

Introduction of post-vaccination serologic testing for babies born to HBsAg+ mothers in Hong Kong

Chin Man POON¹, Angel Sau Yin NG¹, Patrick Shing Kan CHONG², Vivien Wai Man TSUI³, Jeffrey Cing Hon LAI³, Bonnie Chun Kwan WONG^{1,4}, Ka Hing WONG^{1,4}

¹ Viral Hepatitis Control Office, Department of Health, Hong Kong SAR, China

² Family Health Service, Department of Health, Hong Kong SAR, China

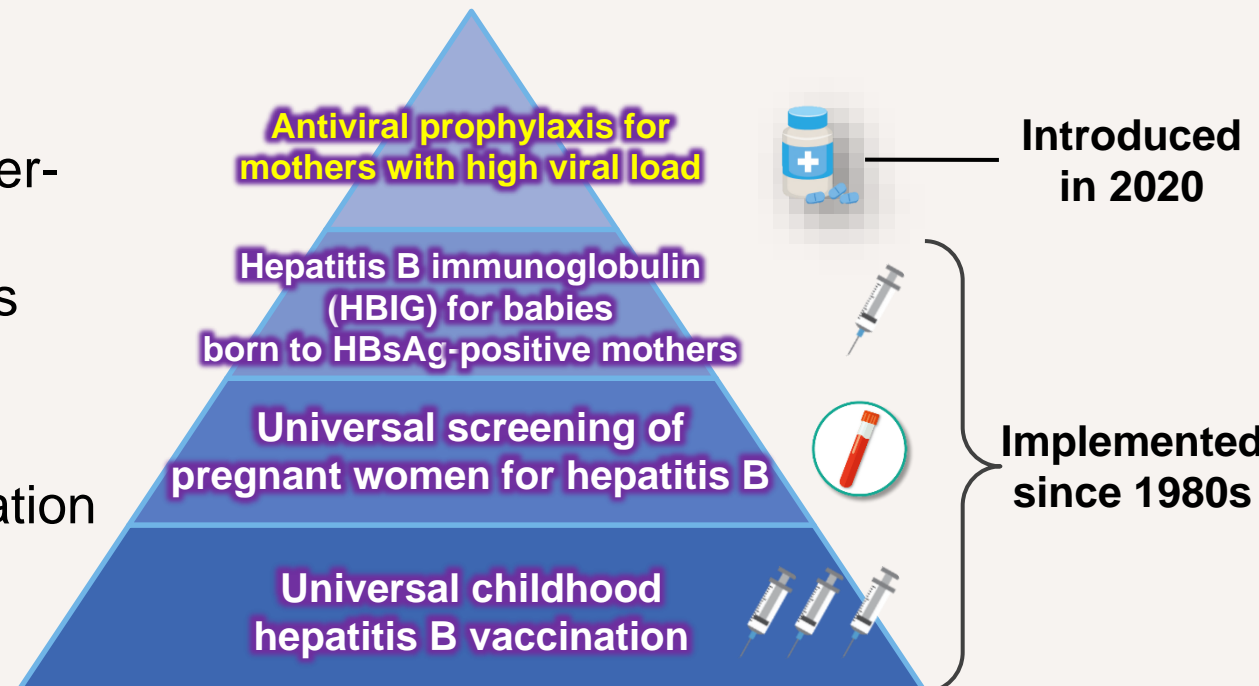
³ Hospital Authority, Hong Kong SAR, China

⁴ Special Preventive Programme, Department of Health, Hong Kong SAR, China



Background

- In addition to a series of interventions for preventing mother-to-child transmission (MTCT) of hepatitis B virus (HBV) in Hong Kong, post-vaccination serologic testing (PVST) was introduced in 2022 for babies born to HBsAg+ mothers
- To identify babies with immunoprophylaxis failure or inadequate immune response after hepatitis B vaccination
- To provide systematic information for evaluating the effectiveness of the overall MTCT prevention strategy



Objectives

- To review an initiative of conducting PVST for babies born to HBsAg+ mothers to augment prevention of MTCT of HBV in Hong Kong.

Methods

- The policy initiative was established by the Steering Committee on Prevention and Control of Viral Hepatitis in April 2019, followed with formulating the implementation plan with stakeholders and providing professional training to related healthcare workers.
- The PVST consists of blood tests on both hepatitis B surface antigen (HBsAg) and surface antibody (anti-HBs) at the age of 9-12 months after the primary 3-dose course of hepatitis B vaccination, or arranged 1-2 months after the final dose if the vaccination series was delayed.
- Service statistics were monitored for review of the initiative.

