Assessing Post-Vaccination Serological Testing (PVST) completion rates of infants born to hepatitis B-infected mothers

Dishajoyti Nath B.S., Essi M. Havor MSN, RN

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BACKGROUND

Hepatitis B virus (HBV) is a serious blood-borne viral infection and can lead to premature death from hepatocellular carcinoma. [1] A chronically infected patient remains a host for HBV transmission. Pregnant women with chronic HBV pose a serious threat to their infants; hence, post-exposure immunoprophylaxis is necessary. In accordance to the Center of Disease Control (CDC) recommendations, infants born to HBV infected women should complete PVST between 9-18 months of age [2] Post-Vaccination Serological Testing (PVST) is also recommended to test an infant's immune response to the HBV vaccinations. The Perinatal Hepatitis B Prevention Program (PBHPP) aims to prevent transmission of HBV from infected mothers to babies born in the United States. Although, the majority of cases can be traced to the Western Pacific and African regions [3], there is limited knowledge on factors that affect PVST completion among cases managed by the Houston Health Department (HHD). This project aims to assess the PVST completion rates among infants born between January 1, 2015 to December 31, 2015 to HBV-positive mothers managed by HHD.

OBJECTIVES

To understand the demographic characteristics of Hepatitis-B infected mothers residing in Houston and Harris County who have been case managed by the PBHPP. The findings of this project will enhance the case-management strategies employed by the HHD to prevent the transmission of mother-to-child Hepatitis B.

