# SINDH HEPATITIS ACTION PLAN 2020-22

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**In Sindh; viral hepatitis transmission is halted and everyone living with viral hepatitis has access to safe, affordable and effective prevention, care and treatment services**

# Contents

# Acronyms

| | |
|---|---|
| CDC | Centers for Disease Control and Prevention |
| DVH | Division of Viral Hepatitis |
| EMR | Eastern Mediterranean Region |
| EPI | Expanded Program on Immunization |
| FELTP | Field Epidemiology and Laboratory Training Program |
| GHSS | Global Health Sector Strategy |
| HBV | Hepatitis B virus |
| HCV | Hepatitis C virus |
| HIV | Human Immunodeficiency Virus |
| HPCP | Hepatitis Prevention and Control Program |
| MNCH | Maternal, Neonatal and Child Healthcare Program |
| MSM | Men Who Have Sex with Men |
| NGOs | Non-government organizations |
| NHSF | National Hepatitis Strategic Framework |
| NHSRC | National Health Services, Regulations and Coordination |
| PHRC | Pakistan Health Research Council |
| PMRC | Pakistan Medical Research Council (Now called Pakistan Health Research Council-PHRC) |
| PWID | People who Inject Drugs |
| SACP | Sindh AIDS Control Program |
| SDG | Sustainable Development Goals |
| SHAP | Sindh Hepatitis Action Plan |
| SHCC | Sindh Health care Commission |
| SME | Subject Matter Experts |
| STI | Sexually Transmitted Infection |
| TAG | Technical Advisory Group |
| TWGs | Technical Working Groups |
| VH | Viral Hepatitis |
| WHO | World Health Organization |

# EXECUTIVE SUMMARY

Viral Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) infections are major public health challenges worldwide, affecting 328 million people globally i.e. 257 million people are living with chronic HBV infection and 71 million with HCV infection. The Eastern Mediterranean (EMR) presents high prevalence of HBV (3.3%) and HCV (2.3%). In 2015, it was estimated that 15 million are chronically infected with HCV and 21 million are infected with HBV. If the number of people living with hepatitis remains at the current high levels for the next 40-50 years, it is estimated that a cumulative 20 million deaths will occur between 2015 and 2030; therefore, a stepped-up global, regional, national and provincial response can no longer be delayed.

World Health Organization (WHO) has developed the Global Health Sector Strategy (GHSS) for Viral Hepatitis (VH) 2016–2021 that contributes to the achievement of the 2030 agenda for Sustainable Development Goals (SDGs). The strategy addresses all five hepatitis viruses (hepatitis A, B, C, D and E), with focus on hepatitis B and C. The strategy describes the contribution of the health sector in combating viral hepatitis towards its elimination as a public health threat by 2030. The WHO Eastern Mediterranean Regional Office (EMRO) developed a Regional Action Plan 2017-2021 for the implementation of the GHSS for Viral Hepatitis (VH). The regional action plan is intended to guide the Member States and the WHO secretariat on a roadmap towards the achievement of national, regional and global targets.

Pakistan has a high disease burden of hepatitis A to E, with maximum morbidity in hepatitis A & E and maximum morbidity and mortality in hepatitis B, C and D. HBV and HCV are major public health threats in Pakistan affecting almost 15 million people across the country. Within Pakistan the province of Sindh bares the second highest disease burden of hepatitis B and C among all other provinces. According to National Hepatitis B and C serosurvey done in 2008 by Pakistan Medical Research Council (recently known as Pakistan Health Research Council), the prevalence of Hepatitis B Virus (HBV) Infection was 2.5% and Hepatitis C Virus (HCV) infection was 5%.

Recognizing the enormity of the problem and working towards achieving the WHO global elimination targets by 2030, Pakistan has developed its National Hepatitis Strategic Framework (NHSF) for Hepatitis response 2017-2021 through a participatory process with the involvement of Provincial hepatitis programmes, Federal and Provincial partners, including private sector and NGOs. The NHSF was launched on October 08, 2017 in Islamabad where Ms. Sara Afzal

Tarar (Federal Minster of National Health Services, Regulations and Coordination), Dr. Tedros Adhanom Ghebreyesus (Director General World Health Organization), Dr. Mahmoud M. Fikri (Regional Director World Health Organization Eastern Mediterranean Region), Mr. Muhammad Ayub Sheikh (Secretary, NHSRC) and Health Ministers of Palestine, Sudan, Afghanistan, Somalia, Libya, Kuwait, Yemen and Qatar honored the event with their valued presence. A declaration was signed by the Federal Minister NHSRC and all the Provincial Health Authorities in which they pledged to implement this NHSF all over the country by developing and employing the Provincial Hepatitis Action Plans in all provinces to achieve WHO targets of hepatitis elimination by 2030.

As a next step towards that declaration, Sindh province developed the Sindh Hepatitis Action Plan (SHAP). The vision of SHAP is that "In Sindh; viral hepatitis transmission is halted and everyone living with viral hepatitis has access to safe, affordable and effective prevention, care and treatment services". The Sindh Hepatitis Action plan (SHAP) is designed to contribute to the attainment of the 2021 targets of the National Hepatitis Strategic Framework 2017-2021 which are aligned with the WHO global targets and goals. The SHAP has set four strategic objectives. It describes priority interventions required to achieve the key excepted results and how the provincial hepatitis response can contribute to the achievement of NHSF targets. The SHAP is aligned with the WHO Easter Mediterranean Regional Hepatitis Action and with the different Sindh health Acts.

Reaching the SHAP expected results to contribute to the attainment of the federal targets will require commitment of top leadership, coordination of actors within the health sector and beyond, evidence-based policies1, consensus between stakeholders on national targets, determination to achieve those targets and funded national hepatitis response. Four strategic objectives have been set up to implement the priority areas that have emerged from the epidemiological situation of viral hepatitis and its current provincial response. These include;

**Strategic objective 1:** To strengthen the availability, sharing and utilization of strategic information that will guide the development and implementation of evidence based-informed policies and strategies

**Strategic objective 2:** To Strengthen leadership and coordination for the implementation and monitoring and evaluation of an effective, integrated, multisectoral response to hepatitis

**Strategic objective 3:** To strengthen the quality and scale up coverage and utilization of hepatitis B and C prevention services

**Strategic objective 4:** To improve the quality and scale up coverage and utilization of the comprehensive Hepatitis B and C testing, diagnostic and treatment services

The strategic objectives are translated into key interventions and priority actions for clear strategic directions to eliminate viral hepatitis from Sindh. An operational plan comprising a set of activities for each action is developed for the implementation of SHAP (Annexed I). To monitor progress in the implementation of the operational plan, Monitoring and Evaluation results framework has been developed. Implementation of the M&E results framework needs a strong monitoring and evaluation system to generate the best possible data on the viral hepatitis situation, including trends and responses, and to monitor the hepatitis response through a set of standard and measurable indicators.

# Acknowledgments

We are sincerely grateful to all the health professionals with varying backgrounds and specialties as well as the civil society representatives who have contributed to the development of this “Sindh Hepatitis Action Plan (SHAP)” for Sindh, Pakistan.

The SHAP was developed by a group that was led by Dr. Huma Qureshi (National Focal Point Hepatitis) and Dr. Zulfiqar Dharejo (Program Manager, Sindh Hepatitis Control program) .

A TWG was established comprising of Ms. Joumana Hermez [WHO Regional Advisor on HIV, AIDS and Sexually Transmitted Infections (HAS)], Mr. Ahmed Sabry Alaama (WHO HAS Technical Officer EMRO), Dr. Hamida Khattabi (WHO International Consultant), Dr. Safdar Kamal Pasha (WHO National professional Officer), Dr. Huma Qureshi (National Focal Point Hepatitis), Dr. Hassan Mahmood (WHO National Consultant) and Dr. Zulfiqar Dharejo (Program Manager, Sindh Hepatitis Control program).

The whole process of developing the SHAP was coordinated by Dr. Safdar Kamal Pasha and Dr. Sara Salman (WHO Sindh Office).

Dr. Hamida Khattabi was recruited by WHO as an international consultant to develop the SHAP.

Special thanks have been extended to the following stakeholders for their valued inputs and feedback in developing the SHP.