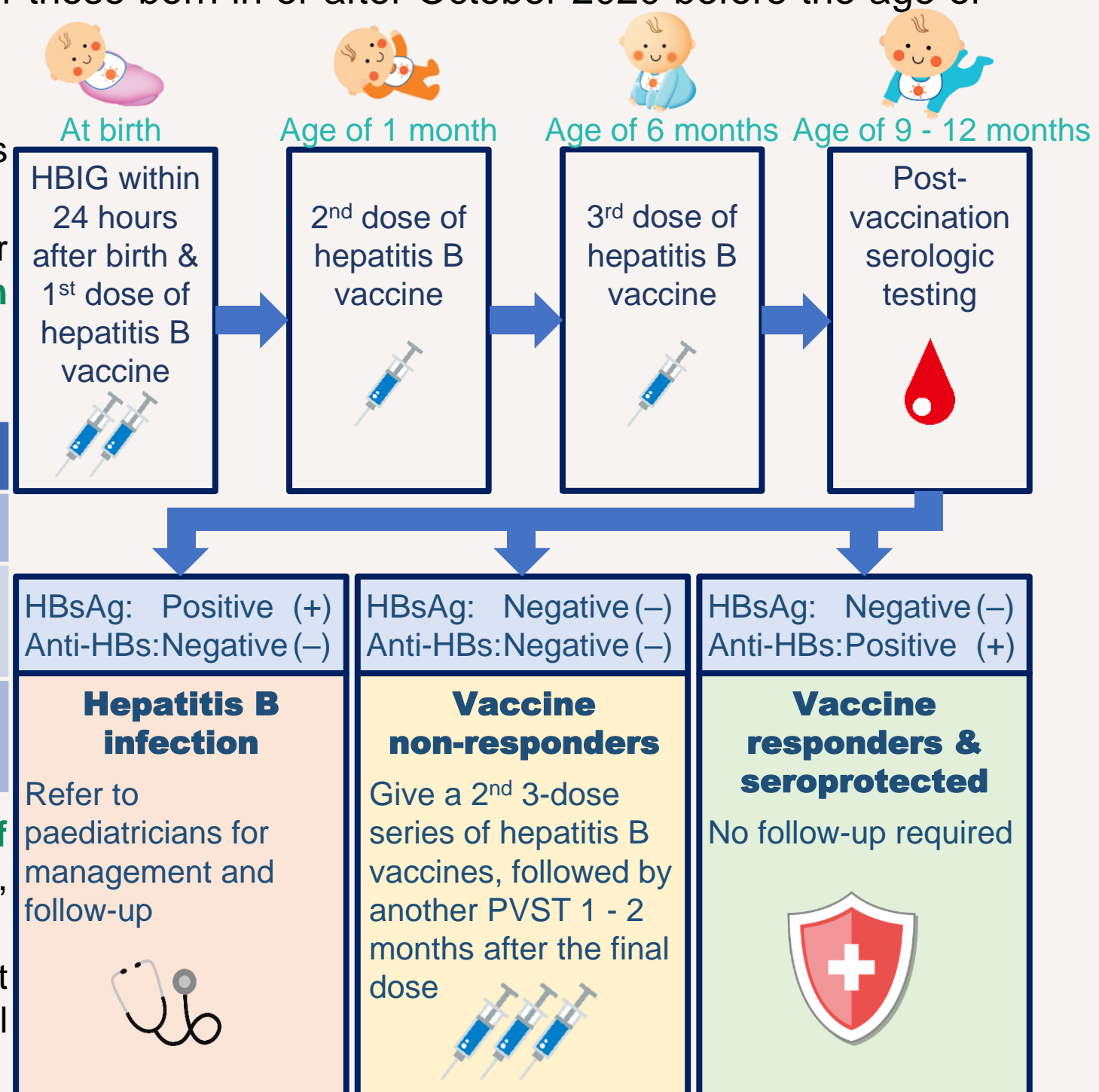
Results/ Outcomes

- With effect from January 2022, Maternal and Child Health Centres (MCHC) arranged PVST for babies born to HBsAg+ mothers in or after April 2021.
- From June 2022, mop-up PVST was arranged for those born in or after October 2020 before the age of 24 months.
- Key statistics as of 30 September 2023

- 1798 babies received PVST after primary series of hepatitis B vaccination
- Out of the babies attending MCHC eligible for PVST, 76.6% and 88.4% accepted participation in the programme in 2022 and 2023 respectively
- Results from PVST:

	Number (%)
Positive for anti-HBs (sero-protected)	1705 (94.8%)
Negative for anti-HBs and HBsAg (require 2 nd series of vaccination)	86 (4.8%)
Positive for HBsAg (require referral to paediatrician)	7 (0.4%)

- 48 babies, who completed the 2nd course of hepatitis B vaccination with another PVST done, were all found to be sero-protected.
- Review of the first six infected babies showed that none of their mothers received maternal antiviral prophylaxis.



Conclusion/ Lessons Learnt

- The PVST programme was successfully rolled out in Hong Kong.
- Its implementation is crucial to ensuring seroprotection from hepatitis B vaccination, as well as identifying the infected for appropriate medical care, among babies at risk of HBV infection.
- Further effort in improving the enrolment of PVST would enhance the coverage of the programme.

Conflict of Interest Statement

There are no conflicts of interest to declare.

Contact Information

Dr. Bonnie Chun Kwan WONG
bonnie_ck_wong@dh.gov.hk