PAKISTAN CAN ELIMINATE HEPATITIS
NATIONAL HEPATITIS ELIMINATION PROFILE

Hepatitis B virus (HBV)

2030
HBV elimination goal 1
Elimination of HBV mother to child transmission goal 1

Hepatitis C virus (HCV)

2030
HCV elimination goal 1

THE HEALTH BURDEN OF VIRAL HEPATITIS

2.5%
Prevalence of HBsAg, 2008 15

Survey/reported
Prevalence of HBsAg, 2018, Punjab: 2.2% 15,20
Prevalence of HBsAg, 2019, Sindh: 1.1% 15

4.3%
Prevalence of chronic (viremic) HCV, 2020 21

Survey/reported
Viremic HCV prevalence, 2018, Punjab: 4.8% 22
Viremic HCV prevalence, 2020, Sindh: 3.8% 21
Viremic HCV prevalence, 2020, Balochistan: 3.1% 24
Viremic HCV prevalence, 2020, Khyber Pakhtunkhwa: 3.8% 21
Prevalence of anti-HCV, PWID: 62% 1

9.8M
Number of persons living with HCV 21
2nd highest burden in the world

Pakistan’s National Hepatitis Strategic Framework (2017-2021) is now out of date
### Incidence

- **30,400** New HBV infections \(^{18}\)
  - Data from WHO Global Reporting

- **12,100** HBV-related deaths, 2019 \(^{18}\)
  - Data from WHO Global Reporting
  - **7.23 (5.30-9.67)**
    - Deaths per 100,000, 2019 \(^{2}\)

- **461,000** New chronic HCV infections, 2019 \(^{21}\)
  - Modelled estimate
  - Greatest risk factors for transmission include blood transfusions (15%), history of hospitalization (14%), dental treatment (13%), use of injections (12%), and history of surgery (9%)

- **17,644 (12,752-24,554)** HCV-related deaths, 2019 \(^{2}\)
  - Modelled estimate
  - **7.87 (5.69-11.00)**
    - Deaths per 100,000, 2019 \(^{2}\)

### PROGRESS TOWARDS 2020 WHO ELIMINATION GOALS

#### Prevention of New Infections and Mortality

| Disease | Percentage change in new infections, 2015-2020 | WHO 2020 Target | Prevalence of HBsAg in children < 5 years (%) | 2018-2019
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>HBV</td>
<td>NO DATA</td>
<td>-30%</td>
<td>0.3%</td>
<td>In Punjab and Sindh provinces</td>
</tr>
<tr>
<td>HBV</td>
<td>NO DATA</td>
<td>-10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCV</td>
<td>NO CHANGE</td>
<td>-30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCV</td>
<td>NO CHANGE</td>
<td>-10%</td>
<td></td>
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</tr>
</tbody>
</table>

- National prevalence of HBsAg declined from 2.5% in 2008 to 1.1% in Sindh in 2019 and 2.2% in Punjab in 2018, declines of 56% and 12% respectively. \(^{15,19,20}\)

- Modelled estimate for 2022

- SDG 2020 Target 1% \(^{13}\)
**Hepatitis B vaccination coverage for newborns, 2016**

- **50%**

- **WHO 2020 Target 50%**

**Hepatitis B vaccination coverage for infants, 2020**

- **77%**

- **WHO 2020 Target 90%**

**Proportion of persons living with HBV diagnosed, 2018**

- **14%**

- **WHO 2020 Target 30%**

**Hepatitis B vaccination coverage for 3 doses**

**WHO JJJJ Target 5J%**

**Proportion of diagnosed HBV persons receiving appropriate treatment, 2018**

- **5%**

**For persons who inject drugs (PWID), number of sterile needles per year, 2021**

- **215**

- **WHO 2020 Target 200**

**Number of tested for HBsAg, 2018-2020**

- **935,438**

- **494,307**

- **348,236**

- **2018**

- **2019**

- **2020**

*Data from public health laboratories and hospitals. Private laboratory data not included.*
Number of persons on treatment for HBV, 2018-2020  

