Global progress on the elimination of viral hepatitis as a major public health threat: an analysis of WHO Member State responses 2017

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Global progress on the elimination of viral hepatitis as a major public health threat: An analysis of WHO Member State responses 2017

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Graphical abstract

Highlights
- Countries are making progress across all WHO regions in responding to viral hepatitis
- Governments engaged with Civil Society are more advanced in their national planning efforts
- Financing remains an issue with a minority of countries with a national plan having some dedicated funding
- Stronger surveillance and monitoring systems are needed to direct hepatitis elimination plans

Lay summary
The World Health Organization’s goal to eliminate viral hepatitis as a public health threat by 2030 requires global action. Our results indicate that progress is being made by countries to scale-up national planning efforts; however, our results also highlight important gaps in current policies.

Global progress on the elimination of viral hepatitis as a major public health threat: An analysis of WHO Member State responses 2017

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Background & Aims: In 2016, the World Health Assembly passed a resolution to eliminate viral hepatitis as a public health threat by 2030. We aimed to examine the status of the global viral hepatitis response.

Methods: In 2017, the World Health Organization (WHO) asked the Ministries of Health in all 194 Member States to complete a Country Profile on Viral Hepatitis policy uptake indicators, covering national plans/funding, engagement of civil society, testing guidance, access to treatment, and strategic information.

Results: Of 194 Member States, 135 (70%) responded, accounting for 87% of the global population infected with hepatitis B virus (HBV) and/or C virus (HCV). Of those responding, 84 (62%) had developed a national plan, of which, 49 (58%) had dedicated funding, and 62 (46%) had engaged with civil society; those engaged with civil society were more likely to have a funded plan than others (52% vs. 23%, p = 0.001). Guidance on testing pregnant women (for HBV) and people who inject drugs (for HCV) was available in 70% and 46% of Member States, respectively; 59% and 38% of Member States reported universal access to optimal therapies for HBV and HCV, respectively.

Conclusions: Most people living with hepatitis B and C reside in a country with a national hepatitis strategy. Governments who engaged with civil society were more advanced in their response. Member States need to finance these national strategies and ensure that those affected have access to hepatitis services as part of efforts to achieve universal health coverage.

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Introduction

The World Health Organization (WHO) estimates that, in 2015, viral hepatitis affected around 325 million people worldwide, with an estimated 257 million cases of chronic hepatitis B virus (HBV) and 71 million of chronic hepatitis C virus (HCV).1–3 The WHO also estimated that, in 2015, viral hepatitis (principally HBV and HCV) caused 1.34 million deaths, mostly from cirrhosis and hepatocellular carcinoma.1 This death toll is comparable to that of tuberculosis (1.37 million deaths), and surpasses that of human immunodeficiency virus (HIV, 1.06 million deaths) and malaria (0.44 million deaths). While deaths related to HIV, malaria, and tuberculosis have all declined over the past decade or more, mortality related to viral hepatitis continues to rise (22% increase since 2000).4

In May 2016, the 69th World Health Assembly unanimously endorsed the first Global Health Sector Strategy (GHSS) on viral hepatitis.2 The GHSS sets a goal to eliminate viral hepatitis as a major public health threat, defined as a reduction in i) hepatitis-related deaths by 65% and ii) new chronic HBV and HCV infections by 90%, by 2030. Modelling work highlights that major scale-up of interventions to prevent transmission, as well as testing and treatment to prevent the consequences of infection, are needed to come close to reaching these ambitious targets and eliminating viral hepatitis.5–6 Treatment is highly effective against HBV and curative for HCV. However, a comprehensive public health response is needed to improve access to these interventions if these targets are to be achieved.6–8

The GHSS lists priority actions for countries to progress their response to viral hepatitis, including assessment of their epidemiological situation, the development of a national plan with dedicated funding and the setting of targets on intervention coverage and impact.4 The WHO published a monitoring and evaluation framework, including 10 core indicators that focus on programmatic outcomes, such as coverage of prevention, diagnosis and treatment.4 To monitor progress on these outcomes, countries will need to invest in the establishment of information systems to
deliver on these data. Meanwhile, we aimed to describe the early status of WHO Member States in their viral hepatitis response, focusing on priority actions, plans and processes in place to deliver on the GHSS. Reporting on interim progress (e.g., to the World Health Assembly) can be an important lever for countries to move towards elimination.

