

# Preparing for Labor, Delivery, and Obstetric Emergencies in a Rural Emergency Department

## Phase I: Measuring Baseline Provider and Nurse Perception of Nursing Staff Skills



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### Objective

The objective of this project is to improve rural emergency department nurses' preparation for labor and delivery scenarios, including obstetric emergencies. Phase I, discussed here, measures current, pre-intervention nurse and provider confidence in nurse L&D skills to inform a future Phase II educational intervention, and to provide a baseline with which to compare perceptions following that intervention.

### Background

Review of recent literature indicates that discontinuation of hospital-based obstetric services in rural areas negatively influences birth outcomes (Kozhimannil et al., 2018); one recent survey found that over one third of responding rural hospitals without obstetric services had experienced unanticipated adverse birth outcomes in the emergency department (Kohimannil et al., 2021). Additionally, rural residency has been shown to independently predict greater maternal morbidity in Central Appalachia (Hansen et al., 2022). The WVU Medicine Fairmont Medical Center patient population is thus inherently at higher risk for precipitous delivery and obstetric complications, which may lead to adverse outcomes. The emergency department has already recorded over a dozen births since the hospital reopened without obstetric services in 2020, many of which involved high-risk patients, indicating a clear need for nurses and providers to feel confident in the nursing staff's obstetric preparation.

### SMART Goal:

At least 75% of Fairmont ED nurses and providers will report that they feel "somewhat confident" or above regarding nursing skills for all L&D scenarios when measured 12 weeks after educational intervention, using same Likert tool employed in baseline measurements.

### Methods

Two questionnaires were developed to measure both RN and provider confidence in current RN labor and delivery skills. The RN questionnaire gathered information including nurses' years of experience, years of ED experience, and presence of previous L&D experience, then asked nurses how confident they felt providing care for the following patients:

- a mother/neonate during an uncomplicated delivery
- a mother following an uncomplicated delivery
- a neonate following an uncomplicated delivery
- a mother/neonate experiencing shoulder dystocia during delivery
- a mother experiencing postpartum hemorrhage after delivery