1. Dr. Saeed Hamid (Consultant Gastroenterologist, Aga Khan University)
2. Dr. Faiza Bhutto (Sindh Healthcare Commission)
3. Dr. Saad Niaz (Consultant Gastroenterologist, The Health Foundation)
4. Dr. Laila Rizvi (Executive Director, The Health Foundation)
5. Dr. Sayed Jawad Hussain (Sindh Health Department)
6. Dr. Saqib Ali (Sindh Health Department)
7. Dr. Ghulam Murtaza (Sindh Health Department)
8. Dr. Amman Ullah Jhatial (Deputy Director, Sindh Hepatitis Control program)
9. Dr. Muhammad Afzal (Deputy Director, Sindh Hepatitis Control program)
10. Dr. Waqaruddin Ahmed (Pakistan Health Research Council)
11. Dr Durenaz Jamal (Director, Sindh Blood Transfusion Authority)
12. Ms. Nicki (Médecins Sans Frontières (MSF) International)
13. Dr. Hassaan Zahid (Médecins Sans Frontières (MSF) International)

14. Dr. Gulzar Usman (Liaquat University of Medical & Health Sciences)
15. Ms. Saima Naz (Nai Zindagi)

# Part 1: Setting the scene

**Part 1 explores the current status of viral hepatitis epidemic and response, outlines the approach for the Sind Hepatitis Action Plan development, identifies opportunities and challenges and highlights priorities for the future.**

# I. INTRODUCTION

## RATIONALE

Viral hepatitis is a global public health challenge, comparable to other major communicable diseases, including HIV, tuberculosis and malaria. Despite the significant burden it places on communities across all regions, hepatitis has been largely ignored as a health and development priority until recently. It will no longer remain hidden, however, with the adoption of the resolution on the 2030 Agenda for Sustainable Development. Target 3 is of particular relevance: it calls for specific action to combat viral hepatitis. [1].

In this global context, WHO has developed the Global Health Sector Strategy (GHSS) on Viral Hepatitis 2016–2021 targeting to achieve 2030 agenda for SDGs [1].The strategy addresses all five hepatitis viruses (hepatitis A, B, C, D and E), with particular focus on hepatitis B and C. The strategy focuses on the contribution of the health sector in eliminating viral hepatitis by 2030. The strategy targets to reduce the incidence of chronic hepatitis infection from the current 6–10 million cases to 0.9 million, and to reduce the annual deaths from chronic hepatitis from 1.4 million to less than 0.5 million by2030 [1].

To implement "GHSS On Viral Hepatitis 2016–2021," WHO EMRO has developed its "Regional Action Plan 2017-2021" which is endorsed by all member states of the region [2]. The regional action plan recommends the member countries to adapt and implement the WHO regional action plan on Viral Hepatitis according to their own contextual settings because the Eastern Mediterranean Region (EMR) has a huge disease burden of hepatitis B (21 million) and C (15 million) [2].

In Pakistan, there is a high disease burden due to all 5 types of viruses i.e. A to E. Water borne hepatitis A and E cause acute illness in large population with no chronic illness and little or no mortality[2]. Blood borne hepatitis B & C becomes chronic in over 80% and thus contributes to maximum morbidity and mortality. Recognizing the enormity of viral hepatitis B and C as a public health problem in Pakistan, and working towards achieving the WHO global elimination targets by 2030, Pakistan has developed its National Hepatitis Strategic Framework (NHSF) for Hepatitis response 2017-2021 through a participatory process with the involvement of Provincial hepatitis programmes, Federal and Provincial partners, including private sector and NGOs [3]. The NHSF was launched on October 08, 2017 in Islamabad where Ms. Sara Afzal Tarar (Federal Minster of National Health Services, Regulations and Coordination), Dr. Tedros Adhanom Ghebreyesus (Director General World Health Organization), Dr. Mahmoud M. Fikri (Regional Director World Health Organization Eastern Mediterranean Region), Mr.

Muhammad Ayub Sheikh (Secretary, NHSRC) and Health Ministers of Palestine, Sudan, Afghanistan, Somalia, Libya, Kuwait, Yemen and Qatar honoured the event with their valued presence. A declaration was signed by the Federal Minister NHSRC and all the Provincial Health Authorities in which they pledged to implement this NHSF all over the country by developing and implementing the Provincial Hepatitis Action Plans in all provinces to achieve WHO targets of hepatitis elimination by 2030[3].

After the launch of NHSF in 2017 at federal level, the next step was to develop the provincial hepatitis action plans (in all provinces) for its effective implementation. Therefore, Hepatitis prevention and control program (HPCP) Sindh has requested WHO to support the development of Sindh Hepatitis Action Plan (SHAP).

## PURPOSE

The SHAP is developed to contribute to the attainment of NHSF vision, goal and targets which are aligned with the global vision, goal and targets. It set strategic objectives and their related key results to monitor progress in the implementation of the SHAP. The action plan describes priority actions required to achieve the identified strategic objectives and how the provincial hepatitis response can contribute to the achievement of the hepatitis elimination as public health threat by 2030.

It promotes integration between the HPCP and the other health programs as well the Public-Private-Partnership to strengthen the hepatitis prevention and treatment services in Sindh to reduce the impact of the diseases at provincial levels.

This takes into account the Sindh context, including the nature and dynamics of the province viral hepatitis epidemics, populations affected, structure and capacity of the health care and community systems, and the resources that can be mobilized.

## THE SINDH HEPATITIS ACTION PLAN DEVELOPMENT

In Sindh as in the whole country most of the population has been exposed to hepatitis A (childhood) or E (adulthood) as acute infections, though, both viruses have relatively low to moderate morbidity and mortality. However, the province is facing considerable epidemics of hepatitis B, C. Therefore, Hepatitis B and C are considered as major public health issues in Sindh and it has been decided to focus on viral hepatitis B and C in Sindh Hepatitis Action Plan. However, to address water borne hepatitis A and E, it is important that the province continue implementing the disease control measures to prevent them, including surveillance and early warning systems, safe water and sanitation along with promotion of hygiene and vaccination are put in place.

The HPCP Sindh was leading the whole process of the development of the SHAP and was technically supported by WHO.

A Technical Working Group (TWG) was formulated and an International Consultant was hired to develop the SHAP. TWG was comprised of Sindh Hepatitis Program Manager and the program team, International Consultant, WHO HIV, AIDS and Sexually Transmitted Infections (HAS) Regional Advisor and the HAS Strategic Information technical officer and National Professional Officer WHO Country Office, Provincial Head WHO Sindh and WHO National Consultant on Viral Hepatitis.

Extensive literature search was conducted by the TWG members who have used the relevant country specific topics in different sections of the action plan with proper references.

A Consultative and participatory approach was adopted. In this respect the HPCP Sindh organized a stakeholders meeting in October 2019 that played a key role in the development of SHAP. The stakeholders included gastroenterologists, clinician, Subject Matter Experts (SME) and public health experts from Provincial health departments, Sindh healthcare commission, Médecins Sans Frontiers (MSF), The Health Foundation (THF), safe blood transfusion program, Sindh AIDS Control Program (SACP), academicians, researchers and non-government organizations (NGOs). The stakeholders meeting was a very important step in the process of the development of SHAP. It gave the opportunity to the stakeholders to; i) discuss and complete the information on the hepatitis situation and response, challenges and opportunities in Sindh ii) set key priorities taking into consideration the province context and the national priorities identified by the NHSF iii) identify and discuss the strategic objectives for the SHAP iv) identify and agree on key priority interventions and actions of the SHAP.

A draft SHAP was developed based on the main outcomes of the stakeholders meeting and was shared with the TWG. Key recommendations from the TWG have been incorporated in the final draft.

The draft of the SHAP was presented and discussed in the steering committee meeting to receive the feedback of the committee on the draft SHAP.

Based on the recommendations of the steering committee meeting, the SHAP was finalized and endorsed by the Sindh Health Department.

The development of the SHAP experienced a significant limitation with respect of availability of up-to-date and reliable data on the main modes of transmission and risk factors, the specific

populations that are vulnerable, at risk and affected, and the coverage and quality of essential hepatitis services. Accordingly, the SHAP is based on limited public and private sector data. Therefore, the main stakeholders in the province played a big role in providing some local data that are not representing the whole province, but they could give a good orientation to plan for a focused response.

# II. Current status of viral hepatitis epidemic and response

## Hepatitis situation in Sindh

Globally, viral hepatitis B and C are major public health issues causing severe liver diseases like hepatocellular carcinoma, liver cirrhosis and end-stage liver disease[2]. The World Health Organization (WHO) estimates that 257 million people are affected with chronic HBV infection and 71 million people with chronic HCV infection worldwide. [4,5] These two deadly infections are root causes of 1.34 million deaths every year worldwide [4,5].

