

Scaling-up hepatitis B testing and treatment and adapting response during COVID-19: Experience of the demonstration pilot in Central Luzon Region, Philippines

Eugene Arbis^{1,*}, Maria Nerissa Dominguez¹, Jose Eduardo Chua¹, Rajendra Prasad Hubraj Yadav², Joseph Michael Manlutac³, Po-lin Chan⁴

¹ World Health Organization Philippines Country Office, Manila, Philippines

² World Health Organization Regional Office for the Western Pacific, Manila, Philippines;

³ Department of Health Central Luzon Center for Health Development; Angeles University Foundation Graduate School of Public Health, Pampanga, Philippines;

⁴ World Health Organization South East Asia Regional Office, New Delhi, India.

Abstract: This study aimed to describe the experience of scaling up hepatitis B virus (HBV) testing and treatment services during the COVID-19 pandemic in Central Luzon, Philippines. In 2019, service delivery networks (SDN) were established across all health system levels, linking tertiary and secondary care to primary units. Routine screening began at primary healthcare facilities, increasing HBV case detection. Community outreach improved public screening. However, the pandemic severely disrupted services, leading to the implementation of telephone hotlines and courier services for chronic treatment support. A pilot project review from August 2019 to September 2020 revealed that over 50,000 individuals were screened, with over a thousand testing positive for HBV. Thirteen percent of positive cases were eligible and enrolled for treatment. The pilot demonstrated successful scaling of HBV testing and treatment and the ability to adapt service delivery during the pandemic.

Keywords: HBV, service delivery network, COVID-19

Introduction

Hepatitis B, caused by the hepatitis B virus (HBV), can result in acute or chronic illness, with chronic cases leading to liver cirrhosis or cancer (1). In the Philippines, the prevalence of Chronic Hepatitis B (CHB) is approximately 9.6%, affecting around 10 million individuals (2). From 2013 to 2017, 14,082 confirmed cases were reported, with 1,163 cases in Central Luzon, Philippines from 2015 to 2018 (3).

The urgency to control Hepatitis B is underscored by its high prevalence and alignment with the United Nations' Sustainable Development Goals (SDGs). Goal 3, Target 3.3 aims to end epidemics, including viral hepatitis, by 2030. In response, the Philippines initiated a National Viral Hepatitis Task Force in 2013, collaborating with the World Health Organization and endorsing the Regional Action Plan for Viral Hepatitis in 2015 (4).

In 2017, the Department of Health institutionalized a policy to control viral hepatitis, prioritizing access to effective treatment. The Department Memorandum Number 2019-0062 released in 2019 outlined the

"Integration of Chronic Hepatitis B Management in Selected Health Facilities in National Capital Region and Central Luzon: Demonstration Project", serving as an evaluation summary for the Hepatitis B Demonstration Project in Central Luzon (Figure 1).

Implementation

The World Health Organization Philippines supported a community-based, people centered delivery of Hepatitis B services to 2 local government units (LGU) of Central Luzon. The objectives of the Project were to *i*) to document acceptability of Hepatitis B service delivery and referral model including packages of services, recording and reporting system and monitoring of cascade of services; *ii*) to establish baseline information on cascade of care (screening, treatment eligibility, treatment coverage) for Chronic Hepatitis B infection; and *iii*) to evaluate the Hepatitis B Service Delivery and Referral model for planning on sustainability and implementation expansion. The Project consisted of two phases, pre-implementation phase and implementation phase. Training materials were also developed and

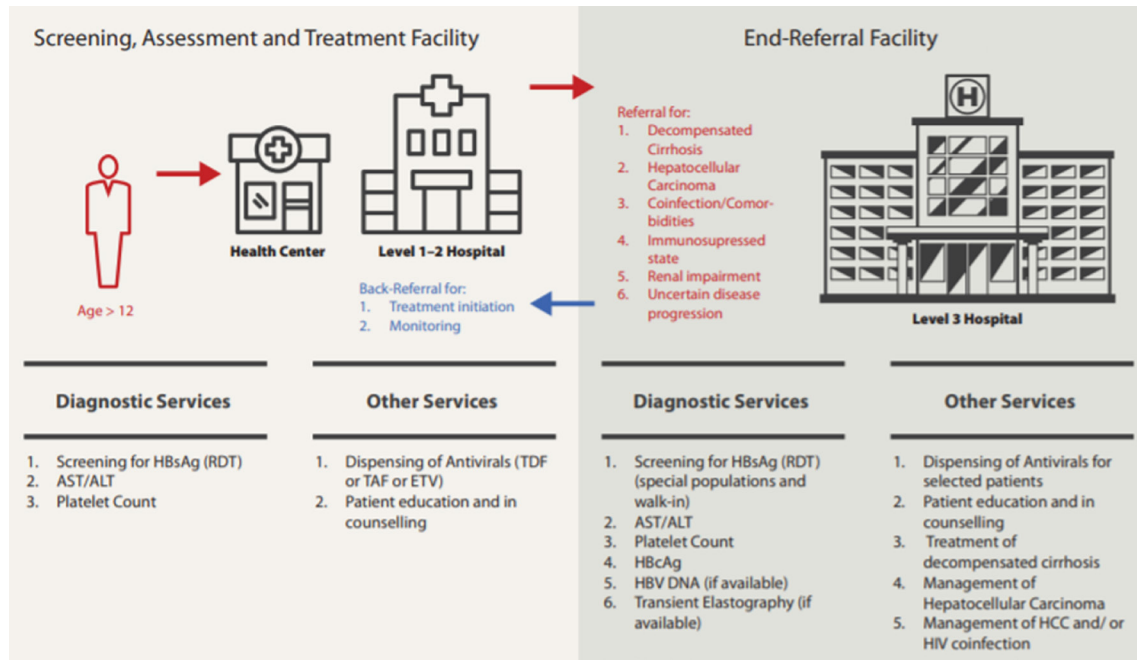


Figure 1. Hepatitis B Service Delivery Model in Central Luzon, Philippines.

reproduced soft copies distributed for each service facility and incorporated were the Information, Education and Communication (IEC) materials.

Pre-implementation phase

In the pre-implementation phase, rapid assessment of the present capacity in terms of facility readiness like the laboratory, human resources, patient flow, available IEC materials, recording and reporting platforms and existing referral network. The following programs that contribute to finding the missing millions in the country were also reviewed informally and these are Prevention of Mother-to-Child Transmission services of the Safe Motherhood Program, National Voluntary Blood Donation Program, HIV, STI Program, Infection prevention and control practices in hospitals and rural health units including those with birthing facilities.

Implementation phase

The implementation of the program initially began in the province of Bataan and Angeles City, Pampanga in August 2019. In December 2019 the Project was expanded to include DOH Hospitals in Talavera and Cabanatuan City, which are both located in the Province of Nueva Ecija.

The interim guidelines on Hep B diagnosis and treatment provides the specifics of a technical guide on diagnosis, treatment and management. It also included monitoring guidelines for those HBV positive on treatment and of those not eligible for treatment. Cirrhosis and hepatocellular carcinoma are included in

the monitoring of hepatitis B progression.

Both Screening, Assessment and Treatment Facilities (SATF) and End Referral Facilities (ERF) provides testing and treatment. However, assessment for eligibility for treatment are not always present in every SATF, hence the service delivery network (SDN) addresses the completion of the full cascade of services except for the HBV DNA test.

ERF is level 3 referral facility provides the full cascade of services plus other tests to diagnose cirrhosis and hepatocellular carcinoma and management of complicated and or decompensated Chronic Hepatitis B.