Materials and methods

Data collection
The WHO contacted Ministries of Health in all 194 Member States through regional and country offices, requesting them to complete an online Country Profile on Viral Hepatitis. The WHO developed the country profile tool in consultation with the World Hepatitis Alliance and piloted it with focal points from 3 countries (Morocco, Moldova and Tajikistan). Key items covered the establishment of national processes and plans on viral hepatitis (specifically a focal point, a strategic and technical advisory group [STAG], a published or drafted national plan, and dedicated funding), engagement with civil society groups (either as a member of the STAG or through other consultations), development of national testing guidance, access to therapies, and availability of official working estimates on impact and intervention coverage targets. We translated the data collection instrument into the 6 official United Nations languages. We uploaded the tool in “EU Survey”, a secure online survey management system. Data collection began in December 2016 and concluded in November 2017. During this period, the WHO regional and country offices sent reminders electronically. WHO staff also encouraged and supported participation at relevant viral hepatitis country and regional meetings.

Data analysis
We tabulated responses according to WHO region (African Region, Region of the Americas, South-East Asia Region, European Region, Eastern Mediterranean Region, and Western Pacific Region) and World Bank income classification (high-income, upper middle-income, lower middle-income, and low-income). We compared Member States who reported engagement with civil society groups with those who had not, in terms of the status of their national plan and dedicated funding using the Pearson Chi-square test with Yates’ continuity correction for categorical variables. We compared Member States with and without official working estimates on viral hepatitis mortality in terms of their report of having set numerical targets for reducing morbidity and mortality. We compared Member States with and without official working estimates on treatment coverage in terms of numerical targets on testing and treatment activities. We estimated the proportion of the global prevalence of HBV and HCV infection relating to WHO Member States’ responses to the country profiles using published country level estimates of the number of people chronically infected with HBV (257 million) and HCV (71 million) in 2015. We also compared WHO Member States’ official HCV testing guidance for people who inject drugs (PWID) by regional groupings from a recent systematic review on PWID prevalence (East and Southeast Asia, Eastern Europe, North America, Latin American, Sub-Saharan Africa, South Asia, Western Europe, Middle East and North Africa, Central Asia, Australasia, Caribbean, Pacific Island States and Territories) according to the estimated number of PWID in each region. We analysed data using Microsoft Excel 2010 and STATA 13.0.

For further details regarding the materials used, please refer to the supplementary CTAT table.

Results

Response
Between December 2016 and November 2017, 135 Member States (70%) completed their WHO viral hepatitis country profiles, accounting for 87% of those infected with HBV or HCV globally (Fig. 1). Responses ranged from 54% in the Region of the Americas to 87% in the European Region. The proportion of the regional burden of viral hepatitis accounted for by participating Member States exceeded the regional response proportion in all WHO regions, except in Europe (87% of response, relating to only 61% of the regional burden, Fig. 1). There was a relatively even distribution of responses (range 65–79%) according to income category (Table 1).

National plan and dedicated funding
Most responding Member States (63%) had developed a national viral hepatitis plan, which was in drafted (27%) or published (36%) form (Table 1). These Member States accounted for 71% of individuals infected with HBV or HCV. The proportion of Member States who had developed a plan ranged from 50% within the South-East Asia region to 88% in the Eastern Mediterranean region, and from 46% within low-income settings to 71% in high-income settings.

While the majority of WHO Member States had developed a plan (62%), only 37% of respondents had dedicated funding for implementation (58% of those with a plan developed). The 49 countries dedicating funding to implementation accounted for 18% of individuals infected with HBV or HCV worldwide. The proportion of WHO Member States reporting dedicated funding ranged from 22% within the African region to 44% in the Eastern Mediterranean region, and from 25% within low-income settings to 42-43% in lower middle to high-income settings.

