

Introduction

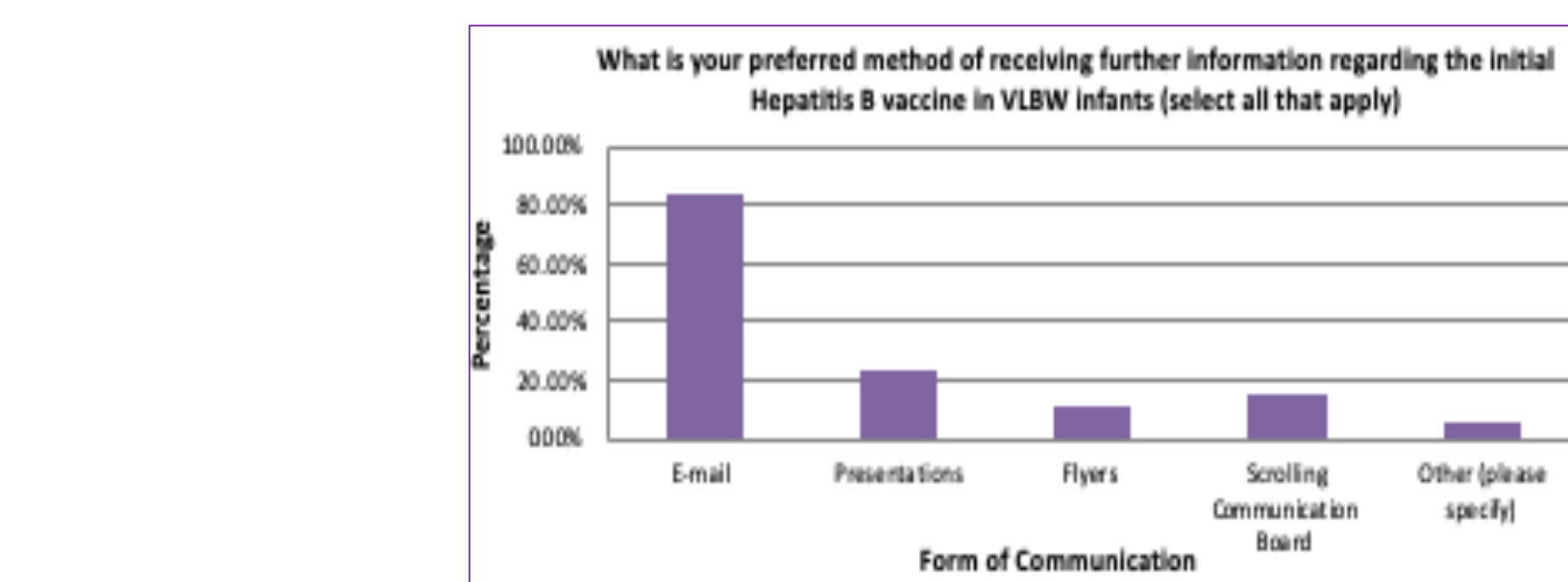
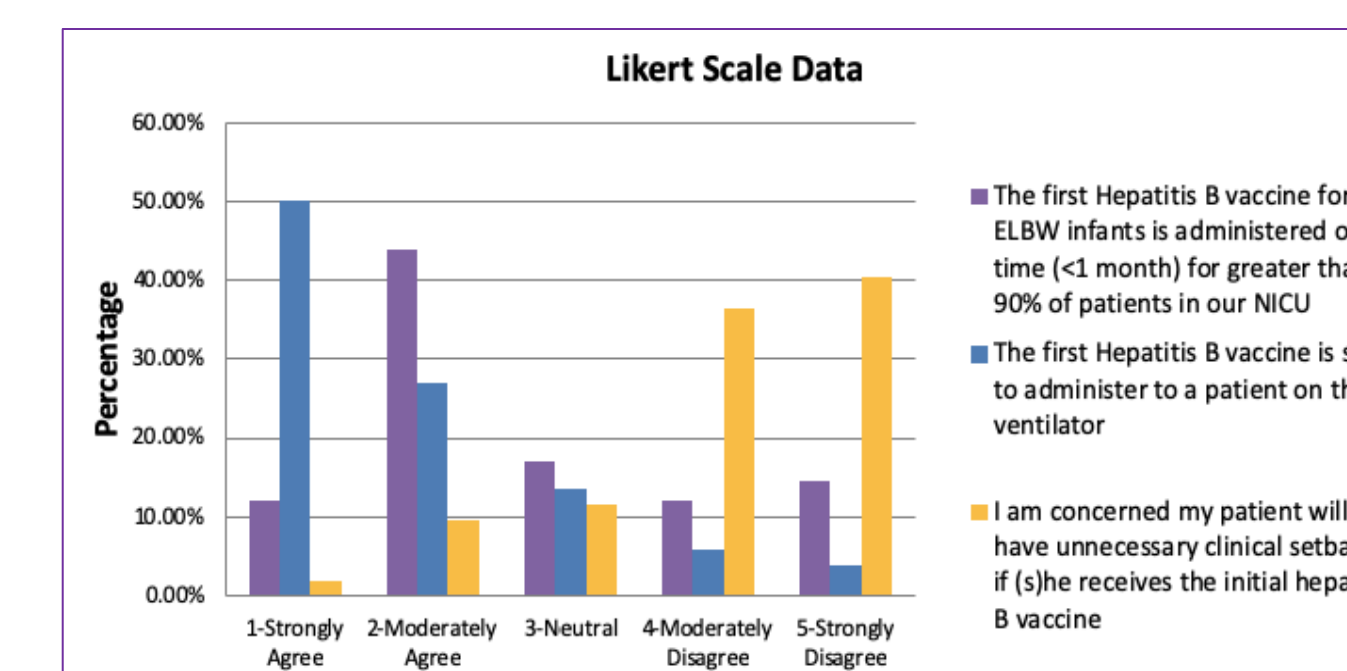
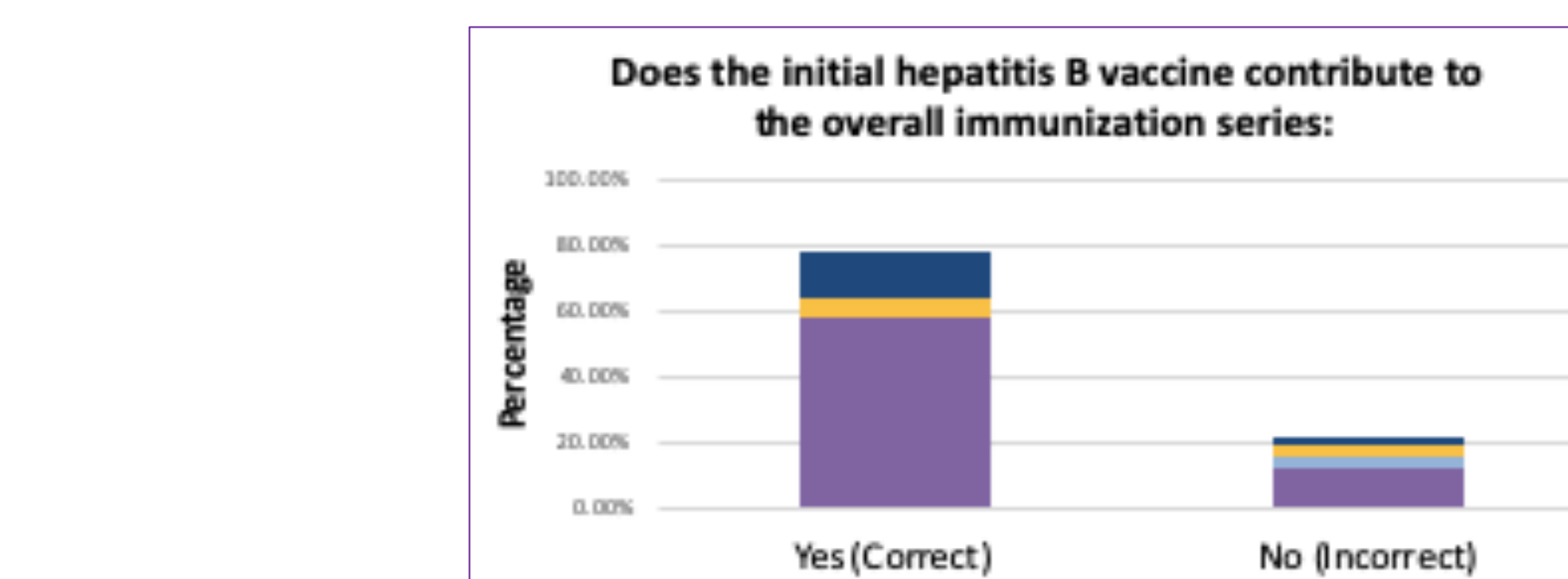
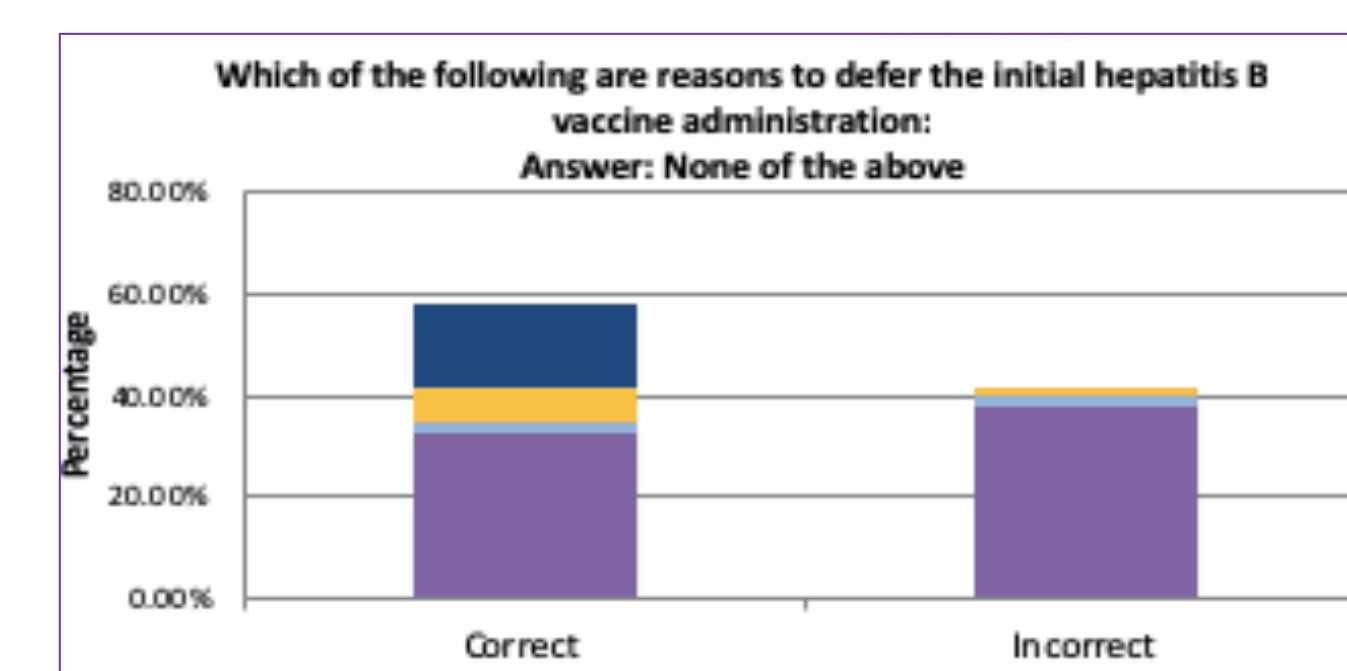
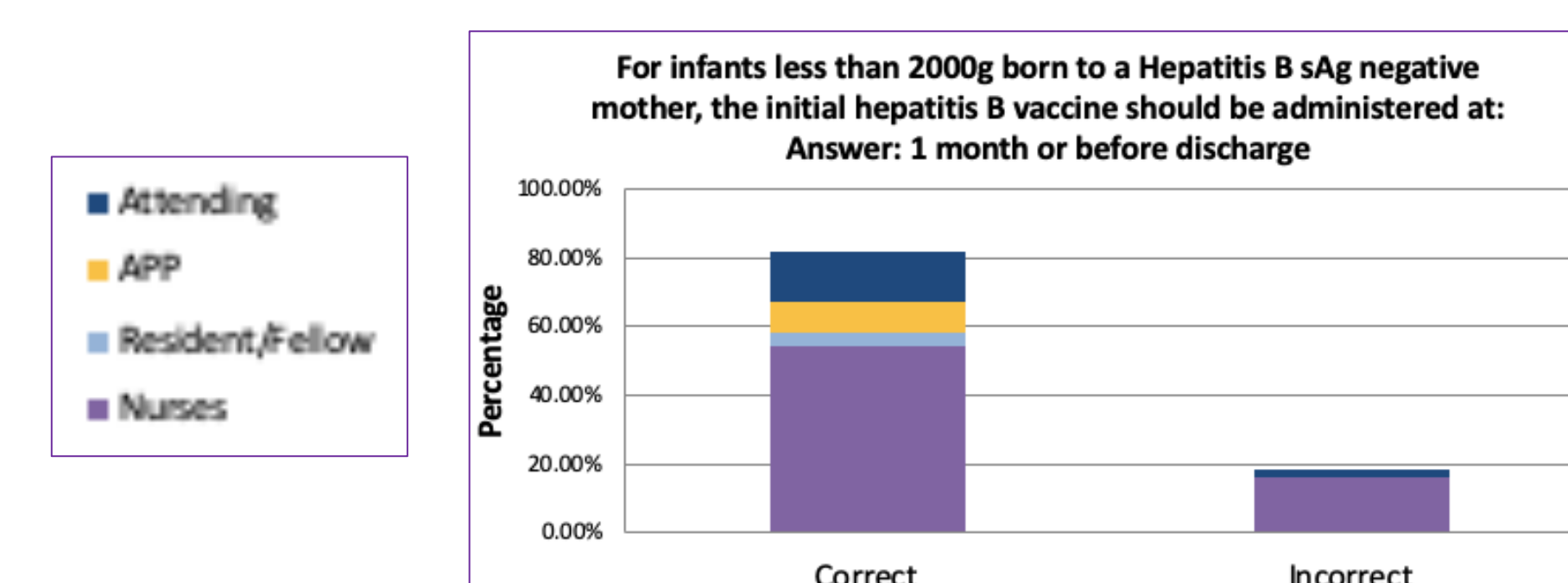