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>21,842</td>
</tr>
<tr>
<td>2019</td>
<td>18,913</td>
</tr>
<tr>
<td>2020</td>
<td>7,409</td>
</tr>
</tbody>
</table>

Proportion of persons living with HCV diagnosed, 2020

WHO 2020 Target: 30%

Number of persons diagnosed with chronic HCV, 2017-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>152,200</td>
</tr>
<tr>
<td>2018</td>
<td>404,400</td>
</tr>
<tr>
<td>2019</td>
<td>177,200</td>
</tr>
<tr>
<td>2020</td>
<td>163,900</td>
</tr>
</tbody>
</table>

Proportion of diagnosed persons who have been cured of HCV, 2020

90-95%

SVR data from government programs not readily available due to limited SVR12 testing, making an accurate assessment of SVR rates difficult. Data from smaller hospital-based studies or micro-elimination campaigns suggest an SVR rate of 90-95%.
**POLICY ENVIRONMENT FOR THE ELIMINATION OF HEPATITIS**

**ACHIEVEMENT**

- Routine official reports to monitor HBV and HCV

**INNOVATIONS**

- Partially Adopted

**ROADBLOCKS**

- Partially Adopted

**STRATEGIC INFORMATION**

- Estimates of HBV and/or HCV economic burden
- Monitoring of HBV and HCV diagnosis and treatment

**2.65 M**

Number of persons treated for HCV, cumulative, 2004-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Persons Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>65,000</td>
</tr>
<tr>
<td>2016</td>
<td>161,000</td>
</tr>
<tr>
<td>2017</td>
<td>348,901</td>
</tr>
<tr>
<td>2018</td>
<td>353,695</td>
</tr>
<tr>
<td>2019</td>
<td>324,021</td>
</tr>
<tr>
<td>2020</td>
<td>215,261</td>
</tr>
</tbody>
</table>

No national prevalence study has been conducted since 2008 but provincial studies conducted in 2018 for Punjab province and in 2019 for Sindh province.

HCV cost estimate is $684M in 2018, projected to decrease to $597M in 2030; No cost estimates for HBV.

Pakistan can see a return on its investments in eliminating hepatitis within 3 years.

Some provinces report number of persons diagnosed and treated.
HCV contaminated blood transfusions are major contributors to HCV incidence in Pakistan. Approximately half of the blood donors are not screened for HCV, HBV, and HIV.

Lack of coordination across federal, provincial, and local governments

Lack of effective monitoring and evaluation of the provincial hepatitis control programs

**ROADBLOCKS**

- The Field Epidemiology and Laboratory Training Program conducts routine surveillance of acute hepatitis B and C but not for chronic hepatitis and the case definition differs from WHO.

**PREVENTION OF MOTHER TO CHILDREN TRANSMISSION**

Policy for hepatitis B vaccination of newborns within 24 hours

- Partially Adopted

Adopted in 2016 but uptake varies by province

Recommendations for:

- HBV testing of pregnant women
  - Adopted
  - As of 2019, 97.7% coverage of antenatal HBV screening

- HCV testing of pregnant women
  - Not Adopted

In Khyber Pakhtunkhwa, HBsAg and anti-HCV prevalence among pregnant women found to be 3.7% and 2.1%, respectively (2019-2020)

In study of pregnant women in Peshawar district found the prevalence of HBsAg to be 1.16% and anti-HCV 1.42% (2013-2014)

**ROADBLOCKS**

- Hepatitis B birth dose is not available across all provinces

**ACCESS AND REGISTRATION OF MEDICINES AND TESTS**

- Registration of originator DAAs
  - Adopted

- Eligible for generic DAAs
  - Eligible

- Registration of generic DAAs
  - Adopted

- Licensed point-of-care PCR testing to detect HBV and HCV
  - Adopted

GeneXpert machines approved for HBV and HCV viral load testing and recommended for use in the guidelines.
TESTING TO DIAGNOSE HBV AND HCV INFECTION