Initiation of treatment by the physician in SATF or ERF and refill of monthly medicines was done initially during the first few months until patient is considered stable with treatment and a quarterly refill was done. With the announcement of COVID-19 pandemic, treatment follow-up became erratic and monitoring of treatment response was not regularly done. Those Hepatitis B patients not on treatment were lost to follow-up and will need to be tracked in the community. However, the COVID-19 situation in Central Luzon limits the health workers to work on regular programs and the patients are as well not confident to make a follow-up monitoring of their Hep B status especially so that they are not symptomatic.

Key findings

From August 2019 to September 2020, the demonstration sits in Central Luzon reported 36,300 clients who were screened for HBsAg, of these, 1,252 were positive. Seventy-seven percent (969/1,252) were registered in the masterlist for further assessment (Figure 2). Out of these

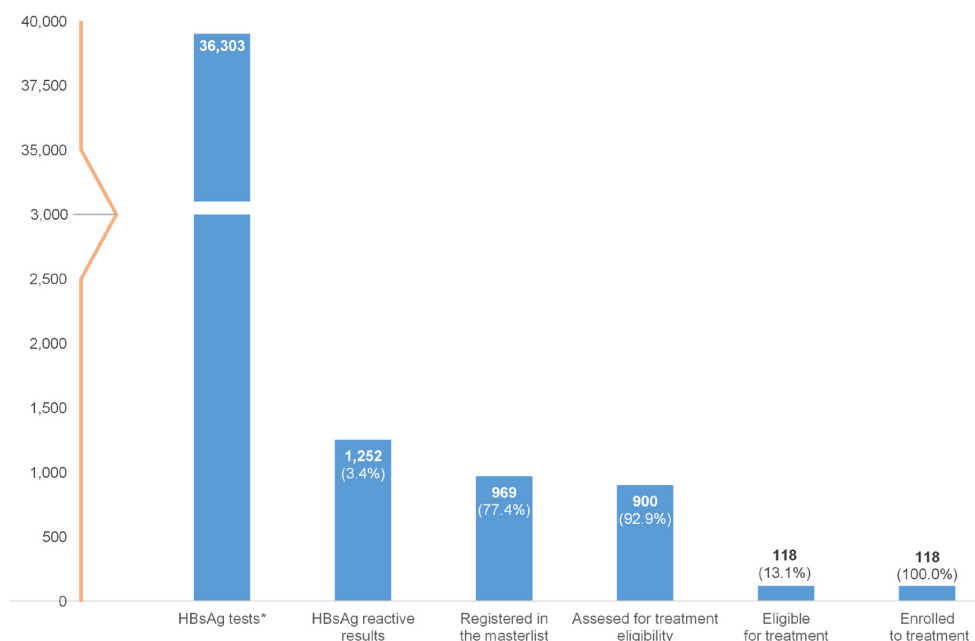


Figure 2. Hepatitis B cascade of services in Demonstration Sites in Central Luzon, August 2019 to September 2020. *Note:* *HBsAg tests were aggregate counts and was not case-based. Double reporting may be possible if one person got tested in multiple laboratories or at multiple times during the reporting period. Counts reported do not represent the final number and subject to change after the inclusion of late reports and review of cases.

969 patients, 900 (93%) were assessed for eligibility for treatment and 118 (13%) were found to be eligible for treatment. Thirteen percent (118) of the clients who were assessed were eligible for treatment. All of whom were initiated with Tenofovir-based antiviral treatment. Among those who were enrolled in treatment, 64% were on treatment, 32% were lost to follow-up and 4% were reported dead. All 118 (100%) eligible were enrolled and initiated on treatment. The remaining 782 patients who were assessed for treatment but were not found to be eligible for treatment need to be monitored further. Also, the 96 positive patients who were not assessed need to be traced and assessed for treatment.