METHODS

Infants born in 2015 to hepatitis B-infected women living in Houston/Harris County, and case-managed by Houston PHBPP were exported from the HHD surveillance system. Maternal race/ethnicity was analyzed for infants who were immune to understand if it influenced PVST completion.
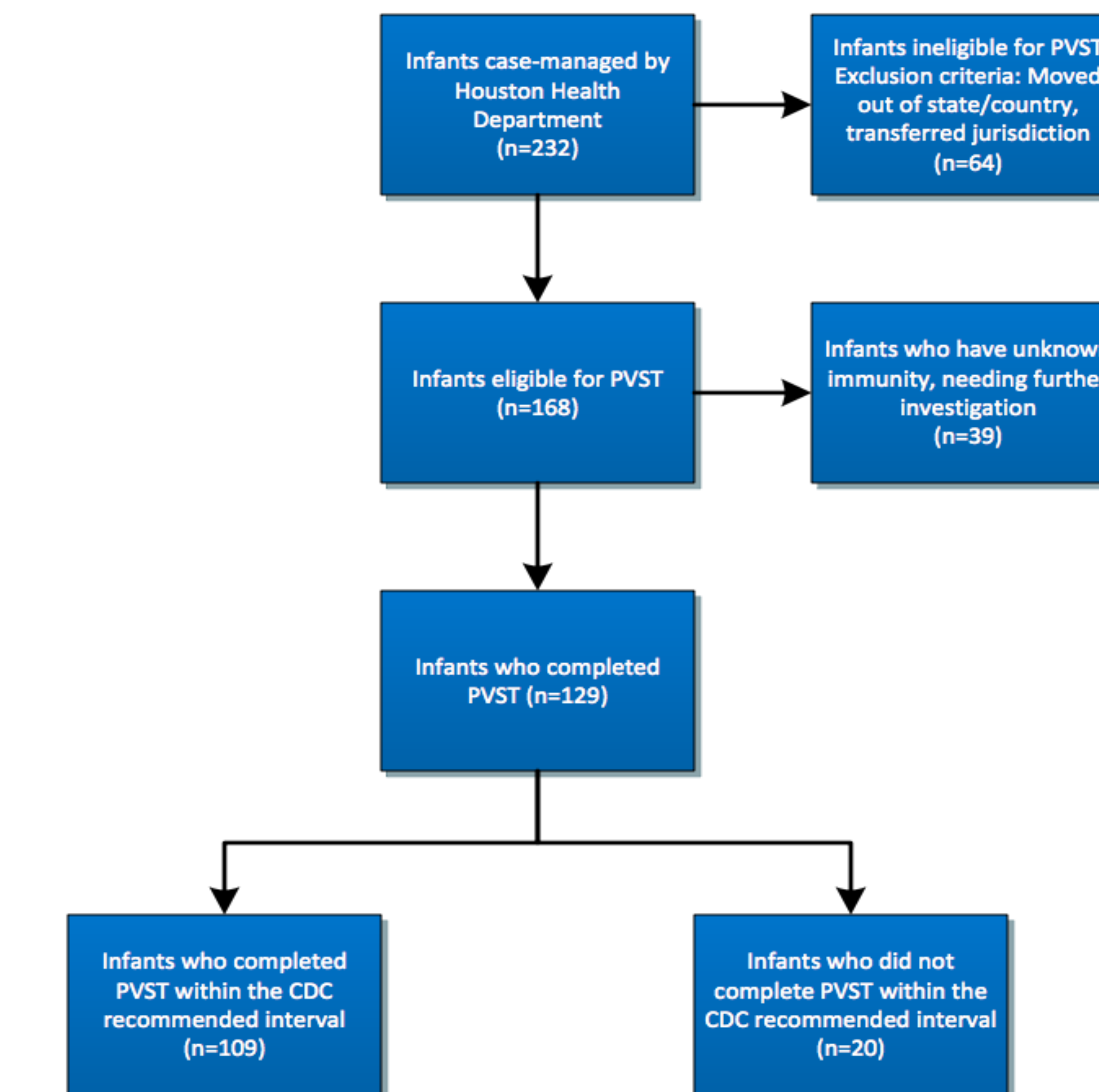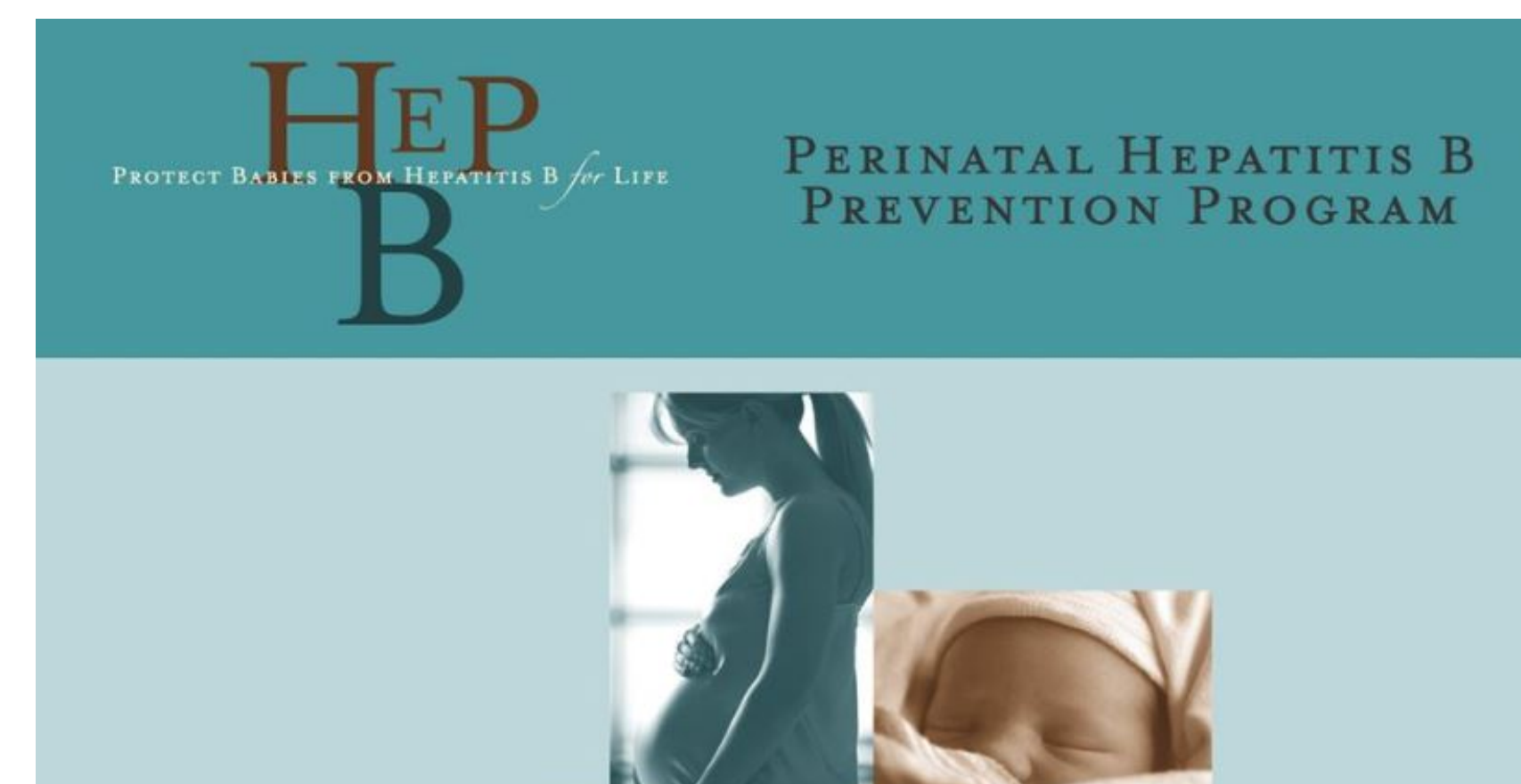

