Background

NOMAAI

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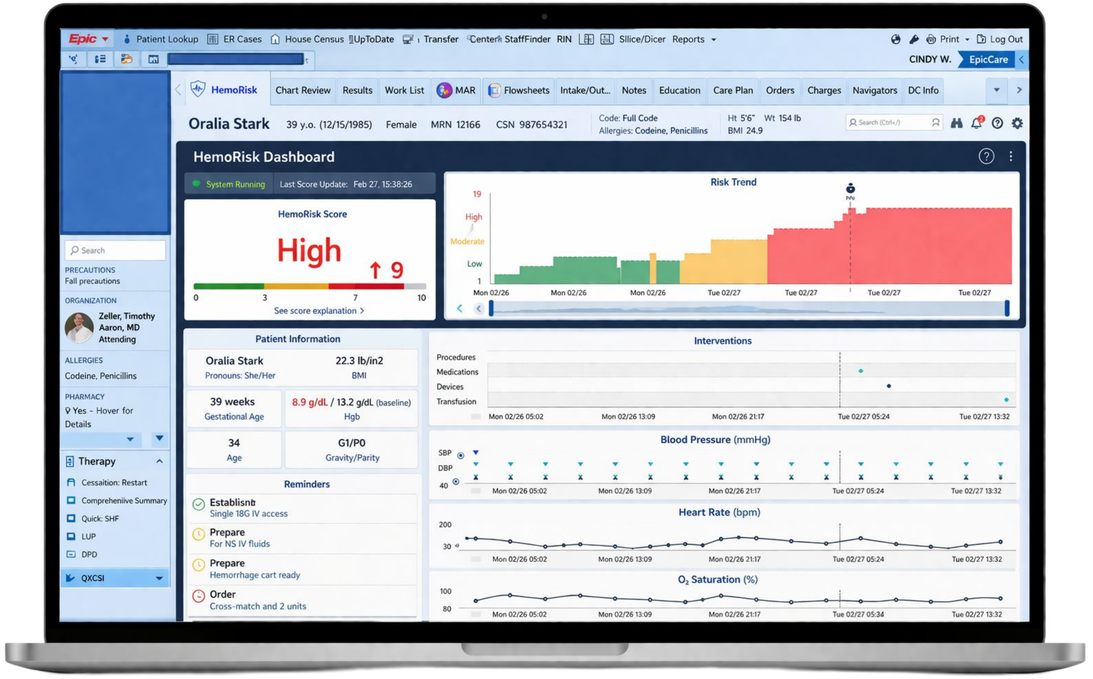
Maternal Hemorrhage continues to remain as a leading cause of maternal mortality and morbidity.

Existing Risk Assessments	HemoRisk
○ Manual ○ Not Dynamic ○ Low Accuracy Sensitivity: 56% PPV: 8%	○ AI-Powered and Predictive ○ Dynamic ○ EHR Integrated



HemoRisk Maternal Hemorrhage Dashboard

Design Elements

Granular Risk Index (1-10)

Granular risk index to depict patient's risk trend. Higher risk index associated with higher positive predictive value (PPV).

Longitudinal Risk Trend

Provides dynamic, continuous patient risk assessment timeline aligned with with evolving clinical trends.

Meets Standards of Care

Real-time and automatically updated **Low**, **Medium** and **High** risk groups based on AI.