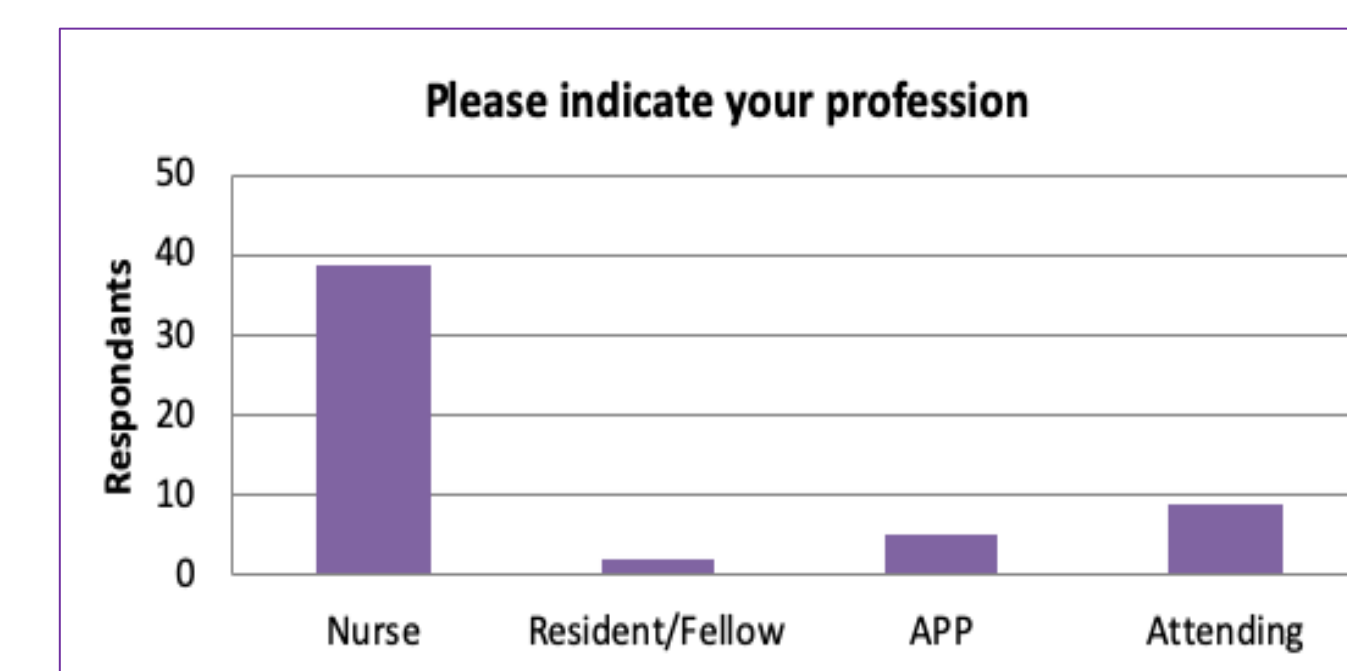
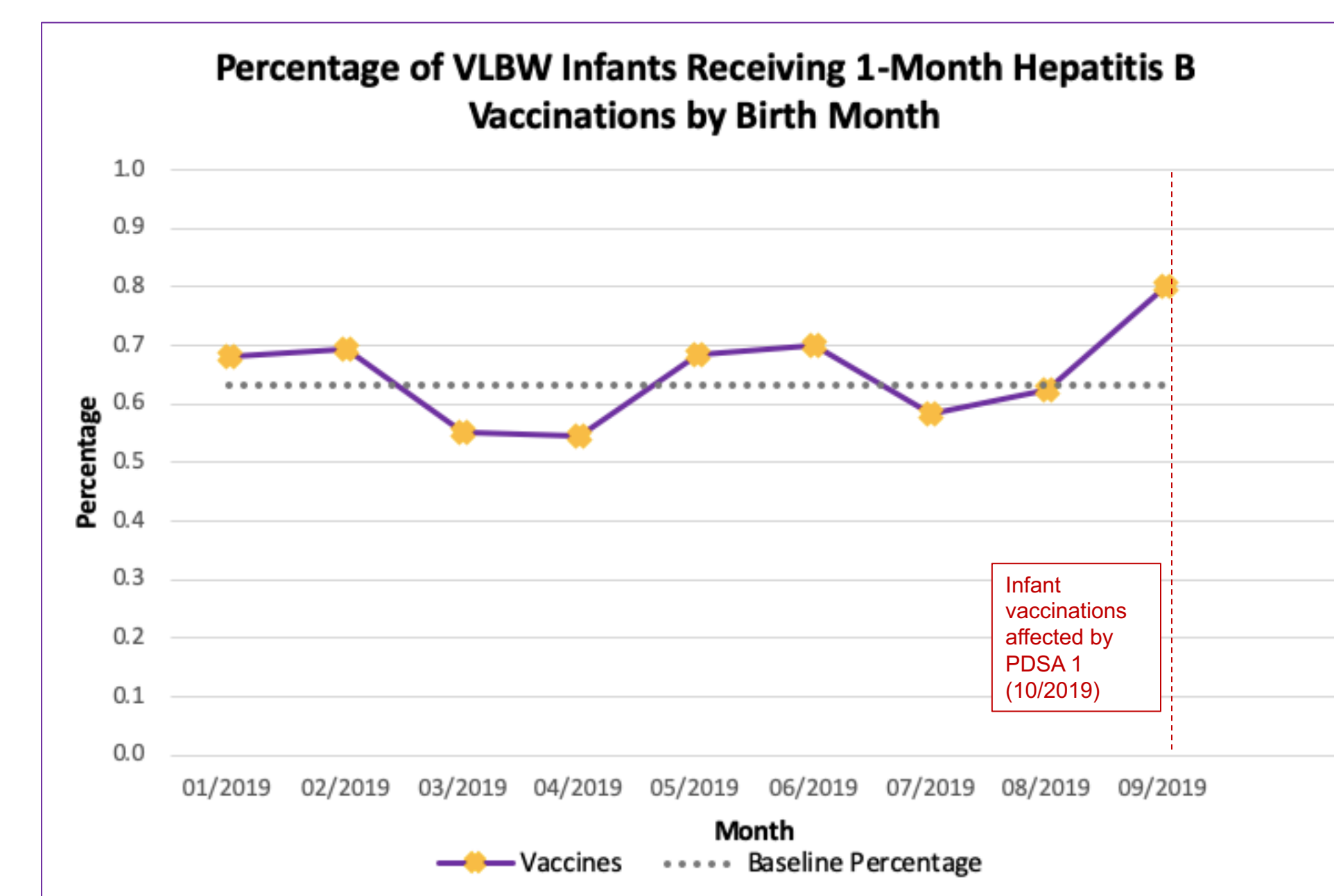
- American Academy of Pediatrics Hepatitis B recommendations for babies born to HBsAg (-) mothers:
 - Infants > 2000 g: Initial dose at birth (<24 hours)
 - Infants < 2000 g: Initial dose at 1 month of age or hospital discharge
- Very low birth weight infants (VLBW; <1500 g) demonstrate increased immunological response with deferral of hepatitis B vaccination until 1 month.
- Current studies indicate effectiveness and relative safety of the hepatitis B vaccination.
- VLBW infants continue to have a delayed immunization or complete lack of initial hepatitis immunization which results in discharge without protection, delay of their vaccination series, and reduced effectiveness of future vaccinations.