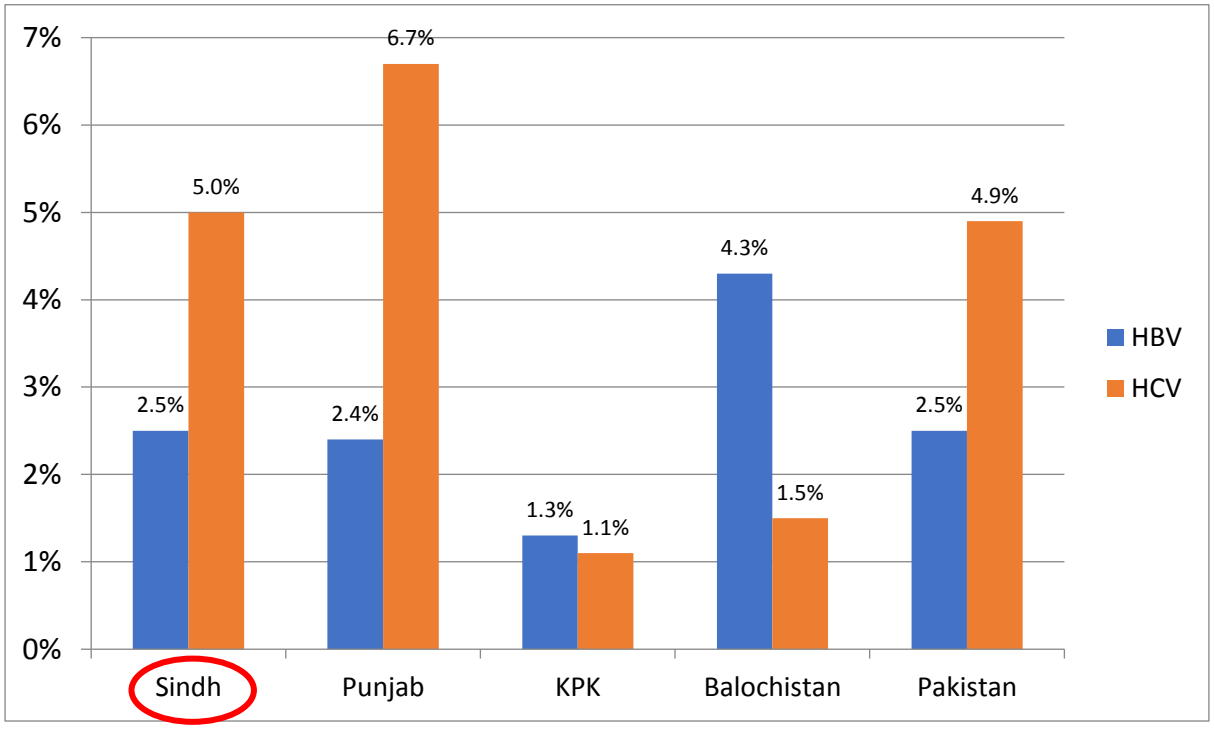
The Eastern Mediterranean (EMR) presents high prevalence of HBV (3.3%) and HCV (2.3%). In 2015, it was estimated that 15 million are chronically infected with HCV and 21 million are infected with HBV [4].

In Pakistan, all five hepatitis viruses (A, B, C, D and E) are endemic. Most of the population has been exposed to hepatitis A (childhood) or E (adulthood) as acute infections, however, both viruses are self-limiting and have relatively low to moderate morbidity and mortality [6]. On the other hand, the country is facing considerable epidemics of hepatitis B and C. In 2008 a national survey indicated 2.5% HBV prevalence and 5% HCV prevalence affecting almost 15 million people countrywide [7]. Hepatitis Delta Virus (HDV) is also present in certain pockets of the country but it is a small, defective RNA virus that can infect only individuals who have hepatitis B virus which acts as the carrier host [8]. Hepatitis B and C infections are the major contributing infections in liver related morbidity and mortality in the country [3, 9, 10]. Pakistan suffers from the highest HCV disease burden within the Eastern Mediterranean Region (EMR) and the second highest globally after China [11].

Unfortunately, in Sindh there is lack on strategic information. There is no strategic information system that generates the necessary data that allow understanding the hepatitis epidemic and response, to set provincial targets and to plan for a focused response. Inference from national data as well as some old and small local studies were used to get an orientation on the hepatitis epidemic response.

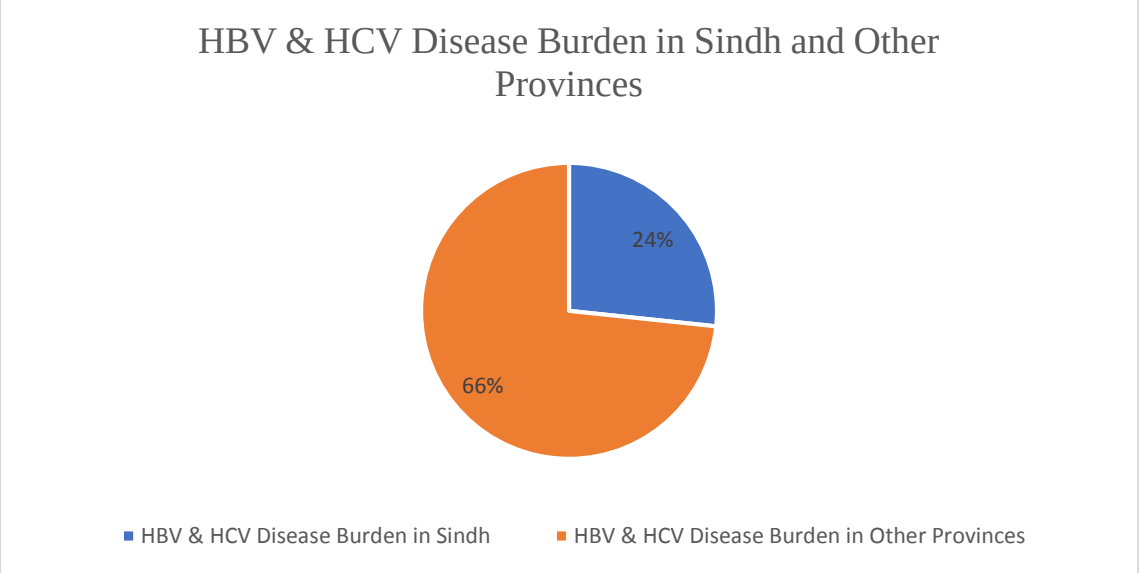
Till date only National Hepatitis B and C sercosurvey done by Pakistan Medical Research Council (now known as Pakistan Health Research Council) in 2008 showed the provincial estimates of HBV and HCV prevalence in Sindh (Fig 1)[7]. According to the 2008 survey, it is estimated that the province of Sindh holds the second highest disease burden of HBV and HCV infections in Pakistan with an estimated 2.5% prevalence of HBV infection and 5% prevalence of HCV infections affecting almost 1.1million people with hepatitis B infection and 2.2 million with hepatitis C infection [7]. However, in 2017-18 Punjab Government has carried out a provincial hepatitis B and C serosurvey in Punjab that showed an increased prevalence of anti HCV as 8.9% among general population and slightly decreased prevalence of HbsAg of 2.2% among general population (12). Figure 3 shows that Sindh has 24% share in national disease burden of HBV and HCV infections [7]. In addition to HBV and HCV infections, Sindh also serves as an epidemic centre for HDV infection. Although the prevalence of hepatitis virus infections in Pakistan and especially in Sindh is still unknown, limited data indicate that of those infected with HBV infection, an estimated 16.6% also have HDV co-infection [13,14].

Figure 1: **Prevalence of HBV and HCV by Province- Serosurvey, 2008**



| Province | Sindh | Punjab | KPK | Balochistan | Pakistan |
|---|---|---|---|---|---|
| **Total Population** | **42.4 M** | **101 M** | **18 M** | **6.5 M** | **179 M** |
| **HBV** | **1.1 M** | **2.4 M** | **234,000** | **279,000** | **4.5 M** |
| **HCV** | **2.1 M** | **6.8 M** | **198,000** | **97,500** | **8.8 M** |

Figure 2: HBV and HCV disease burden in Sindh and Other provinces




## Age Wise Distribution of Hepatitis B and Hepatitis C in Sindh

As mentioned, there is dearth of strategic information specifically age and gender wise epidemiological data in Sindh. Only a few studies demonstrate this information. A cross-sectional study carried out in 2006 in almost 3500 children residing in Karachi estimated the

prevalence of Hepatitis B surface antigen (HBsAg) as 1.8% and HCV antibody (anti-HCV) sero-positivity as 1.6% among children 1 to 15 years of age and male to female ratio was 38:27 [15].

