaca, México
Centro de Investigación en Sistemas de Salud, Instituto Nacional de Salud Pública, Universidad 655, Santa María Ahuacatitlán, 62100, Cuernavaca, Morelos, México
Centro de Investigación en Salud Poblacional, Instituto Nacional de Salud Pública, Cuernavaca, México

*Corresponding author.
E-mail address: tbarrientos@insp.mx (T. Barrientos-Gutiérrez).