In 2020, the COVID-19 pandemic has had a major impact on the continuity of delivery of essential health services including Hepatitis B. While the health services are being challenged because of COVID-19, Hepatitis B services were continuously provided by SATF and ERF. This demonstration project has provided important insights in terms of the acceptability of a Hepatitis B service delivery model in the Philippines. While a nationwide implementation is highly encouraged, several recommendations are also made to improve the program:

i) Streamlining the monitoring and evaluation through integration of the viral hepatitis module in the existing One HIV/AIDS and STI Information System (OHASIS) which has a data validation, deduplication, and data presentation mechanisms. A strong disease surveillance system is necessary to provide data on incidence and prevalence of HBV and HCV so that policy makers can implement effective primary prevention, screening and treatment strategies. It is also recommended to include

monitoring indicators for disease progression for those not eligible for treatment and monitoring indicators for treatment response for those undergoing treatment.

ii) Increase access points nation-wide through a phased implementation model such as sustaining the expansion to all DOH Hospitals, established HIV treatment facilities and those health facilities ready as SATF and ERF.

iii) A platform for the capacity-building of the healthcare providers should also be ready and should consider the inclusion in the DOH Academy. Due to the covid-19 pandemic, face to face training is unlikely to be held soon. It is recommended that training modules on management of hepatitis B and programmatic topics such as monitoring, and reporting be developed and delivered *via* online training platforms. This may be developed in coordination with the Health Human Resources Development Bureau (HHRDB), the Hepatology Society of the Philippines (HSP) and WHO.

iv) Intensify awareness campaign on the prevention of transmission of hepatitis, and the importance of access to hepatitis testing and availability of deleted treatment and other services for those who test reactive.

In conclusion, the Hepatitis B pilot project demonstrated a model for scaling up HBV testing and treatment services within the context of the Philippines' healthcare system. By established SDN linking tertiary, secondary, and primary care units, the project successfully increased routine HBV screening and detection. This project highlighted the acceptability of a Hepatitis B service delivery model for the Philippines and recommended integrating the hepatitis into the

existing health information system for streamlined monitoring and evaluation, expanding access points nationwide, developing online training modules for health service providers, and intensifying awareness campaigns on hepatitis prevention and treatment.

Acknowledgements

The authors acknowledge the contributions of the following individuals: Dr. Jose Gerard Belimac, Department of Health Philippines; Ms. Ma. Justina Zapanta, Department of Health Philippines; Dr. Rosanna A. Manalo-Bucchan, Bataan Provincial Health Office; and Mr. Jan Khrysner Velayo.

Funding: None.

Conflict of Interest: The authors have no conflicts of interest to disclose.

References

1. World Health Organization Western Pacific Regional Office (WHO-WPRO). Regional action plan for viral hepatitis in the Western Pacific 2016-2020 : A priority action plan for awareness, surveillance, prevention and treatment of viral hepatitis in the Western Pacific Region. <https://www.who.int/publications/i/item/9789290617617> (accessed November 17, 2023).
2. Ong J, Lam H. Ending the silent epidemic of chronic hepatitis in the Philippines: Establishing the burden of hepatitis in the Philippines. University of the Philippines Manila, 2018.
3. Department of Health (DOH). Department Memorandum Number 2019-0062: Integration of Chronic Hepatitis B Management in Selected Health Facilities in National Capital Region and Central Luzon: Demonstration Project. 2019.
4. Hepatology Society of the Philippines. Prevention and control of hepatitis B and hepatitis C in the Philippines: A call to action (National viral hepatitis task force). https://hsp.org.ph/wp-content/uploads/2021/05/Roadmap_NVHTF.pdf (accessed November 17, 2023).

Received February 4, 2024; Revised June 30, 2024; Accepted July 16, 2024.

Released online in J-STAGE as advance publication August 19, 2024.

**Address correspondence to:*

Eugene Arbis, World Health Organization Philippines Country Office, Ground Floor, Building 3, Department of Health San Lazaro Compound, Rizal Avenue, Sta. Cruz, Manila 2932, Philippines.
E-mail: arbise@who.int