Engagement with civil society
Of WHO Member States, 46% reported engagement with civil society, either as an official member of the government’s STAG or other official working group (30%) or through wider consultation on their response to viral hepatitis (16%, Table 1). The proportion of Member States reporting engagement with civil society ranged from 47% within the Western Pacific Region to 63% in the Americas and South-East Asia regions, and from 38% within upper middle-income settings to 54% in high-income settings. Compared with others, Member States that engaged civil society were more likely to have national viral hepatitis plans (84% vs. 44%, $p < 0.001$), to have assigned dedicated funding (52% vs. 23%, $p = 0.001$), and to have officially observed World Hepatitis Day in 2016 (85% vs. 47%, $p < 0.001$). Member States engaged with civil society were slightly more likely to have laws or policies on stigma and discrimination, compared to other Member States (79% vs. 71%, $p = 0.4$, Fig. 2).

Monitoring and targets
Few Member States reported having official working estimates on key monitoring and evaluation indicators for HBV and HCV as of 2017. For either HBV or HCV infection, 24–25% of responding Member States reported having official working estimates on mortality and 31–34% on incidence of new infection (i.e., measures of impact). Eight to 23% of responding Member States reported...
having official working estimates on either extent of diagnosed infection, treatment uptake or response to therapy for either HBV or HCV infection. Approximately half of responding Member States reported having official working estimates on prevalence of infection for HBV (56%) and HCV (51%). The availability of working estimates on key monitoring and evaluation indicators varied by WHO region and income classification (Appendix 1.1). Most Member States in the African, Americas and South-East Asia regions reported that they lacked working estimates on impact and intervention coverage indicators.

Around a quarter (27%) of responding Member States reported having numerical targets for reducing morbidity (incidence and/or prevalence) or mortality (death) attributable to HBV and/or HCV (Table 1). However, only 50% and 56% of those Member States that reported having set a target on morbidity/mortality also reported having an official working estimate on mortality attributable to either HBV or HCV, respectively (Appendix 1.2). While 48% of responding Member States reported having numerical targets for activities to prevent or treat HBV and/or HCV (Table 1), few of these Member States reported also having official working estimates on, for example, treatment coverage for HBV (25%) and HCV (39%, Appendix 1.3).

**Testing guidance**
Most responding Member States had official guidance on HBV testing, which included guidance on the diagnostic test to use (69%), testing of pregnant women (70%), and a protocol for referral to treatment and care following diagnosis (64%). HBV testing guidance varied greatly by WHO region and income classification (Table 2). The proportion of responding Member States reporting guidance for testing pregnant women for HBV ranged from 33% in low-income to 93% in high-income settings ($p < 0.001$, Table 2). Overall, we estimated that 65% of people living with chronic HBV infection (166 million) resided in a country with guidance on testing pregnant women for HBV (Table 2).

The majority of responding Member States had official guidance on HCV testing (64%) and protocols for referral to treatment and care (62%). However, only 46% of responding Member States had official guidance on testing PWID for HCV (Table 3); ranging from 11% in the African region to 72% in the European Region, and from 13% in low-income to 68% in high-income settings. In 2 regions with particularly high numbers of PWID, Latin America (1.8 million) and Sub-Saharan Africa (1.4 million), less than 20% of WHO Member States had guidance on testing PWID for HCV (Table 4).

**Access to treatment**
The majority of responding WHO Member States (59%) reported tenofovir or entecavir to be the first-line treatment for eligible patients with chronic HBV monoinfection, which accounted for 74% of the global chronic HBV infected population. This varied from 44% in the African region to 74% in the American region.
Table 1. Viral hepatitis national planning indicators reported by WHO Member States, by WHO region, income, and estimated number of people living with viral hepatitis.

<table>
<thead>
<tr>
<th></th>
<th>All MS</th>
<th>MS responding to viral hepatitis country profiles</th>
<th>MS with viral hepatitis focal point</th>
<th>MS with STAG(^1) established N3 (% of N2)</th>
<th>MS engaged with CS N5 (% of N2)</th>
<th>MS with national plan developed N6 (% of N2)</th>
<th>MS with dedicated funding for plan N7 (% of N2)</th>
<th>MS with national impact targets set(^2) N8 (% of N2)</th>
<th>MS with national service coverage targets(^3) set N9 (% of N2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number</td>
<td>194 (100%)</td>
<td>135 (70%)</td>
<td>102 (75%)</td>
<td>71 (52%)</td>
<td>62 (46%)</td>
<td>40 (30%)</td>
<td>84 (62%)</td>
<td>48 (36%)</td>
<td>49 (36%)</td>
</tr>
<tr>
<td>By WHO region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>21 (11%)</td>
<td>16 (76%)</td>
<td>14 (88%)</td>
<td>12 (75%)</td>
<td>9 (56%)</td>
<td>4 (25%)</td>
<td>14 (88%)</td>
<td>6 (38%)</td>
<td>7 (44%)</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>27 (14%)</td>
<td>19 (70%)</td>
<td>17 (90%)</td>
<td>12 (63%)</td>
<td>9 (47%)</td>
<td>7 (37%)</td>
<td>12 (63%)</td>
<td>7 (37%)</td>
<td>7 (37%)</td>
</tr>
<tr>
<td>Americas</td>
<td>35 (18%)</td>
<td>19 (54%)</td>
<td>13 (68%)</td>
<td>10 (53%)</td>
<td>12 (63%)</td>
<td>4 (21%)</td>
<td>10 (53%)</td>
<td>5 (26%)</td>
<td>7 (37%)</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>11 (6%)</td>
<td>8 (73%)</td>
<td>6 (75%)</td>
<td>4 (50%)</td>
<td>5 (63%)</td>
<td>1 (13%)</td>
<td>4 (50%)</td>
<td>4 (50%)</td>
<td>3 (38%)</td>
</tr>
<tr>
<td>European</td>
<td>53 (27%)</td>
<td>46 (87%)</td>
<td>34 (74%)</td>
<td>23 (50%)</td>
<td>24 (52%)</td>
<td>14 (30%)</td>
<td>30 (65%)</td>
<td>21 (46%)</td>
<td>19 (41%)</td>
</tr>
<tr>
<td>African</td>
<td>47 (24%)</td>
<td>27 (58%)</td>
<td>18 (67%)</td>
<td>10 (37%)</td>
<td>13 (48%)</td>
<td>10 (37%)</td>
<td>14 (52%)</td>
<td>5 (19%)</td>
<td>6 (22%)</td>
</tr>
<tr>
<td>By income classification:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>52 (27%)</td>
<td>41 (79%)</td>
<td>33 (81%)</td>
<td>23 (56%)</td>
<td>22 (54%)</td>
<td>14 (34%)</td>
<td>29 (71%)</td>
<td>19 (46%)</td>
<td>17 (42%)</td>
</tr>
<tr>
<td>Upper-middle</td>
<td>49 (25%)</td>
<td>32 (65%)</td>
<td>25 (78%)</td>
<td>23 (72%)</td>
<td>12 (38%)</td>
<td>9 (28%)</td>
<td>21 (66%)</td>
<td>11 (34%)</td>
<td>10 (31%)</td>
</tr>
<tr>
<td>Lower-middle</td>
<td>50 (26%)</td>
<td>35 (70%)</td>
<td>30 (86%)</td>
<td>16 (46%)</td>
<td>18 (51%)</td>
<td>9 (26%)</td>
<td>22 (63%)</td>
<td>15 (43%)</td>
<td>15 (43%)</td>
</tr>
<tr>
<td>Low</td>
<td>34 (18%)</td>
<td>24 (71%)</td>
<td>11 (46%)</td>
<td>7 (29%)</td>
<td>10 (42%)</td>
<td>8 (33%)</td>
<td>11 (46%)</td>
<td>3 (13%)</td>
<td>6 (25%)</td>
</tr>
<tr>
<td>n.a.</td>
<td>9 (5%)</td>
<td>3 (33%)</td>
<td>3 (100%)</td>
<td>2 (67%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (33%)</td>
<td>0 (0%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>Estimated number of people living with chronic viral hepatitis in millions</td>
<td>325 (100%)</td>
<td>284 (87%)</td>
<td>241 (74%)</td>
<td>106 (32%)</td>
<td>110 (34%)</td>
<td>66 (20%)</td>
<td>229 (71%)</td>
<td>76 (23%)</td>
<td>58 (18%)</td>
</tr>
</tbody>
</table>

CV, civil society; HBV, hepatitis B virus; HCV, hepatitis C virus; MS, Member States; WHO, World Health Organization.