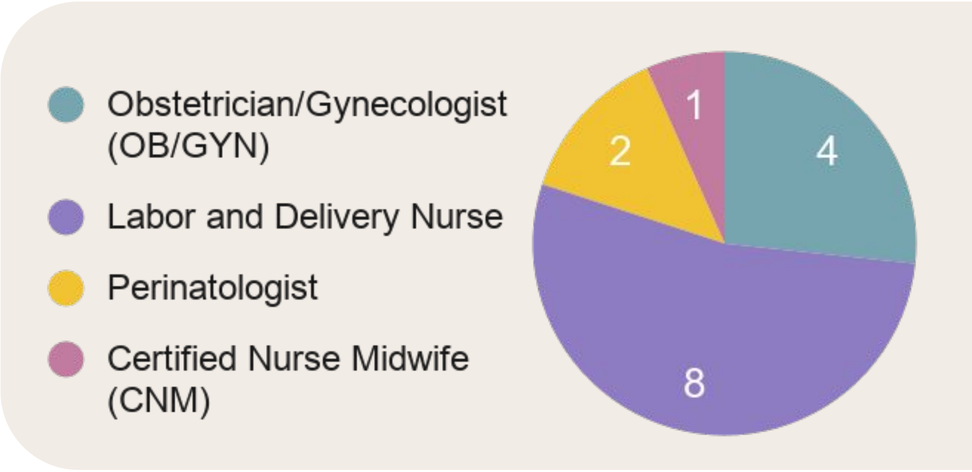
Improving Adherence in Real-time

Recommendations and reminders based on hospital's protocols and patient's data.

Study Design

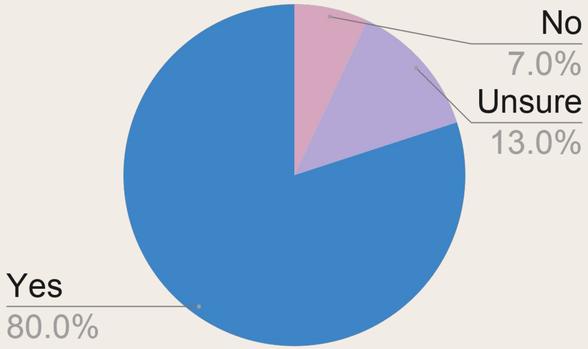
A multi-center usability study:

- **15** Participants, **2** academic healthcare systems.
- Mixed-method usability study using quantitative and qualitative evaluations.
- Interview Process:
  - **Tasks:** Complete a number of tasks independently
  - **Qualitative:** Feedbacks and questionnaire related to use experience, challenges, future product expansions (e.g. wearable and signals)
  - **Quantitative:** Respond to a usability survey (System Usability Score)

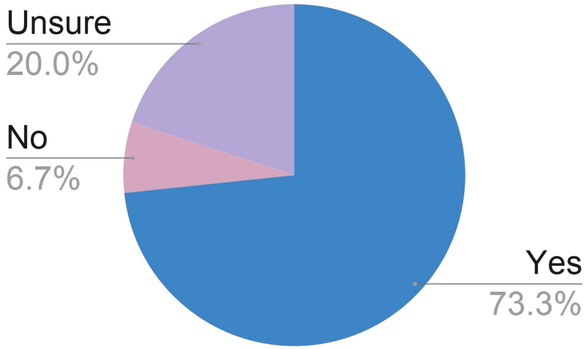


Hospital room on the L&D unit

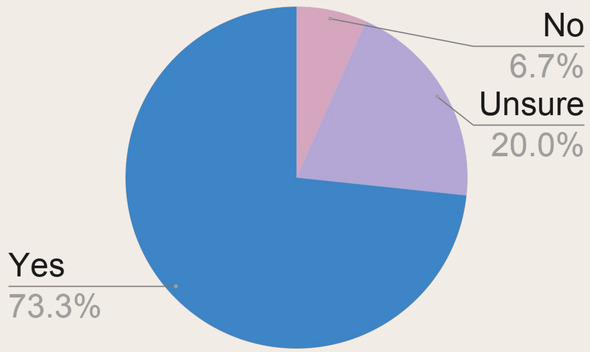
Quantitative Results



80% said they would like to use this system frequently.