Another study study using a systematic random sampling method was undertaken in 2008 in Rural Sindh[16]. One questionnaire per household was filled out and blood samples collected for hepatitis B surface antigen (HBsAg), hepatitis B core antibody total ( HBcAb) and hepatitis C antibody (anti-HCV). HBsAg was reactive in 44 (5%), HBcAb in 494 (56.6%) and anti-HCV in 294 (33.7%).The study revealed that the prevalence of HCV antibodies increased with age to reach a peak in the age group of 31-50 years [16]. Only one child out of 41 in the age group less than 5 years had positive anti-HCV antibody (1/41=2.4%) while 7 children of this age group had anti-HBc (17.1%). Prevalence of these antibodies in children of age group 6-15 years was 11.5% (19/165) and 42.5% (70/165), respectively. In young adults between the ages of 16 and 30 years, the prevalence of hepatitis C and B antibodies further increased to 31.5% (119/378) and 55.8% (211/378), respectively. This upward trend continued in the age group of 31-50 years to 53.4% (124/232) and 55.8% (211/378), respectively. In subjects greater than 50 years the prevalence was 50.9% (27/53) and 81.1% (43/53) [16].

## Risk Factors for the Transmission of Hepatitis B, C and D among general population in in Sindh

Since Hepatitis B, C and D are blood borne diseases, therefore, they share more or less the same modes of transmission or risk factor. These risk factors are categorized into two major categories as follows:

1. Healthcare system acquired risk factors
2. Community acquired risk factors

### 1. Healthcare system acquired risk factors

Many local studies carried out in the province of Sindh have shown that the most significant risk factors responsible for the transmission of hepatitis are related to healthcare systems and facilities of both public and private sectors. The recent HIV outbreak in Larkana, one of the Sindh districts also showed that unsafe healthcare practices are significantly associated with the transmission of blood borne diseases like hepatitis and HIV [17]. The risk factors are described as following;

1. Unsafe blood transfusions are the most significant risk factor for the transmission of hepatitis B and C [18]. Various studies have shown that the unsafe or poorly screened blood transfusions are the most important risk factors for the transmission of hepatitis B and C. In one study, anti-HCV frequency after one-unit blood transfusion was almost the same (13.2%) as after multiple transfusions (15.4%) [19].

   Data suggested that in recent past there has been major outbreaks of HIV and HCV among general population because of unsafe blood transfusion [17].
2. Re-use of syringes and therapeutic injections is another major significant risk factor. Literature showed that the frequency of injections inoculation is directory proportional to the prevalence of hepatitis B and C [17,18].
3. Poor infection control and injection safety at health care settings is responsible for not only the increased hepatitis B and C transmission but also the root cause of major HIV outbreaks in Sindh [7,17, 18] . Poor implementation of infection control and injection safety mechanisms and practices at healthcare settings have made health care workers more vulnerable to these deadly infections. Various studies have shown that patients visiting health care facilities for common ailments and procedures like dental, surgical, gynaecological and obstetric procedures are more likely to have hepatitis B and C infections as compared to those who don't visit health facilities [18,19,20,21,22, 23,24].

### 2. Community Acquired Risk Factors

These risk factors are related to community and are strongly associated with other contextual factors (e.g. poor education, lack of awareness about the disease transmission, low socio-economic status, social and cultural believes) for the transmission of hepatitis B and C in Sindh. These risk factors include shaving at barbers, ear and nose piercing and tattooing. These risk factors are not that strongly associated with the transmission of hepatitis B and C as compared to healthcare system acquired risk factors but still, they are significant and cannot be ignored [7,22].

## Risk Factors for the Transmission of Hepatitis B, C and D among Key populations in Sindh

Though there is dearth of epidemiological data among key populations at provincial level but a few National Studies revealed that the prevalence of hepatitis B and C is much more in key populations [25,26,27,28,29]. The key populations include People Who Inject Drugs (PWID), Sex Workers (Male and Female), Men who Have Sex with Men (MSM) and Transgenders

(TGs). A study conducted among injecting drug use in Karachi estimated that prevalence of hepatitis B was (7.5%), hepatitis C (94.3%) [28]. Another study by Rehan et all conducted among PWIDs indicated a very high prevalence of hepatitis C among drug users up to 87% [34]. Memon et all in 2008 concluded the high risk of hepatitis C among the same group and showed a prevalence up to 68.3% [35]. Poor education, lack of awareness, low socioeconomic status, unprotected sex, sharing of needles among PWID and social stigmatization make them more vulnerable to hepatitis B and C as compared to general population [25,26,27,28,29].

## Conclusion

Sindh has a high disease burden of both viral hepatitis B (2.5%) and C (5%). Sindh holds the second highest disease burden of HBV and HCV infections in Pakistan. Most significant risk factors associated with the increased transmission of both hepatitis B and C are healthcare related, including unsafe blood transfusions, re-use of therapeutic injections/syringes and unsterilized medical/surgical/dental equipment. All these risk factors indicate poor implementation of infection control practices and unsafe medical practices at healthcare facilities. Unsafe blood transfusion is among the most significant risk factors.

More up-to-date and comprehensive data is needed to identify the specific populations that are vulnerable, at risk and affected in Sindh.

## Hepatitis Response in Sindh

To curb the huge diease burden of viral hepatitis in the Sind Province, the Sindh Government launched its Chief Minister's **"Hepatitis Prevention and Control Program (HPCP) Sindh"in 2008-09** [30]. The program has clear set of 5 objectives for the prevention and control of viral hepatiitis in the province. The objetives include 1) Preventing the Acute Infections, 2)Addressing the Chronic Infection, 3) Raising the Public Awareness, 4) Health System Strengthening and 5) Changing the Policy environment [30].

Initially in 2008, the program was launched for 03 years (2008-2011) and the PC-I was approved in January 2009. Then the program was extended for further 03 years (2011-2014) (2nd Phase) by Honorable Chief Minister Sindh followed by the 3rd Phase 2015-16 to 2017-18 (up to June 2018) that was later extended for two years till June 2020 [31]

The program has established 61 Sentinel Sites/Treatment Centers and 17 Screening & Vaccination Centers at District Headquarter hospitals (DHQ), Tahseel Headquarter hospitals (THQ) and Rural Health Centers (RHC) & Teaching Hospitals in Sindh. These 61 treatment centers are established in all 29 districts of the province. Five out of the 61 sentinel sites are currently non-functional [31].

The program has also a dedicated project team comprising of a Program manager, deputy program managers, epidemiologist, monitoring and evaluation specialists, finance and admin officers, data specialists and suport staff [31]..

**Sindh Healthcare Commission** was established under The Sindh Healthcare Commission (SHCC) Bill, 2013, passed by the Provincial Assembly of Sindh on 24th February 2014 [32]. It assented to the Governor of Sindh on 19th March 2014 to be published as an Act of the Legislature of Sindh. It was notified on 20th March 2014, in Karachi [32]. The commission is envisioned to regulate healthcare service delivery in Sindh province and to ensure quality of healthcare services. Through a specific set of objectives; 1) to make provision for the improvement of access, equity, and quality of healthcare service,2) to ban quackery in all its forms and manifestations and 3) to provide for ancillary matters in the province of Sindh. So far, a total of 6000 health facilities both in public and private sectors have been registered with the commission and out of those 2000 were sealed due to malpractices and 12 out of 6000 were licensed to offer services [32].. The commission is also involved in training the health care staff on infection control practices but the recent outbreak of HIV in Larkana showed that still there is a long way to go in this regard [17, 32].

In 2014 on the request of Sindh Health Department, Pakistan Medical Research Council (PMRC) with the support of Division of Viral Hepatitis (DVH) of US Centers for Disease Control and Prevention (CDC) has carried out the evaluation of Sindh Hepatitis Prevention and Control Program [30]. The main findings of the evaluation showed:

- Most of the program budget was allocated to treatment and procurement and least was allocated to the disease prevention, capacity building, operational research and other activities. Out of that least allocations, minimum amount was spent.
- The program primarily focused on supplying equipment, diagnostics and treatment for hepatitis with limited focus on their proper utilization.
- Adherence to published SOP`s and protocols was lacking at all sites.

- Almost 80% patients were offered treatment without end of treatment PCR reports available indicating serious flaws in monitoring. All diagnostic, treatment sites need strict and regular monitoring by a third party as logbooks, generators; treatment records etc. are not maintained in a scientific way.