\(^1\)Strategic and technical advisory group (STAG) is responsible for assessing the hepatitis burden in their country and using evidence to inform their recommendations.

\(^2\)Civil society is either an official member of the STAG or has otherwise been consulted.

\(^3\)Numerical targets set for reducing morbidity (incidence and/or prevalence) or mortality (death) attributable to HBV and/or HCV.

\(^4\)Numerical targets set for activities to prevent or treat HBV and/or HCV.

\(^5\)Published or drafted plan.
and from 38% in low-income to 73% in high-income settings. Access to tenofovir or entecavir was prioritized for select patients in 22% of Member States and not available at all as first-line treatment in 19% of Member States (Table 2).

A minority of responding Member States (38%) reported direct-acting antiviral (DAA) regimens as first-line treatment for all patients with chronic HCV, which accounted for 49% of the global chronic HCV infected population. This varied from 26% in the African region to 56% in the Eastern Mediterranean region, and from 29% in low-income to 46% in lower middle-income settings. DAA regimens were prioritized for select patients in 30% of Member States and not yet available as first-line treatment in 33% of Member States (Table 2).

Discussion
The country profiles generated for 135 Member States, home to 87% of the infected population, describe the status of the global response to viral hepatitis B and C. First, the number of countries with a national viral hepatitis plan reached 84 in 2017, though only 58% of countries with a plan had assigned dedicated funding for implementation. Second, findings that the majority of countries have guidance on diagnostic testing (69% for HBV and 64% for HCV) and on referral pathways for treatment and care (64% for HBV and 62% for HCV) suggest that countries are progressing with their national response to viral hepatitis. Third, the availability of data for decision-making remains limited with only a minority of Member States having working estimates on mortality (24% for HBV and 25% HCV) and transmission (34% for HBV and 31% for HCV).
**Table 3. Proportion of responding Member States reporting having HCV testing guidance (covering diagnostic tests, PWID, and referral to treatment/care) and the use of optimal therapies in first-line treatment for HCV.**

<table>
<thead>
<tr>
<th>HCV Testing guidance which covers the following:</th>
<th>Interferon-free direct-acting antiviral regimens considered the first line of treatment for the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HCV diagnostic test, n (% of N)</strong></td>
<td><strong>HCV testing of PWID, n (% of N)</strong></td>
</tr>
<tr>
<td>Total responding Member States (N = 135)</td>
<td>87 (64%)</td>
</tr>
<tr>
<td><strong>By WHO region:</strong></td>
<td></td>
</tr>
<tr>
<td>Eastern Mediterranean (16)</td>
<td>15 (93%)</td>
</tr>
<tr>
<td>Western Pacific (19)</td>
<td>12 (63%)</td>
</tr>
<tr>
<td>Americas (19)</td>
<td>12 (63%)</td>
</tr>
<tr>
<td>South-East Asia (8)</td>
<td>5 (75%)</td>
</tr>
<tr>
<td>European (46)</td>
<td>33 (72%)</td>
</tr>
<tr>
<td>African (27)</td>
<td>9 (33%)</td>
</tr>
<tr>
<td><strong>By income classification:</strong></td>
<td></td>
</tr>
<tr>
<td>High (41)</td>
<td>30 (73%)</td>
</tr>
<tr>
<td>Upper-middle (32)</td>
<td>26 (81%)</td>
</tr>
<tr>
<td>Lower-middle (35)</td>
<td>19 (54%)</td>
</tr>
<tr>
<td>Low (24)</td>
<td>10 (42%)</td>
</tr>
<tr>
<td>n.a. (3)</td>
<td>2 (67%)</td>
</tr>
<tr>
<td>Estimated number of people living with chronic HCV in millions (71)</td>
<td>46 (64%)</td>
</tr>
</tbody>
</table>

HCV, hepatitis C virus; PWID, people who inject drugs; WHO, World Health Organization.

1. e.g. restrictions on who receives treatment based on disease stage or risk group.

National plans for hepatitis constitute the necessary first step towards action. Compared with 2012 data, the 2017 country profiles suggest a 5-fold increase in the number of countries with national plans. The following factors may explain this increase: (1) 3 World Health Assembly resolutions that consecutively called for (i) action against hepatitis (2010); (ii) consideration of elimination (2014); and (iii) global targets for elimination (2016); (2) WHO guidance on the formulation of national plans (2015); (3) the GHSS, which articulates the need for countries to develop evidenced-based national plans with a budget to achieve the goal of elimination; (4) international civil society partners, such as the World Hepatitis Alliance, that help to link policy vision with patient advocates within countries.

The findings of this study highlight the importance of civil society involvement, as it shows that countries that actively involve civil society in their hepatitis response are more likely to have a national plan as well as dedicated domestic funding for implementation. However, financing remains a serious concern as dedicated national funding for implementation was only available in 58% of Member States with national plans (relating to an estimated 18% of the global infected population). Countries making the most progress towards elimination are ones that have national plans with dedicated funding. Additionally, GHSS emphasizes that the global hepatitis response should involve an enabling environment of policies and laws that aim to reduce stigma and discrimination. Our analysis showed that the majority (75%) of countries reported having laws or policies that addressed stigma and discrimination in general; although, few (7%) countries had laws or policies specific to viral hepatitis. A recent global survey of civil society organizations, which aimed to explore how stigma and discrimination affects those living with viral hepatitis, found that only 4% of 156 respondents across 72 countries felt that their government was satisfactorily addressing stigma and discrimination. Legal, institutional and other barriers can impede access to prevention, diagnosis and treatment services, particularly for those populations at heightened risk of hepatitis infection (including PWID, men who have sex with men, prisoners and sex workers). Countries need to reform laws, policies and regulations that impede equitable access to hepatitis services, and adapt models of service delivery to meet the needs of affected populations.

Scaling up testing and treatment of HBV and HCV infection is fundamental to reducing mortality as part of the GHSS elimination goal. WHO guidelines on treatment have been available since 2014 for HCV infection (with updates in 2016 and 2018; the latter recommended treatment for all those living with HCV infection [except pregnant women] regardless of age, risk group or disease stage) and 2015 for HBV infection, while viral hepatitis testing guidelines were published in...
Table 4. Responding Member States with HCV testing guidance for PWID, by region and ranked according to estimated number of PWID.1