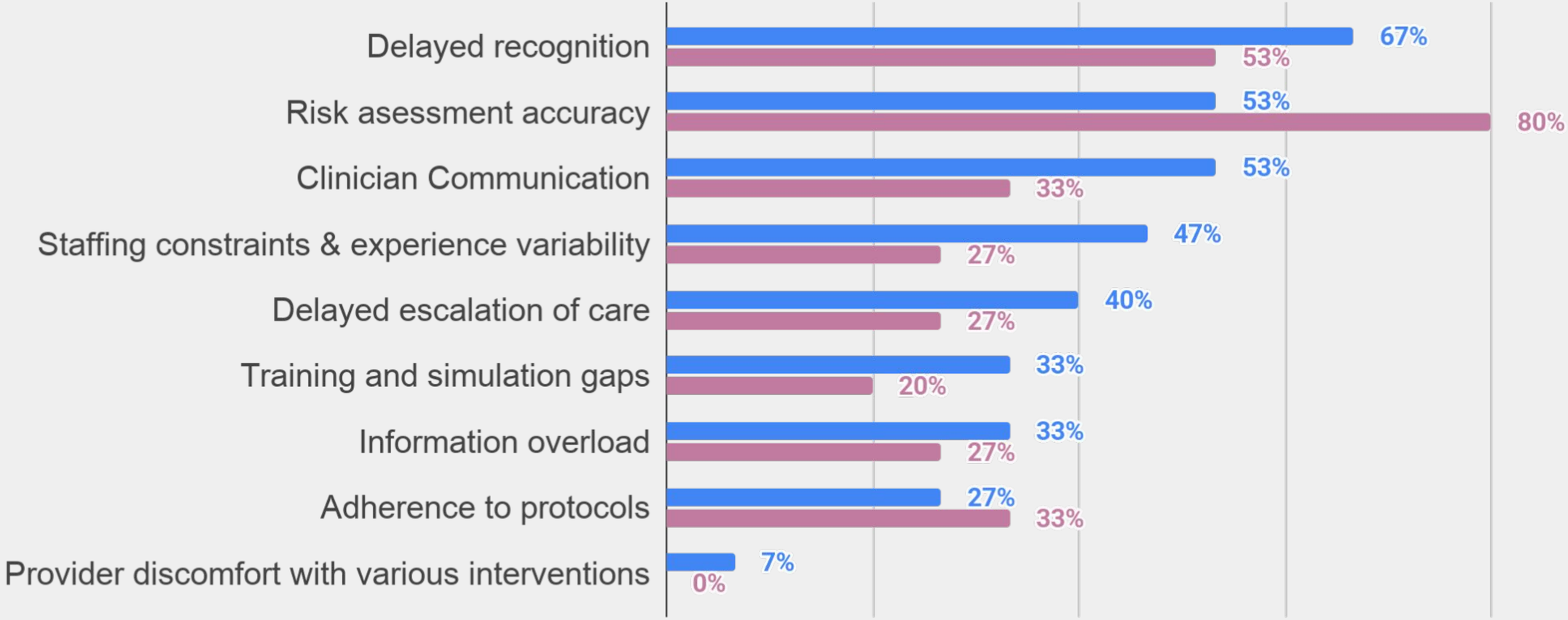


73% said the tool would reduce the mental load associated with hemorrhage risk assessment during labor and delivery.



73% said the tool would improve your existing clinical workflows.

Provider responses to challenges in preventing maternal hemorrhage and how HemoRisk can help



Qualitative Results

Participants reported high perceived **usability** and **clinical value** of the solutions

Centralized Visualization of Patient Data

> “ Pulling information into one place reduces the need to search charts for long periods, especially during already stressful situations with many competing tasks.

Improved Communication Across Care Teams

> “ Supports signouts by enabling discussion of the steps already taken and things to do to further prepare for delivery and care for this patient during multidisciplinary rounds.

Conclusion

Summary

- Majority of participants said hemoRisk was **easy to use** and they’d **frequently** use it
- HemoRisk would **improve**, accuracy of risk assessment, workflows and mental overload

Challenges

- State-of-the-art **model explanation** methods (Shapley) were not always intuitive for users

Future Work

- Users asked for **interactive features** such as
  (1) Interactive checklists
  (2) AI summarizing patients data (handoffs)