Currently, as far as testing and treatment are concerned, though the program has almost 56 functional testing and treatment sites throughout the province but still the procurement of PCR Kits, medicine for patients of Hepatitis B, C are major challenges for the program due to limited funding. As far October 2019, almost 13,000 patients of Hepatitis C who were on treatment were waiting to continue their treatment for which additional funds are required, no PCR test kits are available [31].

Standardized testing and treatment protocols are available; however, they are not very well known by the physicians. On the other hand, the physicians who are aware about these guidelines are not following them [31].

Unfortunately, there are no provincial data on the testing and treatment coverage and on the treatment outcomes, however, some academic institutions (e.g. Aga Khan University) , private hospitals and civil society organizations like The Health Foundation (THF) and Médecins Sans Frontières International (MSF) are providing and recording data on testing and treatment services which should be reported to determine coverage. The provincial hepatitis program should urgently establish a provincial reporting platform to capture data from all service providers.

In addition to the HPCP Sindh, there are other actors and departments responsible for hepatitis response in Sindh. The private sector, and academia: Aga Khan Foundation and Indus Hospitals as well as Civil Society Organization such as The Health Foundation and some Individuals have some champions doing good work in the areas of research and hepatitis service delivery. However, there is no coordination and collaboration between these institutions and individuals and the HPCP Sindh. Therefore, there is an urgent need to build public private partnerships with such institutions to engage them for a coordinated and more efficient response.

In Sindh the hepatitis prevention interventions are still very weak and challenging the provincial hepatitis response [30,31].

The blood safety is still a huge challenge in the province and needs strong cognitive steps to ensure blood safety in the province [30,31].

Sindh evaluation report, the local studies and the recent HIV outbreak in Larkana have clearly revealed the weak injection safety and infection control status in the province [17,30,31]. Recently, the Ministry of National Health Services, Regulations and Coordination (NHSRC) in collaboration with WHO has taken an initiative to formulate a national infection control policy to be implemented nationwide including the Sindh Province. In 2019, following the outbreak a new unit for infection control, including injection safety, has been established in Sindh with dedicated PC1 budget over a 2-year action plan.

Since 2011 after the devolution of National Health Ministry, the National Expanded Program on Immunization (EPI) was devolved to Sindh Government. Since the introduction of Hepatitis B dose in routine EPI till date the total coverage was only 29.1%, which reflect the challenging situation regarding overall EPI and particularly Hepatitis B vaccination in Sindh[33]. It is hence presumable that a significant number of children might not have been fully covered through EPI program especially for districts having high prevalence of Hepatitis B and Hepatitis D as well because Hepatitis D can also be prevented through hepatitis B vaccination. Implementation of birth dose of hepatitis B vaccine is still a challenge in Sindh. It was intermittently started a few years back but due to undefined clear implementation mechanism it could not sustained.

Though little attention is given to hepatitis among PWID, syringe exchange services and linkages are likely to contribute to preventing the spread of HBV and HCV in this population group. However, existing harm reduction services do not offer hepatitis testing, treatment or vaccination services. Work is being done with provincial and district public sector, administration, health, law enforcement and social sectors for medical care, rights-based services and an enabling environment for PWID [3].

The scale of the hepatitis infections among PWID and the likelihood of high rates of co-infections of HIV/HBV and HCV; there is a need to implement integrated HIV/HBV/HCV client-centered services for PWID. Coordination between the HIV and hepatitis provincial programs as well as harm reduction NGOs is key to plan, design, implement, monitor and evaluate those services.

Overall, there is no coordination and synergy among various public health programs. Linkages among various public health programs like HPCP Sindh, HIV/AIDS Control program, Safe Blood Transfusion Authority, Sindh Healthcare Commission, EPI and information department need to be strengthened to ensure appropriate linkages and maximize synergies and efficiencies between these programs.

# III. Challenges and opportunities

Some challenges are holding back the Hepatitis provincial response. However, the existence of some room for improvement marks a significant opportunity for Sindh.

The here below challenges and opportunities have been identified to enable planning interventions for a rapid scale up the hepatitis services and interventions.

**Challenges:**

- Hepatitis testing and treatment are fragmented. Several institutions and individuals are providing hepatitis testing and treatment, however there is no collaboration and coordination among themselves and with HPCP Sindh.
- Lack of coordination and collaboration between HPCP Sindh and the other health programmes.
- Unregulated blood transfusions and unsafe blood supply in Sindh.
- Reducing the unnecessary injections
- Critical status of the injection safety and infection control
- Absence of standardized and coordinated surveillance, reporting and monitoring system fully integrated into the broader national health information system.
- Delayed release of funds resulting in stock outs of medicines and diagnostics, leading to interrupted treatment.

**Opportunities**

The following opportunities have been identified to take benefit of the existence of some rooms for improvement. The HPCP Sindh and partners should urgently take into account these opportunities to overcome the challenges that are holding back the provincial hepatitis response.

- Existence of the Health care Commission. The commission is envisioned, through a specific set of objectives, to regulate healthcare service delivery in Sindh province and to ensure quality of healthcare services, injection, blood and surgical safety
- The Larkana outbreak has been taken by the Sindh political and senior management as an opportunity to accelerate efforts to strengthen health system for Infection Prevention Control in the province.
- The National IPC guidelines being developed will enable standardized implementation of IPC program and monitoring practices in Pakistan
- WHO is collaborating with the Federal Ministry of Health to integrate the hepatitis

information system into the broader national health information system to ensure standardized and coordinated reporting at national level. Province of Sindh should take benefit of this intervention at provincial level.

- WHO is collaborating with the HPCP Sindh to conduct the provincial serosurvey which is currently taking place. The survey will provide the province with the up to date figures on the HBV and HCV prevalence data.

# IV. Priorities emerging from the viral hepatitis epidemic and response analysis

Informed by the hepatitis situation and response analysis and challenges, the SHAP identifies the following priorities that should be taken into consideration to define and budget for focused response in Sindh during the next two years:

1. Blood safety should be declared a **"public health emergency"** in Sindh and policy makers should be taken on board to take cognitive actions to inculcate the strict and stringent culture of following the high standards to streamline blood bank practices consistently ascertaining the safe blood and blood products' transfusion (a life-saving, not a life-threatening event).
2. Establishing a strategic information system to generate timely and reliable data to make it possible to proactively focus high-impact interventions more precisely and effectively, and to tailor services to reach greater numbers of people in need.
3. Strengthening the governance and management of the provincial hepatitis response to ensure a coordinated and efficient response and clear accountability.
4. Enhancing the hepatitis prevention: vaccination for hepatitis B virus, particularly birth dose; injection, blood and surgical safety and universal precautions; harm reduction services for people who inject drugs.
5. Scaling up hepatitis B and C testing and treatment

# Part 2: The Sindh Hepatitis Action Plan

**While the SHAP is primarily health focused, it recognises that the Ministry of health must take the lead, to foster advocacy, engagement and establishing partnership with partners to achieve its Vision**

# Sindh Hepatitis Action Plan

The Sindh Hepatitis Action plan (SHAP) is designed to contribute to the attainment of the 2021 targets of the National Hepatitis Strategic Framework 2017-2021 which are aligned with the WHO global targets and goals. The SHAP has set four strategic objectives. It describes priority interventions required to achieve the key excepted results and how the provincial hepatitis response can contribute to the achievement of NHSF targets. The SHAP is aligned with the WHO Easter Mediterranean Regional Hepatitis Action and with the different Sindh health Acts.

Reaching the SHAP expected results to contribute to the attainment of the federal targets will require commitment of top leadership, coordination of actors within the health sector and beyond, evidence-based policies1, consensus between stakeholders on national targets, determination to achieve those targets and funded national hepatitis response.

## 1. Vision

The SHAP is adopting the same national vision "In Sindh; viral hepatitis transmission is halted and everyone living with viral hepatitis has access to safe, affordable and effective prevention, care and treatment services".

## 2. Guiding principals

The implementation of the SHAP will be directed by the same guiding principles identified by the National Hepatitis Strategic Framework. The utilisation of the guiding principles will help achieving the greatest impact of the provincial response to Viral Hepatitis.

- *Guiding principle1: Data for Decision Making*

Strong surveillance system will generate adequate data to understand the true public health dimensions and impact of hepatitis epidemic and to plan for focused action and prioritize the allocation of resources.