<table>
<thead>
<tr>
<th>Region</th>
<th>Estimated number of PWID (95% UI)1</th>
<th>Population prevalence of PWID (95% UI)1</th>
<th>Responding Member States N2 (% of N1)</th>
<th>Responding Member States with testing guidance for PWID N3 (% of N2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East and Southeast Asia (16)</td>
<td>3,989,000 (3,041,000–4,955,000)</td>
<td>0.25% (0.19–0.31)</td>
<td>15 (94%)</td>
<td>8 (53%)</td>
</tr>
<tr>
<td>Eastern Europe (17)</td>
<td>3,020,000 (1,653,500–5,008,000)</td>
<td>1.30% (0.71–2.15)</td>
<td>14 (82%)</td>
<td>10 (71%)</td>
</tr>
<tr>
<td>North America (2)</td>
<td>2,557,000 (1,498,500–4,428,000)</td>
<td>1.06% (0.62–1.83)</td>
<td>2 (100%)</td>
<td>2 (100%)</td>
</tr>
<tr>
<td>Latin American (20)</td>
<td>1,823,000 (1,392,000–2,380,000)</td>
<td>0.46% (0.35–0.60)</td>
<td>12 (60%)</td>
<td>2 (17%)</td>
</tr>
<tr>
<td>Sub-Saharan Africa (47)</td>
<td>1,378,000 (645,500–3,080,000)</td>
<td>0.28% (0.13–0.62)</td>
<td>27 (58%)</td>
<td>3 (11%)</td>
</tr>
<tr>
<td>South Asia (9)</td>
<td>1,023,500 (783,500–1,263,000)</td>
<td>0.09% (0.07–0.11)</td>
<td>6 (67%)</td>
<td>4 (67%)</td>
</tr>
<tr>
<td>Western Europe (28)</td>
<td>1,009,500 (686,500–1,386,500)</td>
<td>0.34% (0.23–0.47)</td>
<td>24 (86%)</td>
<td>19 (79%)</td>
</tr>
<tr>
<td>Middle East and North Africa (21)</td>
<td>349,500 (177,500–521,500)</td>
<td>0.12% (0.06–0.18)</td>
<td>17 (81%)</td>
<td>9 (53%)</td>
</tr>
<tr>
<td>Central Asia (5)</td>
<td>281,500 (189,500–416,500)</td>
<td>0.63% (0.43–0.94)</td>
<td>5 (100%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>Australasia (2)</td>
<td>115,500 (83,000–148,000)</td>
<td>0.59% (0.42–0.75)</td>
<td>2 (100%)</td>
<td>2 (100%)</td>
</tr>
<tr>
<td>Caribbean (13)</td>
<td>79,500 (53,000–118,000)</td>
<td>0.44% (0.30–0.66)</td>
<td>5 (39%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Pacific Island States and Territories (12)</td>
<td>22,500 (15,000–33,500)</td>
<td>0.33% (0.22–0.49)</td>
<td>6 (50%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Global (194)</td>
<td>15,648,000 (10,219,000–23,737,500)</td>
<td>0.33% (0.21–0.49)</td>
<td>135 (70%)</td>
<td>62 (46%)</td>
</tr>
</tbody>
</table>

HCV, hepatitis C virus; PWID, people who inject drugs; WHO, World Health Organization.

countries are making progress with respect to national hepatitis planning, but financing remains an issue. Scale-up of testing and treatment has started, but it is still in its infancy in many countries. Finally, the availability of strategic information to assess the situation and guide elimination plans remains limited. Based on these considerations, we suggest governments, in partnership with civil society and with support from WHO and other key stakeholders, build upon the work done to establish national policies and plans and: (1) estimate the resource needs to deliver a comprehensive response and increase investment through innovative financing \(^{(37)}\) (in the context of universal health coverage); (2) build a stronger case for testing and treatment, documenting the cost-effectiveness and savings of these interventions; (3) strengthen the strategic information needed to direct hepatitis elimination, in the context of integrated systems that serve the broader health system. In 2018, the WHO established a new Global Reporting System for Hepatitis that will continue to collect key policy uptake indicators, along with indicators of the cascade of care, so that we can follow-up on the future evolutions of these trends. \(^{(30)}\)

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**Authors’ contributions**

Shanley Smith, Sharon Hutchinson, Yvan Hutin, Hande Harmanci, Raquel Peck, and Charles Gore designed the data collection tool. Shanley Smith designed the online interface of the data collection tool. Shanley Smith, Sharon Hutchinson, and Hande Harmanci, coordinated the collation of survey responses. Shanley Smith, Bharat Rewari, Antons Mozalevskis, Meseret Shibeshi, Mutule Mumba, Linh-Vi Le, Naoka Ishikawa, Désiré Nolna, and Leandro Sereno coordinated the data collection process. Shanley Smith, Sharon Hutchinson, and Yvan Hutin prepared the first draft and finalized the draft on the basis of comments from other authors. Shanley Smith and Sharon Hutchinson analysed the data, created associated figures and tables, and finalized the figures and tables based on comments from other authors. Sarah Hess and Yvan Hutin provided the official WHO map. All authors reviewed results, provided guidance on methods, and provided critical feedback on the manuscript.

**Conflicts of interest**

Sharon Hutchinson received honoraria for general public health presentation from Gilead. All other authors declare no competing interests.

Please refer to the accompanying ICMJE disclosure forms for further details.

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**References**


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