**Improving Timeliness of Hepatitis B Immunization in the Neonatal Intensive Care Unit: A Quality Improvement Initiative**

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**Background:** The American Academy of Pediatrics (AAP) recommends administering the hepatitis B (Hep B) vaccine to all stable newborns >2000 g within 24 hours of birth. Baseline data obtained from January 2023 to April 2023 showed that only 32% of eligible infants in our single center level IV NICU received Hepatitis B vaccination within the first 24 hours of life. In addition, only 48% of our admitted infants > 2000g had accurate assessment of hepatitis B administration recommendations.

**Objective:** Our primary SMART AIM was to improve Hep B vaccination within 24 hours of birth in eligible patients in our institution by 20% from our baseline of 32%. The secondary SMART AIM was to improve the accuracy of the admission hepatitis B eligibility by 20% from our baseline of 48%.

**Methods:** Using the Model for Improvement process of Plan, Do, Study, Act (PDSA), a quality improvement (QI) initiative was implemented to increase the timeliness of Hep B vaccination rates among eligible infants > 2000 g. Key drivers and barriers to success were identified as provider awareness of AAP recommendations, inconsistent assessment of patient eligibility for immunization, provider failure to order Hep B immunization on admission, nursing hesitancy to administer Hep B immunization within the first 24 hours, and immunization hesitancy from parents. Five interventions were introduced to address vaccination barriers: (1) Hep B immunization protocol printouts, (2) weekly emails reminding provider teams of Hepatitis B eligible infants, (3) implementing reminders on the electronic chart to appropriately identify medically stable neonates, (4) order set reminders and (5) handouts with information regarding Hepatitis B Immunization when consenting parents.

**Results:** The project consisted of 2 PDSA cycles with an inter-cycle period in which in-depth analysis and planning were completed. The 2 PDSA cycles were implemented between the dates of May 2023 to June 2023 and September 2023 to November 2023 (Fig 1). The rate of on-time immunizations rose from 32% to 58%. Additionally, the average rate of accurate assessment rose from 48% to 82% (Fig 2).

**Conclusion:** The rate of timely immunizations improved in our level IV NICU due to our project improvement implementations. The drivers for timely vaccine administration were multifaceted and had several unique stakeholders that included families, nursing, residents, fellows and attending physicians. Our project addressed several challenges including changes in cultural practices, misconceptions, and workflows. There were areas of opportunities the project was not able to complete such as prenatal counseling, consent workflow, and addressing vaccine hesitancy. Future projects can be initiated to further improve the rates of newborn hepatitis B administration at birth. Our project's outlined strategies may help other centers with low Hep B immunization rates and educate providers in identifying eligible neonates.

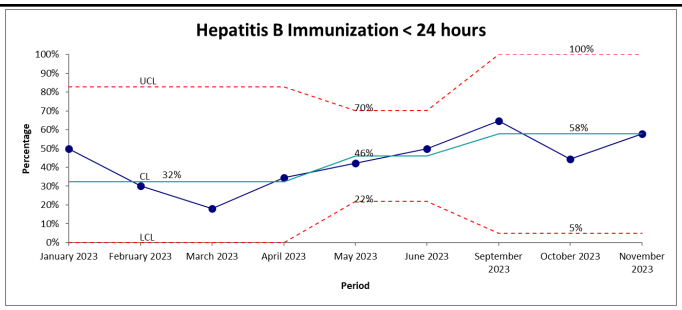


**Fig 1. Percent of eligible infants receiving hepatitis B within 24 hours of life**

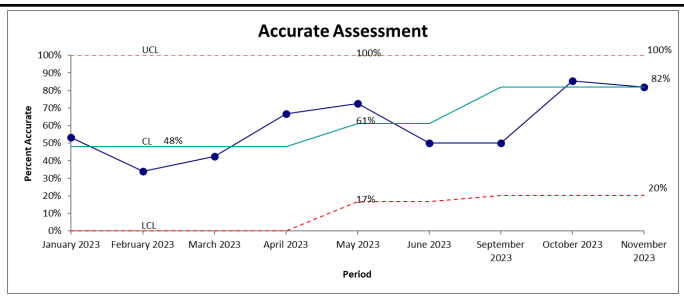


**Fig 2. Percent of admission notes with accurate assessment**

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