Testing recommendations for:

**HBV:** Risk-based \(^5\)  
Adopted

**HCV:** Universal one-time screening \(^5\)  
Adopted

No patient co-pays for HBsAg and anti-HCV testing \(^5\)  
Adopted

**ACHIEVEMENTS**

The Prime Minister set a target for July 2020 to June 2025 to screen 50% of the eligible population, aiming to reach 69 M persons with anti-HCV screening and 5.15 M with PCR confirmation testing.

**ROADBLOCKS**

General population screening implementation has been challenging and further roll-out is needed

Scale-up of point-of-care testing is needed

HCV NAT and antigen testing remain expensive

**COALITION FOR GLOBAL HEPATITIS ELIMINATION**
### ACCESS TO HBV AND HCV TREATMENT

<table>
<thead>
<tr>
<th>HBV: National treatment guidelines</th>
<th>Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplified care: Simplified treatment and monitoring algorithm for primary care providers</td>
<td>Not Adopted</td>
</tr>
<tr>
<td>Simplified care: No patient treatment co-pays (public sector)</td>
<td>Adopted</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HCV: National treatment guidelines</th>
<th>Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplified care algorithm: Less than 2 clinic visits during treatment</td>
<td>Adopted</td>
</tr>
<tr>
<td>Simplified care algorithm: Non-specialists can prescribe treatment</td>
<td>Adopted</td>
</tr>
<tr>
<td>Simplified care algorithm: No patient treatment co-pays</td>
<td>Adopted</td>
</tr>
<tr>
<td>No fibrosis restrictions</td>
<td>Adopted</td>
</tr>
<tr>
<td>No sobriety restrictions</td>
<td>Adopted</td>
</tr>
<tr>
<td>No genotyping</td>
<td>Adopted</td>
</tr>
</tbody>
</table>

HBV treatment guidelines developed by Pakistan Society for the Study of Liver Diseases in 2010; Ministry of Health in process of developing HBV treatment guidelines.

HBV treatment available at designated HBV treatment centers (district hospitals and tertiary centers). If patient receives care at public district hospitals and tertiary centers, then treatment is free of charge.

HCV treatment guidelines updated in 2020.

HCV treatment free-of-charge in the public sector.

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**ACHIEVEMENTS**

A model community-based, HCV “test & treat” program is underway in Punjab province.

Cost of HCV treatment is US$ 120 for 12 weeks of SOF/VEL and US$35 (as of June 2022) for 12 weeks for SOF/DCV.

An ambitious program for HCV Elimination was announced by the Prime Minister in July 2019 and is awaiting funding to start. This program aims to treat 9.8 million HCV patients by 2030.

**ROADBLOCKS**

COVID-19 and limited funding has delayed implementation of the Prime Minister’s HCV elimination program.
HEALTH EQUITY AND ADDRESSING DISPARITIES

National strategy addresses populations most affected \(^1\)  
Adopted

National anti-discrimination laws against people living with hepatitis B and/or C \(^2\)  
Not Adopted

National policy for adult hepatitis B vaccination \(^1\)  
Partially Adopted

Policy recommends healthcare worker hepatitis B vaccination but only 20% of healthcare workers have been vaccinated

National policy for:

Harm reduction for persons who inject drugs (PWID) \(^2\)  
Not Developed

The Global Fund for TB, AIDS, and Malaria supports all active harm reduction programs

Syringe exchange in federal prisons \(^2\)  
Not Adopted

Number of needles/syringes per PWID per year, 2014 \(^4\)  
215

WHO 2021 Target 200

Number of opioid substitution therapy recipients per 100 PWID \(^3\)  
0

No OST program operational

Decriminalization of possession of syringes & paraphernalia \(^2\)  
Adopted

Nai Zindagi Trust in Pakistan provides syringes to at least 70% of PWID in a given geographical boundary based on their daily injecting frequency and the number of days in a week they can access services \(^3\)