METHODS

- Location:** NICU at VMC, 50 bed Level IV NICU
- Team:** Neonatologist, Medical Student, Nursing, Pediatric Pharmacist
- Aim Statement:**
 - Improve timeliness (defined by immunization by <33 days) of 1-month Hepatitis B vaccinations to VLBW infants in the NICU to 80% by 03/2020
- Outcome Measure:**
 - Monthly percent of VLBW infants admitted to the NICU that received hepatitis B vaccination on time
- Process Measures:**
 - Number of staff receiving survey and education
- Baseline vaccination timeliness:** identified by cross referencing NICU admission data with hepatitis B vaccination records (01/2019-09/2019)
- PDSA 1: Staff Survey**
 - Primary goal: identify perceptions and limits regarding VLBW vaccination to guide future education
 - Multiple Choice Questions:
 - Profession
 - Timeline for vaccination delivery
 - Reasons to defer hepatitis B vaccination
 - Hepatitis B contribution to immunization series
 - Preferred education method for education
 - Likert Scale Questions:
 - Current NICU performance
 - Concern for clinical setback & safety

AIM STATEMENT: Improve timeliness of 1-month Hepatitis B vaccinations to VLBW (<1500g) infants in the NICU to 80% by 03/2020

RESULTS



- ### Survey
- Please indicate your profession: nurse, resident/fellow, APP, attending
 - For infants less than 2000g born to a Hepatitis B sAg negative mother, the initial hepatitis B vaccine should be administered at:
 - Birth
 - 1 month of life or before discharge (Correct)
 - 36 weeks corrected and greater than 2000g
 - When greater than or equal to 2000g
 - Which of the following are reasons to defer the initial hepatitis B vaccine administration:
 - A) Patient on antibiotics
 - B) Elevated apnea/bradycardia count
 - C) Patient within 48 hours of discharge
 - A and B
 - All of the above
 - None of the above (Correct)
 - Does the initial hepatitis B vaccine contribute to the overall immunization series (Yes (Correct)/No)
 - The first Hepatitis B vaccine for ELBW infants is administered on time (< 1 month) for greater than 90% of patients in our NICU
 - The first Hepatitis B vaccine is safe to administer to a patient on the ventilator
 - I am concerned my patient will have unnecessary clinical setbacks if (s)he receives the initial hepatitis B vaccine
 - What is your preferred method of receiving further information regarding the initial Hepatitis B vaccine in VLBW infants (select all that apply):
 - Email, Presentations, Flyers, Scrolling Information on Communication Board, Other

DISCUSSION

- Overall Timeliness**
 - A deficiency in timely delivery of hepatitis B vaccinations was identified (90 infants (64.29%) received vaccine, n=140)
 - Low: 54.6% (04/2019 infants), High: 80% (09/2019)
- PDSA 1**
 - n=55 (39 nurses, 2 resident/fellows, 5 APP, 9 attendings)
 - Majority of respondents understand when vaccination should be given (81.8%).
 - Deficiency of knowledge exists of contraindications to immunizations, primarily amongst nursing
 - 58.2% correctly identified no reason to defer (18 nurses, 1 R/F, 4 APP, 9 attendings)
 - 34.6% (17 nurses, 1 R/F, 1 APP) incorrectly identified both apnea/bradycardia and antibiotics (answer d) as contraindications.
 - Staff agree that the vaccine is safe to give to infants on the ventilator (76.9%) and disagree that vaccines cause clinical setbacks (76.9%)
 - Majority of staff believe our NICU administers vaccines to >90% of infants (56.1%)
 - Nursing (44.8%) were less likely to agree with this statement than attendings (87.5%), indicating various perceptions amongst profession.
 - Staff prefer email for communication (46/55 respondents)

CONCLUSIONS & NEXT STEPS

- Hepatitis B vaccination delivery to VLBW infants in the NICU falls below our specific aim of 80%.
- A deficiency in knowledge of actual NICU performance and contraindications to vaccine delivery was identified; however, staff do possess an adequate understanding of vaccine delivery time and a general belief that the vaccine is safe to deliver with limited clinical setbacks.
- Education could benefit staff as improper preconceptions regarding vaccinations and current performance could lead to hesitation when delivering vaccinations and poor overall vaccination delivery timeliness.
- Next steps:
 - Education to NICU staff regarding current performance and hepatitis B delivery and safety
 - Future PDSAs to alter the consent process and implement an EHR prompt.

ACKNOWLEDGEMENTS

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- NICU Staff and Leadership