- *Guiding principle2: Universal health coverage*

Ensuring financial security and health equity are key concerns in the 2030 Agenda for Sustainable Development, and universal health coverage provides a framework for addressing them. Universal health coverage is achieved when all people receive the health services they need, which are of sufficient quality to make a difference, without those people incurring financial hardship. Universal health coverage comprises of three major, interlinked objectives:

i) Expanding the range of services provided ii) Covering the populations in need of services and iii) Reducing the direct costs of services.

- *Guiding principle3: The continuum of hepatitis services – an organizing framework*

The continuum of hepatitis services that are needed to curb the epidemic provides the organizing framework for the specific actions to be taken. That continuum spans the entire range of interventions that are needed to achieve the SHAP's targets from reducing vulnerability, preventing and diagnosing infection, linking people to health services by providing treatment and chronic care.


***Figure 8: The continuum of viral hepatitis services and the retention cascade***

- *Guiding principle 4: Public Health approach*

The public health approach aims to ensure the widest possible access to high-quality services at the population level, based on simplified and standardized interventions and services that can readily be scaled up and decentralized, including in resource-limited settings. A public health approach aims to achieve health equity and promote gender equality, engage communities, and leverage public and private sectors in the response.

- *Guiding principle 5: Equitable access to services and conservation of the human rights*

The SHAP is supported by internationally agreed frameworks of ethics and human rights, which recognizes the right of all persons to the highest attainable standards of health, including sexual, reproductive and mental health and builds on existing protective religious and cultural values and practices. All people including the populations that may be criminalized and marginalized and who are at higher risk of hepatitis infection, including people who inject drugs, Men Who Have Sex with Men (MSM), Transgenders (TGs), prisoners and sex workers receive the health services they need.

- *Guiding principle 6: Partnership and multisectoriality*

The SHAP emphasizes broad engagement of all sectors, including the public and private sectors and civil society, in order to expand access to effective prevention and care as widely as possible. The restructuring of the provincial response to VH will be relevant only if it considers the involvement of all stakeholders and partners according to their mandate and commitment in the provincial hepatitis response.

- *Guiding principle7: Accountability*

Well-functioning and transparent accountability mechanisms, with strong civil society participation, are vital, given the range of partners and stakeholders needed for an effective viral hepatitis response. Important building blocks include nurturing strong leadership and governance that involves full engagement with all relevant stakeholders, setting clear provincial targets, using appropriate indicators to track progress, and establishing transparent and inclusive assessment and reporting processes at Federal and Provincial levels.

## 3. Partners

- Federal Ministry of Health
- Indus hospital (Private Sector and Industry)
- Aga Khan University and Hospitals (Private Sector and Industry)
- Researchers and Academics
- The Health Foundation (Civil Society Organisation)
- MSF (International Non-Government Organization)
- Nai Zendagi (Non-Governent Organisations)
- Ministry of Information
- Community Based Organizations (CBOs)
- Patient Group Organizations

- Provincial Gastroenterology Societies in Sindh
-
- World Health Organization (WHO)
- Centres for Disease Control and Prevention (CDC)
- United States Agency for International Aid (USAID)

## 4. Goal, impact and coverage targets

The SHAP will extend for 2 years i.e 2020 to 2021. In these 2 years SHAP does not set its own impact targets but it sets its coverage targets to contribute reaching the goal and impact targets of the National Hepatitis Framework 2017-2021 which are aligned with the global goal and targets. The SHAP selects a coverage target against each strategic objective to enable monitoring and measuring changes on the response by 2020 and 2021.

## 5. Strategic objectives and key expected results

Based on the priorities emerging from the situation and response analysis and challenges, four strategic objectives are identified to contribute reaching the national impact targets. The Sindh action plan proposes Key expected results for 2010 and 2021against each strategic objective. The achievement of those outcomes will result in tangible progress towards the National Hepatitis Strategic Framework 2017-2021 impact and coverage targets. Table 1 shows the four strategic objectives and their related key expected results.

All Partners have shared responsibility to achieve SHAP expected results according to their role and their area of work. Greater cooperation and coordination between Partners will help in reaching successfully the SHAP outcomes.

Table 1: Strategic objectives and key expected results

| Strategic objectives | Key excepted results |
|---|---|
| ***Strategic objective 1:*** To strengthen the availability, sharing and utilization of strategic information that will guide the development and implementation of evidence based-informed policies and strategies | - The Provincial Hepatitis Monitoring and Evaluation Health Information System is strengthened to measure key disease burden and service coverage indicators |
| | - Accurate, strategic information is available and accessible to all stakeholders, and used for evidence-informed policy and program planning, and resource allocation |
| ***Strategic objective 2:*** To Strengthen leadership and coordination for the implementation | - Leadership strengthened, and multisectoral coordination mechanism established to ensure a place at the table for all relevant partners and |

| | |
|---|---|
| and monitoring and evaluation of an effective, integrated, multisectoral response to hepatitis | users and to ensure equality in decision making for an effective, integrated, multisectoral response to viral hepatitis in Sindh |
| ***Strategic Objective 3:*** To strengthen the quality and scale up coverage and utilization of hepatitis B and C prevention services | - Increased number of new-borns who have benefited from timely birth dose of hepatitis B vaccine (within 24 hours) |
| | - Increased number of infants (<12 months of age) who received the third dose of hepatitis B vaccine |
| | - Increased number of health-care facilities where all therapeutic injections are given with new, disposable, single-use injection equipment |
| | - Increased number of health facilities providing blood transfusion that meets requirements for sufficient and safe blood transfusion |
| | - Increased number of needles–syringes distributed per person who injects drugs |
| ***Strategic Objective 4:*** To improve the quality and scale up coverage and utilization of the comprehensive Hepatitis B and C testing, diagnostic and treatment services | - Increased number of people living with chronic HBV and HCV infections have continued and easy access to HBV and HCV testing services, in accordance with national & provincial standards and guidelines |
| | - Increased number of people living with chronic HBV and HCV infection have continued and easy access to HBV and HCV treatment services, in accordance with national and provincial standards and guidelines |

## 6. Priority interventions against each strategic objective

The here below priority interventions have been identified to be implemented to reach the selected Strategic Objective. These are the key priority interventions that Ministry of Health and partners should focus on to reach the four strategic objectives. Other Health programs (Blood safety, Infection control, EPI, Harm reduction) as well as partners will implement their own plans to contribute reaching the related strategic objectives.

## Strategic objective 1:

To strengthen the availability, sharing and utilization of strategic information that will guide the development and implementation of evidence based-informed policies and strategies

| | |
|---|---|
| **Priority intervention 1.1** | Establishing and rolling out a Provincial electronic Surveillance and M&E System and Plan |
| **Priority intervention 1.2** | Improving availability, accessibility and use of hepatitis strategic information to inform policy and program planning |

## Strategic objective 2:

To Strengthen leadership and coordination for the implementation and monitoring and evaluation of an effective, integrated, multisectoral response to hepatitis

| | |
|---|---|
| **Priority intervention 2.1** | Increasing Public and political awareness of the public health impact of viral hepatitis and the social, economic and public health benefits of an evidence-based response, in a view to increase commitment, generate resources and to mobilize action. |
| **Priority intervention 2.2** | Establishing a provincial multisectoral coordination mechanism to oversee the provincial hepatitis response |
| **Priority intervention 2.3** | Integrating hepatitis services where appropriate with other public health programs. |
| **Priority intervention 2.4** | Establishing private and public partnership to strengthen the provincial hepatitis response |

## Strategic objective 3:

To strengthen the quality and scale up coverage and utilization of hepatitis B and C prevention services

| | |
|---|---|
| **Priority intervention 3.1** | Ensuring coordination and collaboration with EPI and MNCH to undertake the priority actions to reach the vaccination key result |

| | |
|---|---|
| **Priority intervention 3.2** | Ensuring coordination and collaboration with IPC program to conduct the priority actions to reach the injection safety key result |
| **Priority intervention 3.3** | Ensuring coordination and collaboration with blood safety program to conduct the priority actions to reach the blood safety key result |
| **Priority intervention 3.4** | Ensuring coordination and collaboration with HIV program and Nai Zendagi to conduct the priority actions to reach the harm reduction key result |

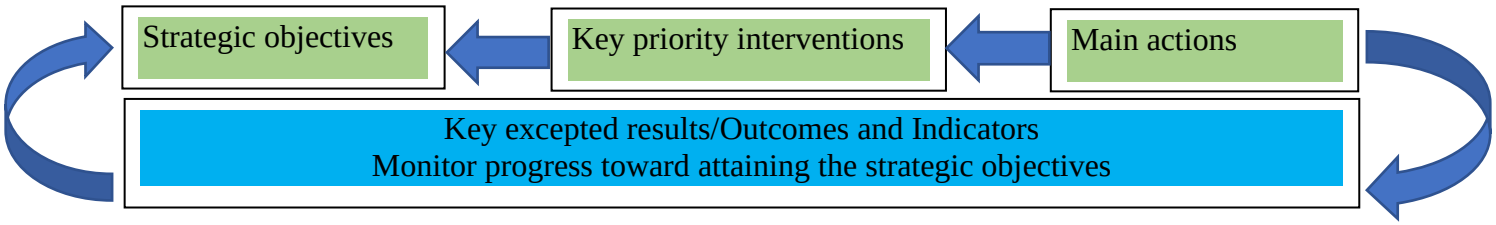
## Strategic objective 4:

To improve the quality and scale up coverage and utilization of the comprehensive Hepatitis B and C screening testing, diagnostic and treatment services

| | |
|---|---|
| **Priority intervention 4.1** | Assessing the comprehensiveness and quality of the existing screening, testing, and treatment Services |
| **Priority intervention 4.2** | Developing and implementing HBV and HCV testing scale up plan for improvement |
| **Priority intervention 4.3** | Developing and implementing HBV and HCV scale up treatment plan for improvement |

## 7. Main actions against each priority interventions

To implement the identified priority interventions Stakeholders selected main priority actions to be taken by the Sindh Hepatitis Control Programme and partners. Measurement of the Key expected results will help monitor progress towards reaching the strategic objectives.



## 7.1. Interventions and actions to reach the Strategic Objective 1:

Hepatitis services and investments need to be strategically targeted to the local epidemic and response. HPCP Sindh and partners should work closely to generate and use timely and reliable data, to make it possible to proactively focus high-impact interventions more precisely and effectively and to reach greater numbers of people in need.

### Priority intervention 1.1: Establishing and rolling out a Provincial Surveillance and M&E System and Plan:

| **Priority actions** |
|---|
| Identify data needs, sources, stakeholders' beholders of data relevant to hepatitis (injection safety, blood safety, community-based services, cancer registries, etc.) and ensure cooperation and harmonization of data |
| Conduct rapid assessment of existing HBV and HCV monitoring and evaluation (M&E) system and practices and develop an M&E plan based on the assessment recommendations. |
| Establish a unified electronic reporting platform and build technical capacity of strategic information focal points (key Government institutions and NGOs) at provincial and sub-provincial levels in strategic information management. |
| Establish a small, adequately staffed and equipped provincial M&E Unit at HCP for overall coordination and implementation of the provincial surveillance and M&E plan. |
| Roll-out of provincial M&E plan. |
| Conduct a participatory Mid-term and final review of the implementation of the provincial action plan. |
| Monitor data quality periodically and address any obstacles that might be hindering in producing high-quality data (i.e., data that are valid, reliable, comprehensive and timely). |

### Priority intervention 1.2: Improving availability, accessibility and use of hepatitis strategic information to inform policy and program planning

**Priority actions:**

| |
|---|
| Produce timely and high-quality routine program monitoring data. |
| Produce timely and high-quality data from surveys and surveillance. |
| Develop and maintain provincial and sub-provincial HBV & HCV databases that enable stakeholders to access relevant data for policy formulation and program management and improvement. |

## 7.2. Interventions and actions to reach the Strategic Objective 2:

The SHAP will be implemented through a multisectoral approach. Civil society, private sector and all stakeholders will be involved in the implementation of provincial hepatitis response. This will require commitment of top leadership, coordination of actors within the health sector and beyond. Communities, and public and private health sectors should be engaged in the response to focus interventions for maximum impact.

The responsibilities of the various stakeholders for the SHAP implementation is clearly defined in the operational plan.

### Priority intervention 2.1: Increasing Public and political awareness of the public health impact of viral hepatitis and the social, economic and public health benefits of an evidence-based response, in a view to increase commitment, generate resources and to mobilize action.

| **Priority actions** |
|---|
| Make policy/advocacy brief and an investment case (hep C calculator/some statistics can be used to make this case) |
| Develop and implement a multisectoral communication strategy to increase public and political awareness |

### Priority intervention 2.2: Establishing a provincial multisectoral coordination mechanism to oversee the provincial hepatitis response

| **Priority actions** |
|---|
| Review and update the ToRs and membership of the steering committee to oversee the provincial hepatitis response |
| Establish a strategic and technical advisory group to coordinate the hepatitis planning, implementation and monitoring progress at provincial level |

Strengthen the Provincial Hepatitis Program to enable it to lead the provincial hepatitis response

### Intervention 2.3: Integrating hepatitis services where appropriate with other public health programs

Viral hepatitis prevention and control should be integrated within the Federal and Provincial Ministries of Health, structures and programs to ensure the long-term viability of hepatitis interventions. Integration of policies and service delivery is required at different levels of the

health system, with the relative contributions and roles of primary health care, referral care and hospital care well defined.

| Priority actions |
| --- |
| Develop and implement a provincial policy for an integrated hepatitis response |
| Advocate and coordinate with government to strengthen the blood safety services |
| Conduct staff training to support program development and delivery of integrated services. |

### Intervention 2.4: Establishing Public-Private Partnership to strengthen the provincial hepatitis response

| Priority actions |
| --- |
| Develop a Public-Private Partnership Regulatory Framework (PPPRF) for hepatitis B&C testing and treatment inclusive of terms of cooperation, standard setting, data sharing and reporting |
| Organize a high-level public and private representative's consensus workshop to endorse the PPPRF |
| Implement the PPPRF and monitor progress. |

## 7.3. Interventions and actions to reach the Strategic Objective 3:

Most of the identified challenges, that are holding back the provincial hepatitis response, are interrelated to the prevention weaknesses and gaps. HPCP Sindh needs to work closely with EPIP, AIDS Programme, IPC Unit/Programme and Blood safety Authority to expedite implementation of their interventions most efficiently and to mainstream hepatitis prevention, diagnosis and linkage to care in order to achieve greatest impact.

### Intervention 3.1: Ensuring coordination and collaboration with EPI and MNCH to conduct the priority actions to reach the vaccination key result

| Priority actions |
| --- |
| Advocate the decision makers to prioritize and allocate resources for hepatitis B birth-dose vaccination. |
| Raise awareness among the general public on the importance of hepatitis B birth-dose vaccination. |
| Establish a coordination mechanism between HCP, MNCH and EPI to implement the hepatitis B birth-dose vaccination in Sindh. |
| Develop and implement the reporting, monitoring and evaluation activities. |

## Intervention 3.2: Ensuring coordination and collaboration with Provincial IPC Unit to conduct the priority actions to reach the Injection Safety key result

| Priority actions |
|---|
| Advocate the decision makers to prioritize and allocate resources for the implementation of the Provincial IPC Action Plan (2019-2021). |
| Establish/strengthen a coordination mechanism between HCP, IPC and Blood Safety authority to monitor progress against reaching the injection safety and blood safety expected results |
| Develop and implement the reporting, monitoring and evaluation activities. |

## Intervention 3.3: Ensuring coordination and collaboration with blood safety program to undertake priority actions to reach the blood safety key result

| Priority actions |
|---|
| Advocate the decision makers to establish and implement provincial policies and practices on blood safety based on WHO guidance |
| Advocate and coordinate with government to strengthen the Blood Safety services |
| Conduct annual awareness-raising campaigns among the general public to promote voluntary non-remunerated blood donations |
| Develop and implement the reporting, monitoring and evaluation activities |

## Intervention 3.4: Ensuring coordination and collaboration with HIV program to conduct the priority actions to reach the harm reduction key result

| Priority actions |
|---|
| Strengthen and expand existing harm reduction services through capacity building on viral hepatitis, provision of hepatitis test kits |
| Establish partnership with NGOs delivering harm reduction services to enable the appropriate linkages to diagnose and treat PWID who are infected with viral hepatitis |
| Advocate for and work on the introduction of opiate substitution therapy for PWID as an additional essential harm reduction intervention that can prevent transmission of viral hepatitis |
| Develop and implement the reporting, monitoring and evaluation activities |

## 7.4. Interventions and actions to reach the Strategic Objective 4:

Early diagnosis of hepatitis infection is critical for effective treatment and care. Effective antiviral agents against viral hepatitis B and C have the potential to dramatically reduce morbidity and mortality. HPCP Sindh will need to asses the testing and treatment and testing services and interventions to identify gaps and challenges and to urgently overcome these gaps to improve the testing and treatment coverage.

### Intervention 4.1: Assessing the comprehensiveness and quality of the existing testing, diagnostic and treatment Services

| Priority actions |
|---|
| Undertake the hepatitis B & C testing and treatment cascade analysis |
| Develop a hepatitis testing policy based on the findings of hepatitis B and C testing and treatment cascade analysis |
| Revise and update the national standards, protocols and guidelines for HBV and HCV testing based on the findings of hepatitis B and C testing and treatment cascade analysis |
| Revise and update the national standards, protocols and guidelines for HBV and HCV treatment based on the findings of hepatitis B and C testing and treatment cascade analysis |

### Intervention 4.2: Developing and implementing an HBV and HCV testing and treatment scale up plans for improvement

| Priority actions |
|---|
| Develop an HBV and HCV testing scale up plan based on the findings of the cascade analysis |
| Implement the HBV and HCV testing scale up plan |
| Monitor progress on the implementation of the HBV and HCV testing scale up plan |
| Develop an HBV and HCV treatment scale up plan based on the findings of the cascade analysis |
| Implement the HBV and HCV treatment scale up plan |
| Monitor progress on the implementation of the HBV and HCV treatment scale up plan |

# Part 3: Implementation

**Part 3 is describing tools and mechanisms that are vital for a successful implementation of the SHAP**

## Development of the costed operational plan

The SHAP is translated into the Operational Plan (Annex 1).

The operational plan (OP) is a transparent accountability mechanism, and it is vital for the implementation of the Action Plan, given the range of partners and stakeholders they will be needed for an effective implementation of the SHAP. The OP describes the activities against each priority action identified by the action plan, defines responsibilities of the HPCP Sindh, its partners and stakeholders and set the timeline and the yearly targets.

Costing the OP helps to define budget for tailored packages of interventions and actions and activities. The costed OP will help allocating resources across the different levels of the health system and identify potential and reliable sources of funding.

The costed Operational plan will also help to estimate resource needs and to develop a scenario to fill any resources gap through raising new funds and allocating adequate health resources to hepatitis.

# 3. Financing for sustainability

The ministry of health through the national health financing system should mobilize funding and minimize the financial burden for individuals.

# 4. Partnership and linkages across different health programmes

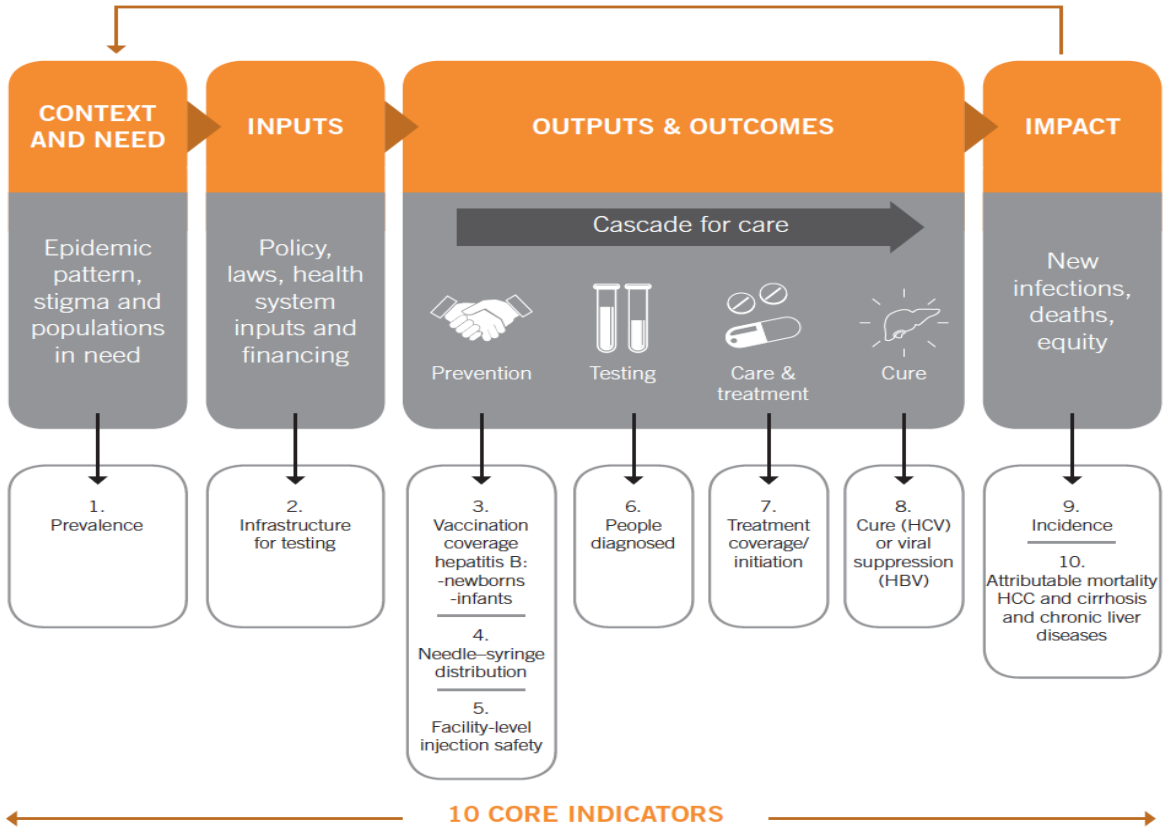
Partnerships and linkages across different health programmes are vital for the implementation of the SHAP. Given the range of partners and stakeholders needed for an effective viral hepatitis response the SHAP selected Public-Private partnership as well as integration and linkages as the mains priority interventions to be urgently implemented to ensure rapid scale up of prevention, testing and treatment activities.

# 5. Monitoring and Evaluation of the hepatitis response

Progress in implementing the response to viral hepatitis should be assessed at Provincial and District levels with indicators on availability, coverage outcome and impact. The SHAP has adopted the WHO global framework for monitoring and evaluation of the response to viral hepatitis. The global framework emphasizes 10 core indicators to monitor progress towards the achievement of the targets set out in the plans. In addition, 27 indicators are proposed. Of these, 10 indicators are specific to viral hepatitis and 17 have been used in the past by other programs,

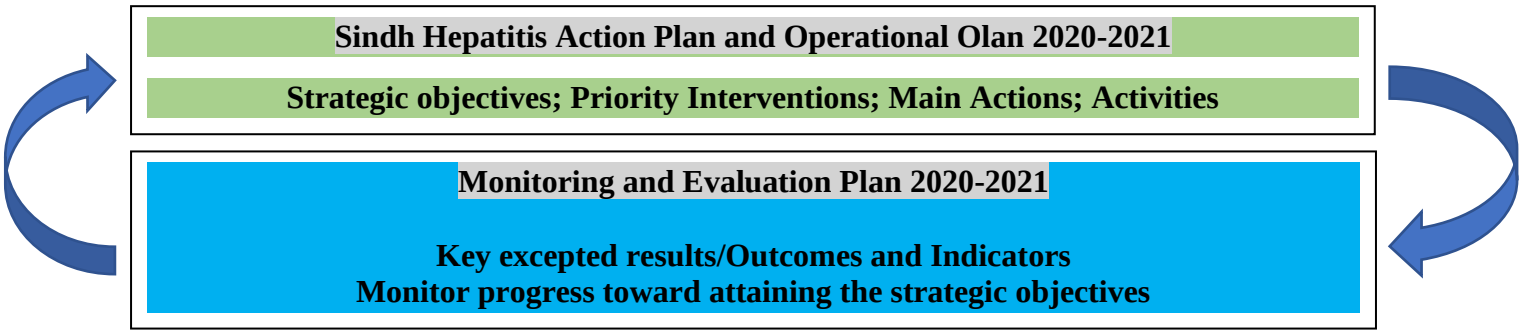
including HIV/sexually transmitted infection (STI), immunization, blood safety, injection safety and infection control, harm reduction and non-communicable diseases, cancer.

FIGURE 4: Monitoring and evaluation framework: minimum set of 10 core indicators to monitor and evaluate the health sector response to viral hepatitis B and C along the result chain in countries




The HPCP Sindh takes the leadership to involve all relevant stakeholders for setting clear targets, using appropriate indicators to track progress, and establishing transparent and inclusive assessment and reporting processes.

A Monitoring and Evaluation Results Framework will be developed (annexe 2) and will be the basis for the development of the provincial monitoring and Evaluation Plan.



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