Decriminalization of drug use \(^2\)  
Adopted

INNOVATIONS

A number of successful HCV micro-elimination programs are running in the country, both in the public and private sector, demonstrating the utility of such an approach in high prevalence areas

FINANCING

Public budget line for HBV and HCV testing and treatment \(^5\)  
Adopted

HCV testing and treatment if free-of-charge for patients in the public sector

Funds from the Global Fund for TB, AIDS, and Malaria used for co-infected patients or harm reduction programs  
Adopted

The Global Fund for TB, AIDS, and Malaria supports all active harm reduction programs
Pakistan’s government introduced a National Strategic Framework on Hepatitis (NHSF) in October 2017. The Corporate Coalition for Viral Hepatitis Elimination in Pakistan (CCVHEP) is made up of 12 leading companies created to support the Government of Pakistan’s effort to eliminate viral hepatitis in Pakistan by 2030.

**ACHIEVEMENTS**

- Implement large-scale mass media campaigns to reduce demand for injections to lower risk of transmission
- Improve implementation of standard guidelines on blood transfusion, reuse of syringes and needles for tattooing and ear piercing, and insufficient sterilization of potentially contaminated surgical and dental equipment
- Scale-up coverage of hepatitis B birth dose vaccination nationally
- Improve coverage of pentavalent vaccine (HBV) and introduce catch-up vaccination for children older than 5 years at school and out of school
- Introduce HBV vaccination for populations at-risk

**NEXT STEPS TOWARD ELIMINATION**

- Update the National Strategic Framework for next period of implementation
- Expand access to a comprehensive package of harm reduction interventions, including HBV and HCV testing and treatment for PWID
- Build on early micro-elimination and HIV programs to scale-up HCV testing
- Engage community-based organizations in HCV testing and treatment
- Continue decentralizing HCV treatment to health centers and basic health units
- Leverage Field Epidemiology Training and Laboratory Program to improve surveillance of viral hepatitis B and C by updating case definitions
- Evolve a comprehensive monitoring and evaluation framework for provincial hepatitis elimination programs
**SOURCES**


5. WHO. (2021). Accelerating access to hepatitis C diagnostics and treatment. [https://www.who.int/publications/i/item/9789240019003](https://www.who.int/publications/i/item/9789240019003)


9. MedsPaL. (n.d.). MedsPaL Database. [https://www.medspal.org/?countries%5B%5D=Pakistan&disease_area%5B%5D=Hepatitis+C+(HCV)&page=1](https://www.medspal.org/?countries%5B%5D=Pakistan&disease_area%5B%5D=Hepatitis+C+(HCV)&page=1)


18. Data provided by Dr. Huma Qureshi, Pakistan National Focal Point for Hepatitis,.

19. Presentation by Dr. Huma Qureshi, Ex-Executive Director Pakistan Medical Research Council, Pakistan National Focal Point for Hepatitis. International Meeting for Viral Hepatitis Elimination 2021 (December 3rd).


24. Balochistan Hepatitis Screening from Dr. Gul Sabeen Azam Ghori Zai 210713 (unpublished). Data provided by Dr. Huma Qureshi, Pakistan National Focal Point for Hepatitis, on 10 March 2022.

25. Ministry of Health (2020). Prime Minister’s Programme for Elimination of Hepatitis C: Annexures to Programme PC-I. Data provided by Dr. Huma Qureshi, Pakistan National Focal Point for Hepatitis, on 10 March 2022.

26. Unpublished data from provincial hepatitis control programmes (public sector data), shared by Dr. Hassan Mahmood 200728 and provided by Dr. Huma Qureshi, Pakistan National Focal Point for Hepatitis, on 10 March 2022.

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