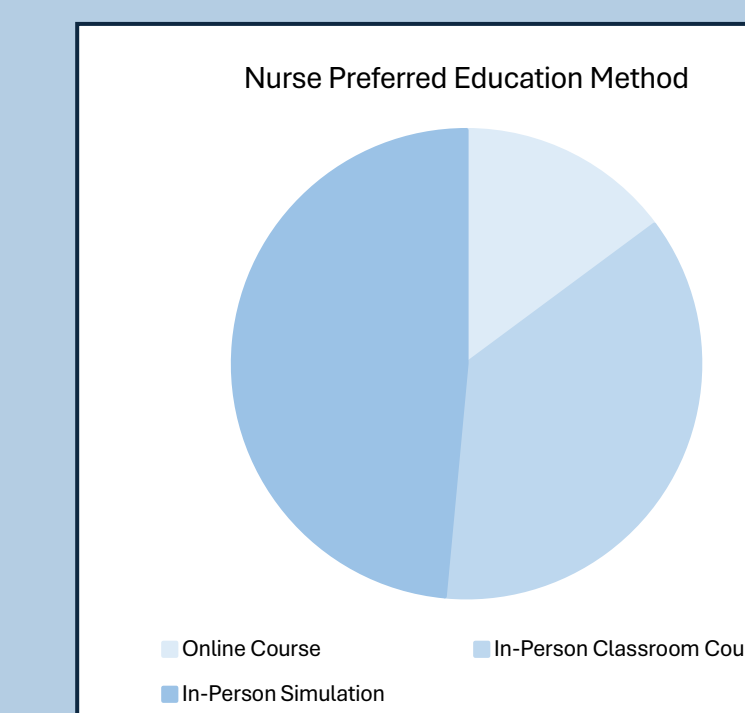
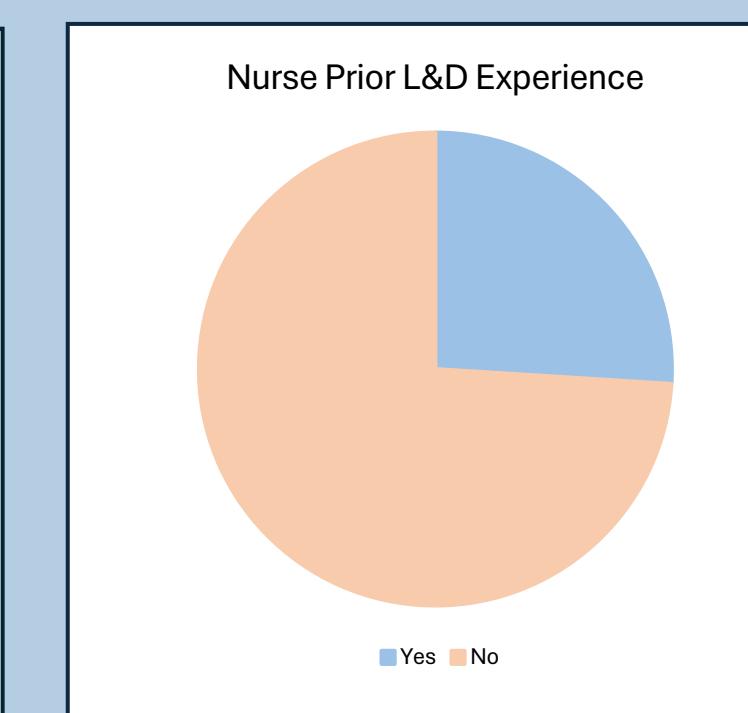
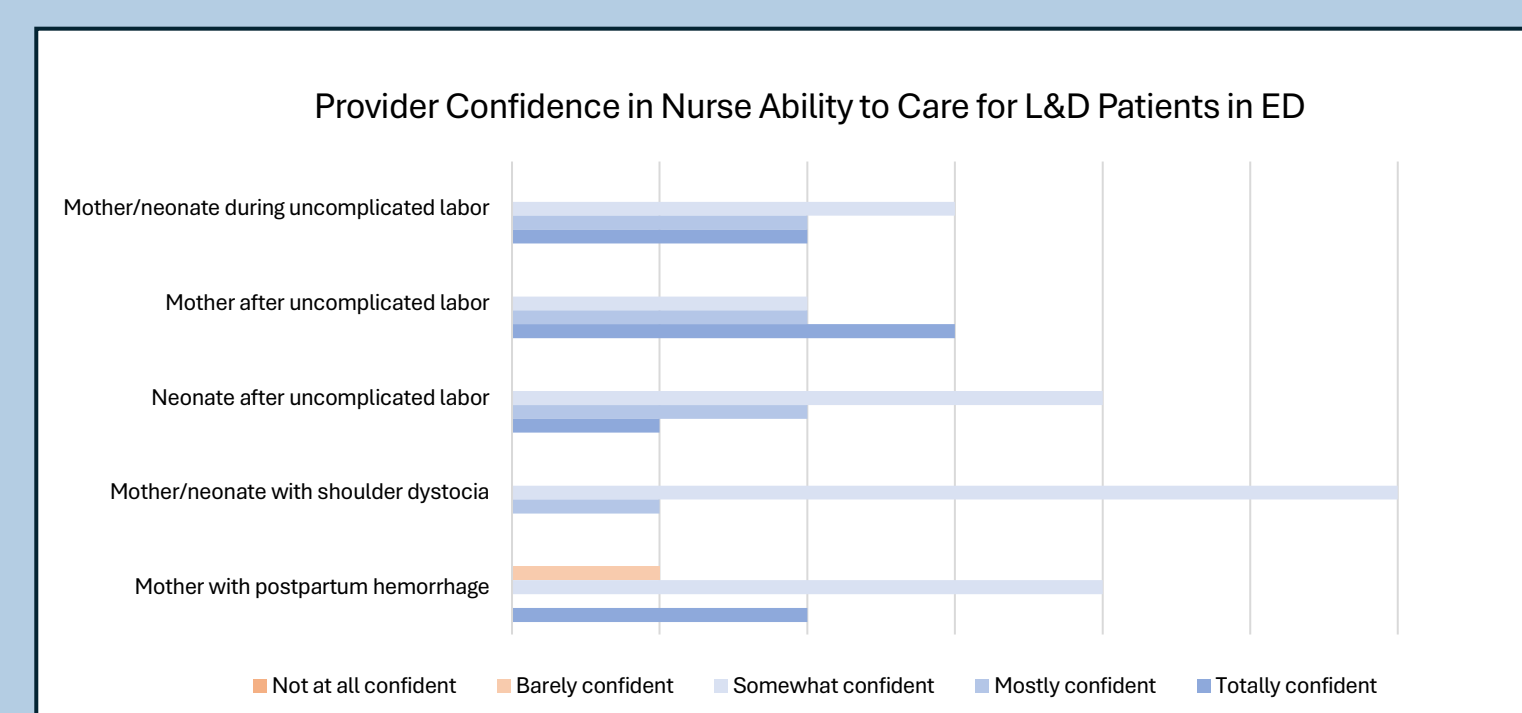
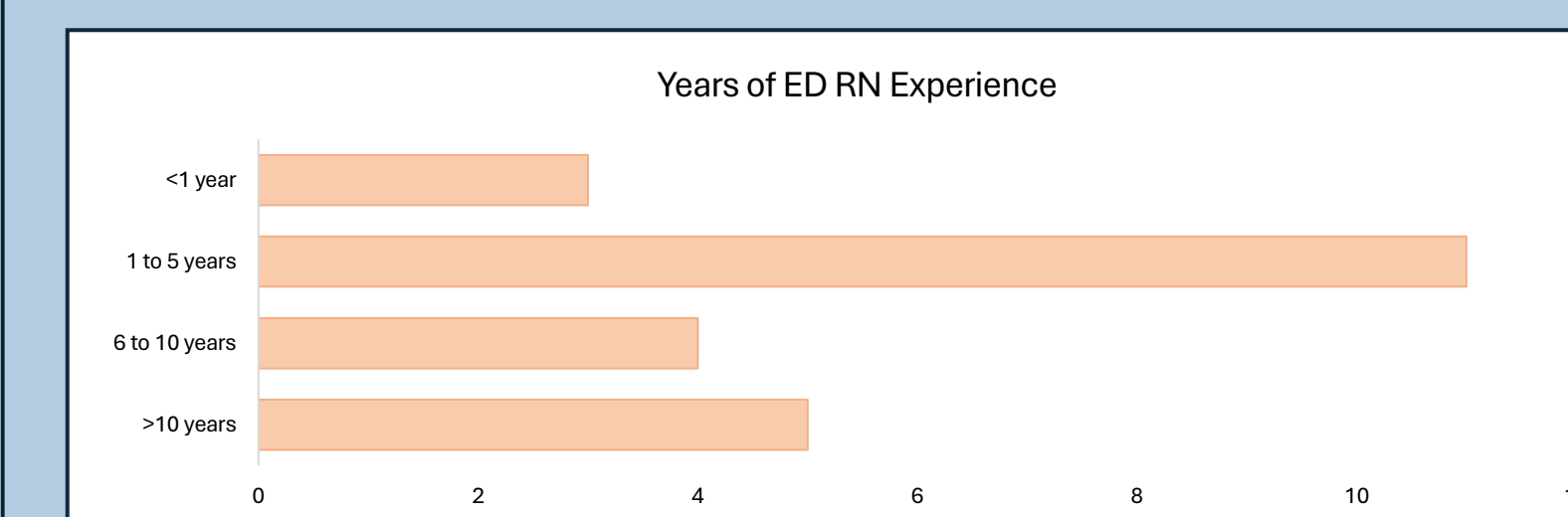
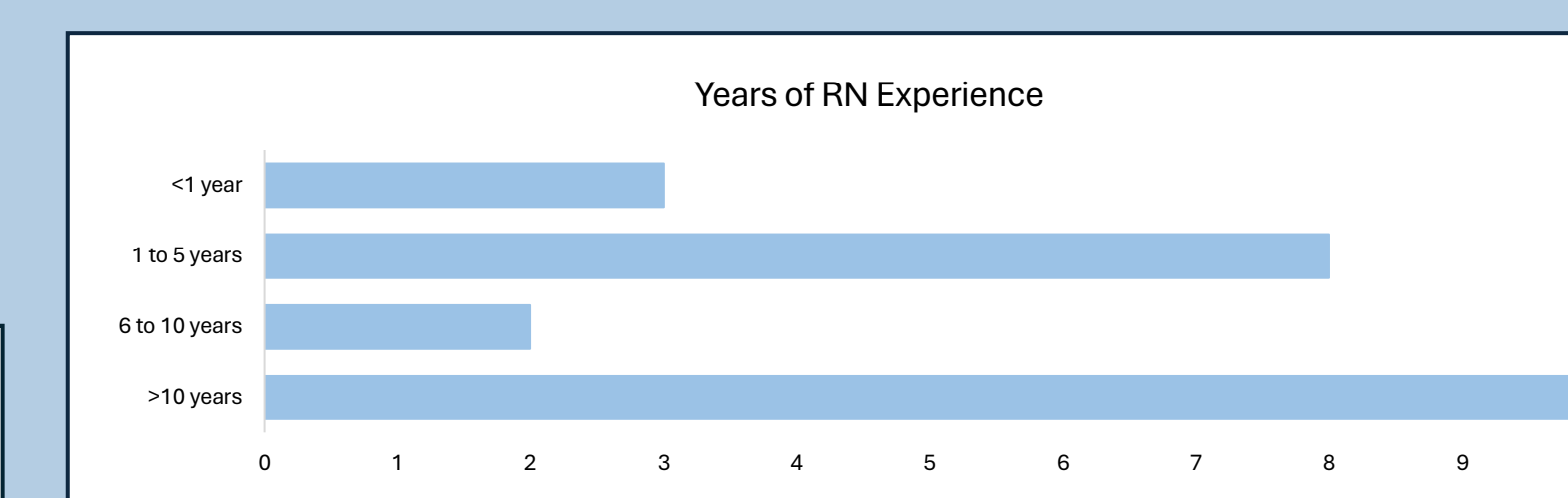
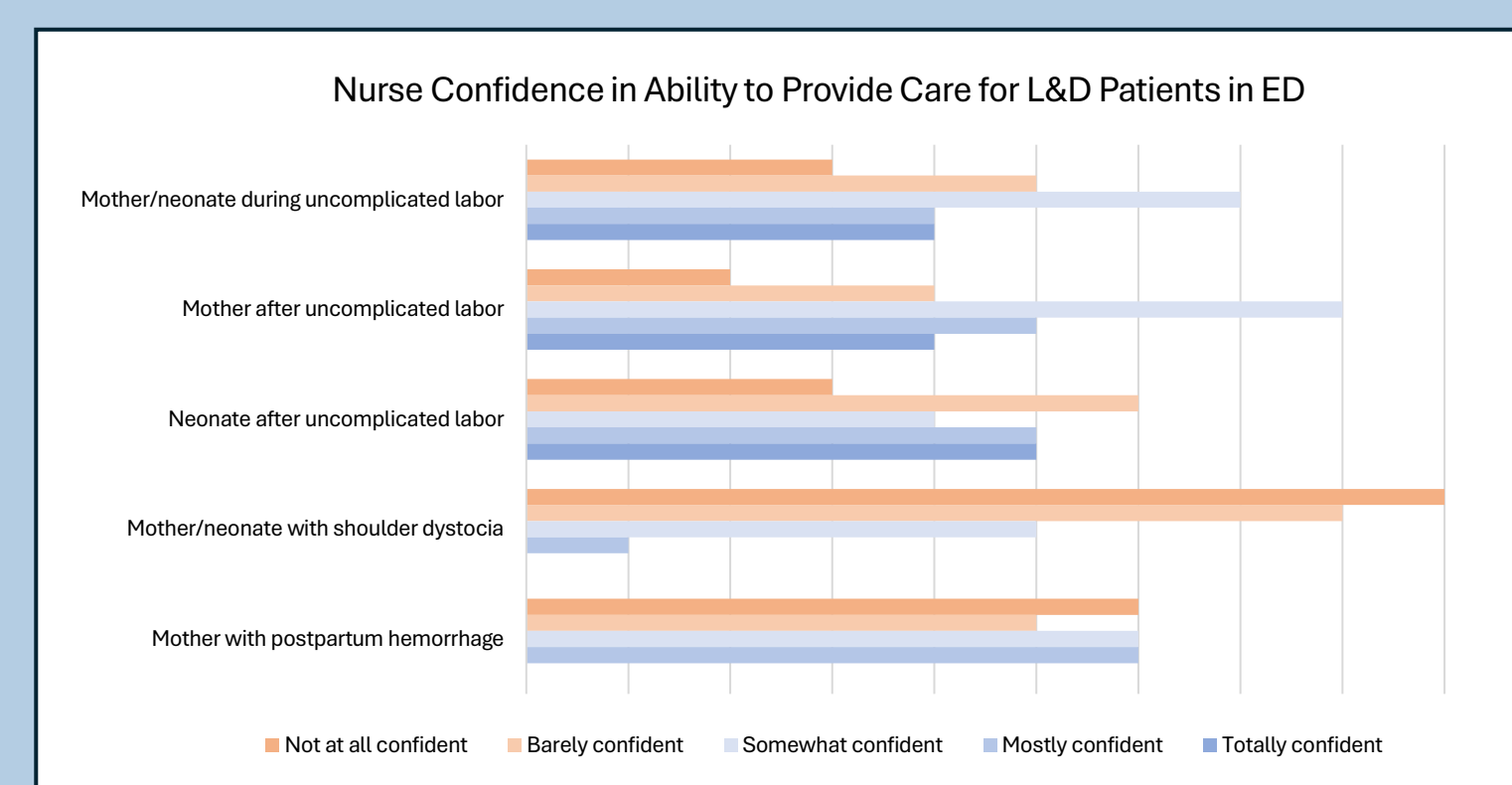
The questionnaire also asked nurses to choose preferred methods for future education in the department, including online course, in-person course, and in-person simulation. The provider questionnaire asked only how confident providers felt in nursing staff's ability to provide care in the five scenarios listed above.

The responses to these confidence questions were multiple-choice and based on a Likert-style 5-point unipolar scale including choices ranging from "not at all confident" to "totally confident." The decision to use a Likert-style scale was based upon its utility in gauging opinions, attitudes, and perceptions, with the 5-point scale gathering more nuanced data than a 3-point scale.

The questionnaires were open for 28 days and were completed anonymously via email link. All nurses currently working in the Fairmont ED were eligible to complete the questionnaire; this included full-time, part-time, per diem, and contracted internal travel nurses. All attending physicians currently working in the Fairmont ED, as well as midlevel nurse practitioners and physician's assistants, were eligible to complete the provider questionnaire.

### Results

23 of 34 eligible nurses completed the questionnaire, representing 68% of the department's nursing staff. 7 eligible providers completed the questionnaire.



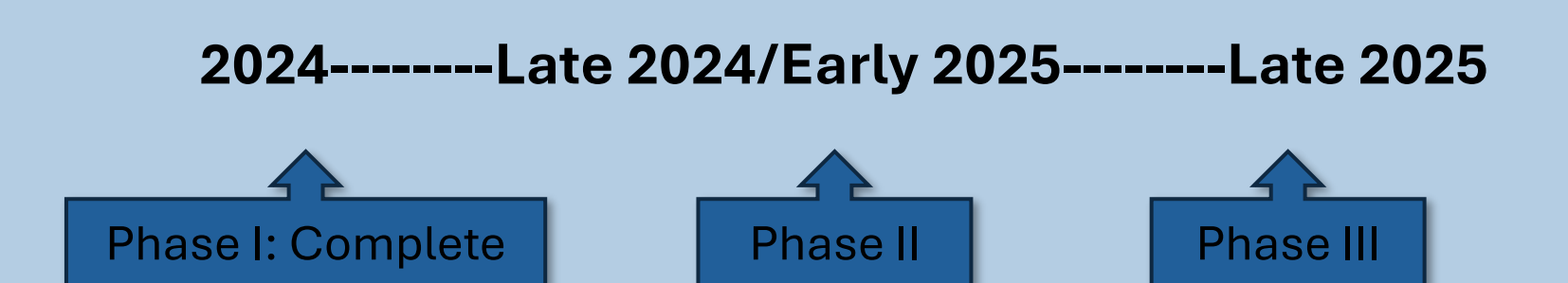
### Analysis and Limitations

- Nurses with more than 5 years of experience were more likely to answer questions with "mostly confident" or "totally confident," while nurses with less than 5 years experience were more likely to answer that they felt "barely confident" or "not at all confident." This information provides a potential opportunity for peer learning activities, which may supplement more formal educational offerings.
- Interestingly, providers overall indicated much higher confidence in nursing staff's skills than the nurses themselves. Psychological research has long explored the role of self-perception versus others' perception. The post-intervention data gathered in Phase III of the project may clarify whether this lower self-perception persists following targeted education.
- The data from these questionnaires is intrinsically limited by the number of respondents, due the small size of our emergency department. Ideally, participation in the nurse questionnaires would have neared 100%; however, 68% participation still represents a clear majority of the department. Including travel nurses in the questionnaires introduces some confounding factors but also provides the most accurate representation of current skill mix based on department staffing.

### Key Takeaways

- The majority of nurses do not feel more than somewhat confident in caring for mothers and neonates during and after uncomplicated labor
- Nurses feel even less confident in their ability to care for patients in obstetric emergencies
- Nurses and providers both feel least confident in nursing's ability to care for a mother/neonate experiencing shoulder dystocia

### Future Research Directions



The aggregated Phase I questionnaire data suggests that Fairmont ED nurses feel especially unprepared for obstetric emergencies. Phase II of this project will involve the development and implementation of an educational intervention specifically addressing the scenarios in which nurses feel the least confident, including complications of shoulder dystocia and postpartum hemorrhage. Based on questionnaire respondents' interest in in-person classroom learning and in-person simulation, both formats will be used in the intervention. Following intervention, Phase III of the project will involve repeating the confidence questionnaire with nurses and providers and analyzing that data to determine educational intervention effectiveness.

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