Figure 1. Inclusion and exclusion flow chart of infants who were case-managed
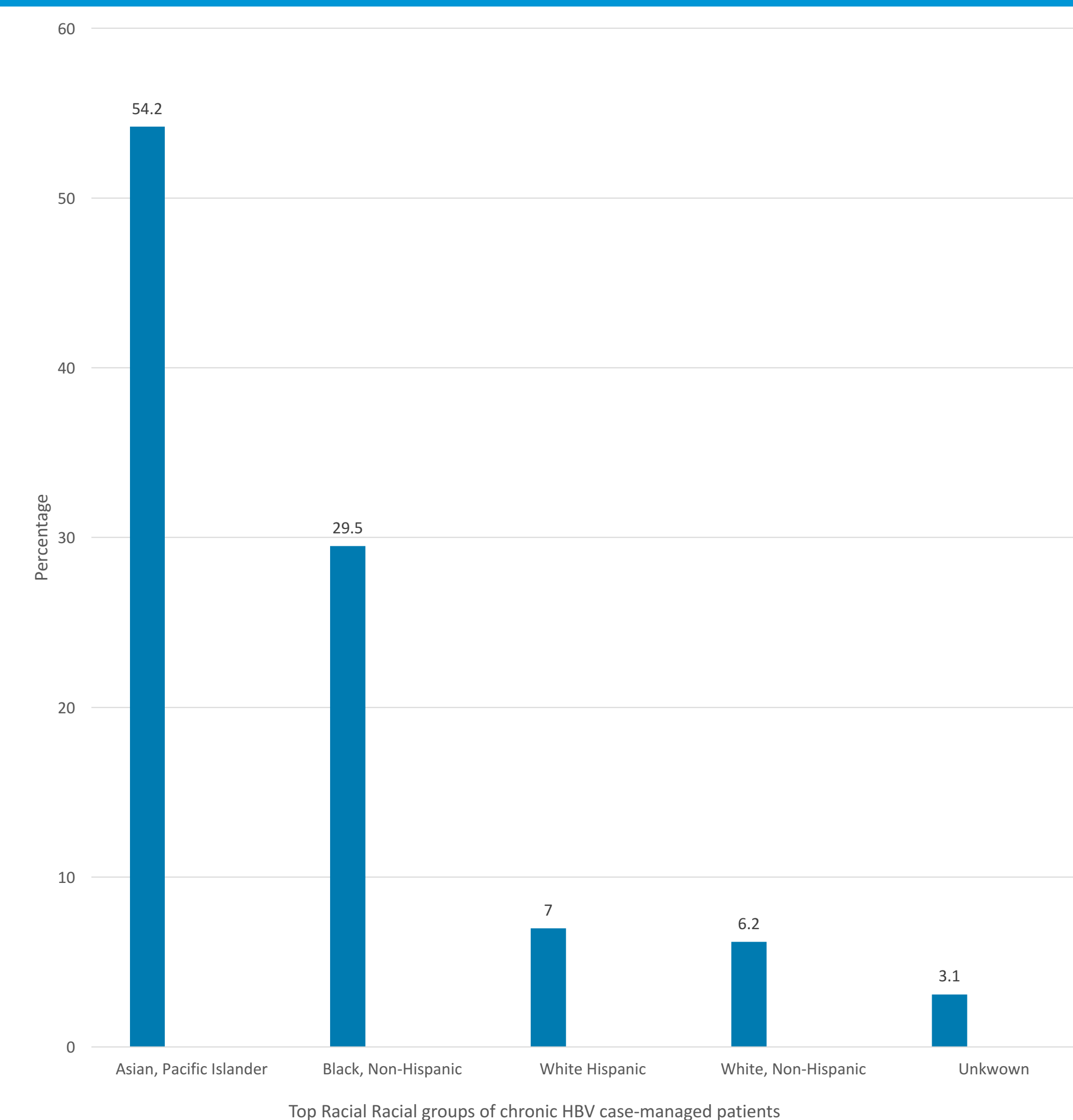
RESULTS

Figure 2. Ethnic breakdown of patients who completed PVST within the recommended guideline

After analysis of the 232 infants case-managed by the program, 64 infants were excluded. Of the 168 infants eligible for PVST, 76% (n=129) have completed PVST; 84.5% (n=109) infants completed PVST within the recommended interval and 15.5% (n=20) completed PVST after 18 months of age. 54.2% (n=70) are Asian/Pacific Islander (API), 29.5% (n=38) are Black Non-Hispanic, 7% (n=9) are White Hispanic, 6.2% (n=8) are White non-Hispanic, and 3.1% (n=4) are of unknown ethnicity. Of the 39 eligible infants who did not complete PVST, 38% (n=15) are API, 33% (n=13) are Black non-Hispanic, 15% (n=6) are White Hispanic, 8% (n=3) are White non-Hispanic, and 5% (n=2) are of unknown race/ethnicity.

CONCLUSIONS

Though the Houston PHBPP PVST completion rates are improving, targeted interventions are needed to focus on increasing the PVST completion rates amongst the API and Black, non-Hispanic groups. Further analysis will be conducted on the 39 infants who have unknown immunity, to fully understand the Houston PHBPP program practices and the factors that affect PVST completion among different racial and ethnic groups. The HHD will continue to work on improving their case-management services and increasing the PVST completion rate among infants, who are at risk.

REFERENCES

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CONTACT INFO

Dishajoyti Nath
E-mail: dishanath@gwu.edu
(832) 865-5484
Essi Havor
E-mail:essi.havor@houstontx.gov
(832)393-4649

HOUSTON HEALTH DEPARTMENT

THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC