Evaluating the Proficiency of 4th-Year PharmD Students in Utilizing Electronic Health Record (EHR) Systems During Advanced Pharmacy Practice Experience (APPE) Rotations

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Background

Electronic Health Record (EHR) systems have become an integral part of modern healthcare delivery. The ability of pharmacists to use EHR systems effectively is essential for providing high-quality patient care. Therefore, it is imperative for the PharmD curriculum to adequately prepare student pharmacists on using EHR systems prior to and during their rotations. This study describes student pharmacist EHR proficiency, preceptor expectations, and student preparedness and confidence in EHR use.

Objectives

1. Evaluate the level of proficiency of 4th-year PharmD students in navigating EHR systems during their APPE rotations.
2. Identify any gaps in EHR training and education within APPE sites, highlighting areas where improvement is needed within the PharmD curriculum.
3. Understand the expectations that preceptors and sites have for 4th-year PharmD students in using EHR systems.

Methods

Study Design
- Qualtrics questionnaire: 20 questions for students and 16 questions for preceptors
- Distributed via email, with 2 reminder emails and an additional reminder for students sent via their class GroupMe
- Questionnaire was opened for 2 weeks in mid-January

Data Analysis
On all survey responses, analysis focused on frequency distribution in percentages, central tendency measures (mean and median), and variability.

Inclusion Criteria
- All USC Mann School of Pharmacy and Pharmaceutical Sciences PharmD candidates in the Class of 2024 who are currently enrolled in APPEs and have completed at least 1 rotation utilizing EHR
- Preceptors working at USC affiliated rotation sites

Exclusion Criteria
- PharmD candidates who are not enrolled in APPEs
- Students who have not utilized EHR systems at their rotation sites
- Preceptors at sites that do not utilize EHR systems to conduct daily responsibilities
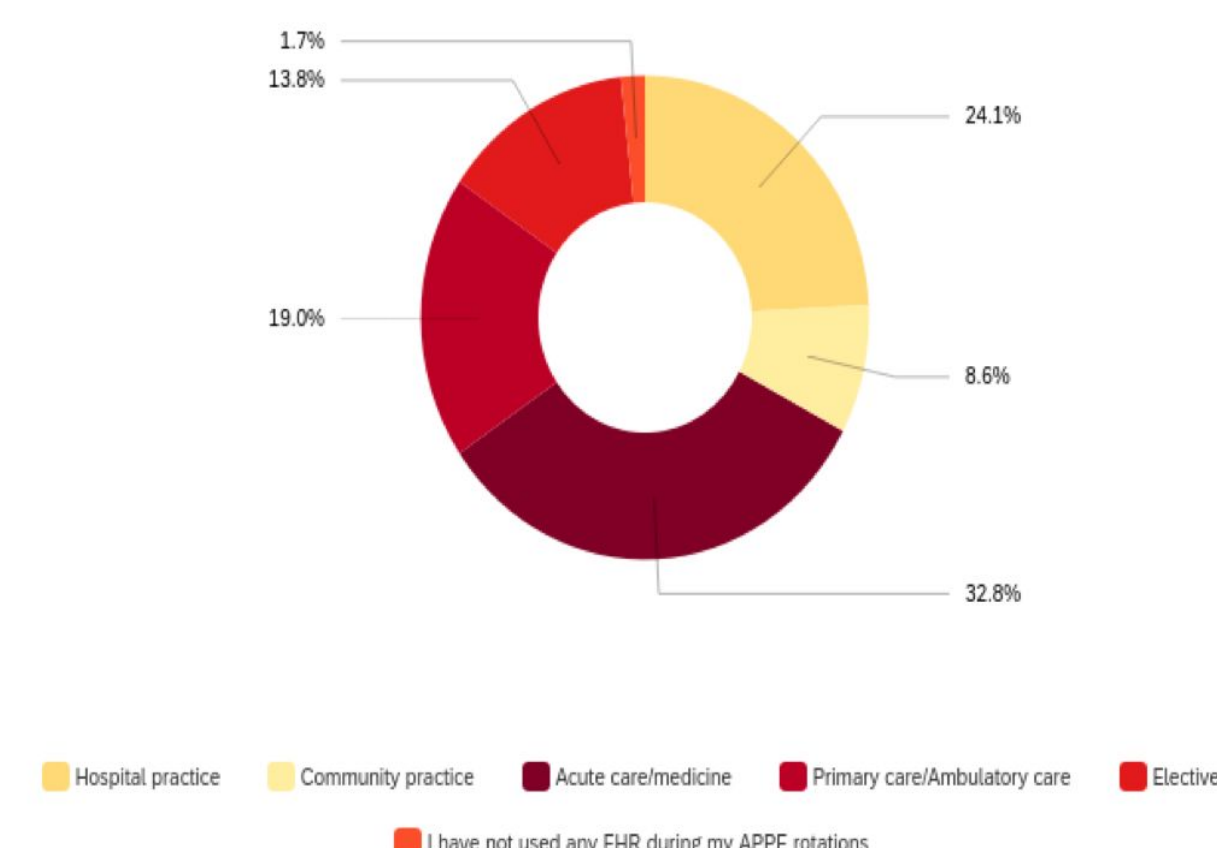
Results

Figure 1. Student Survey - Which of the following APPE rotations required the use of EHR systems?
Percentages reflect the number of students that have completed the particular rotation divided by the number of total responses to the question.
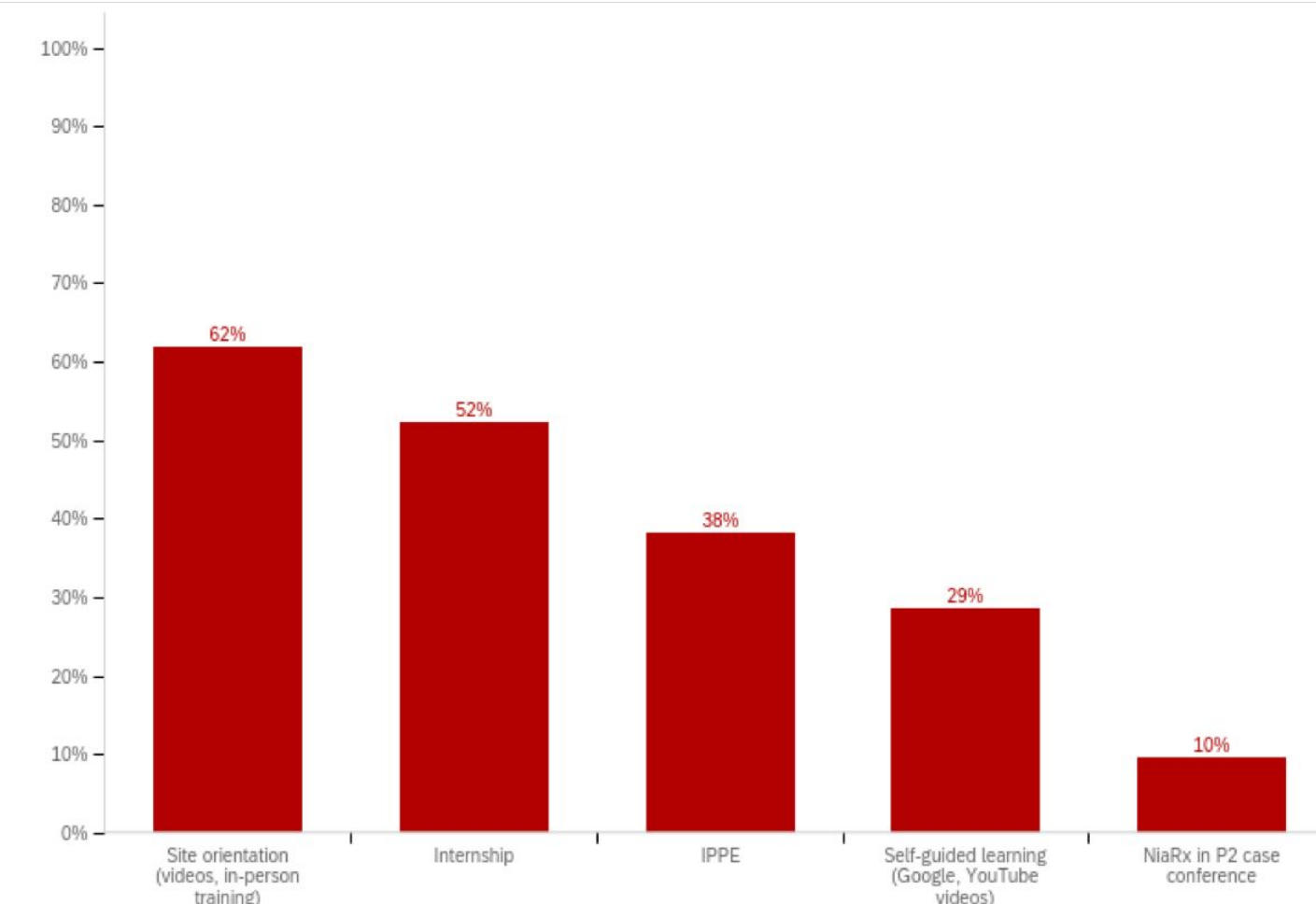

Figure 2. Student Survey - How was EHR training provided to you prior to your rotations?
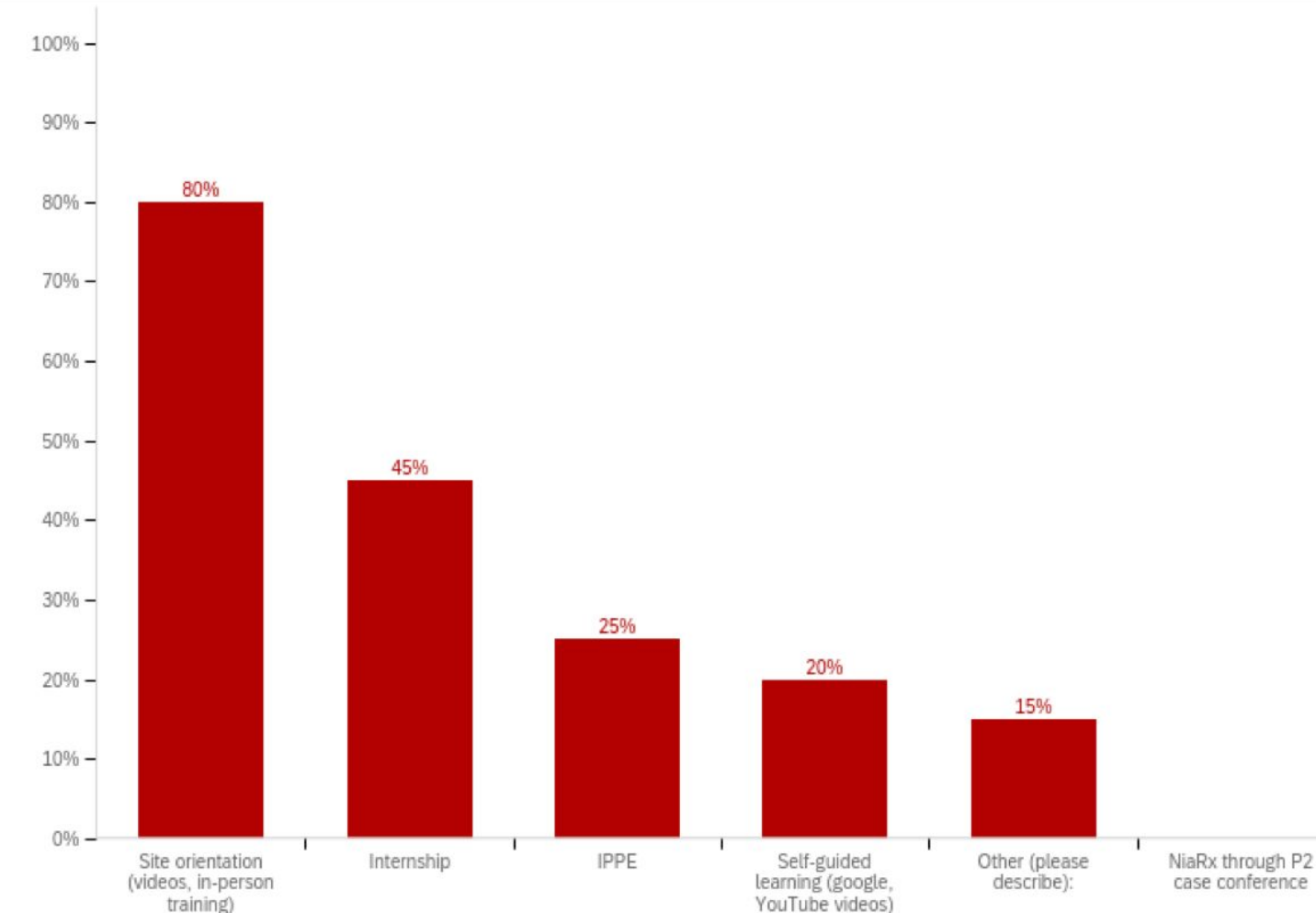

Figure 3. Student Survey - What strategies or resources have you found most helpful in improving your proficiency in using EHR systems?
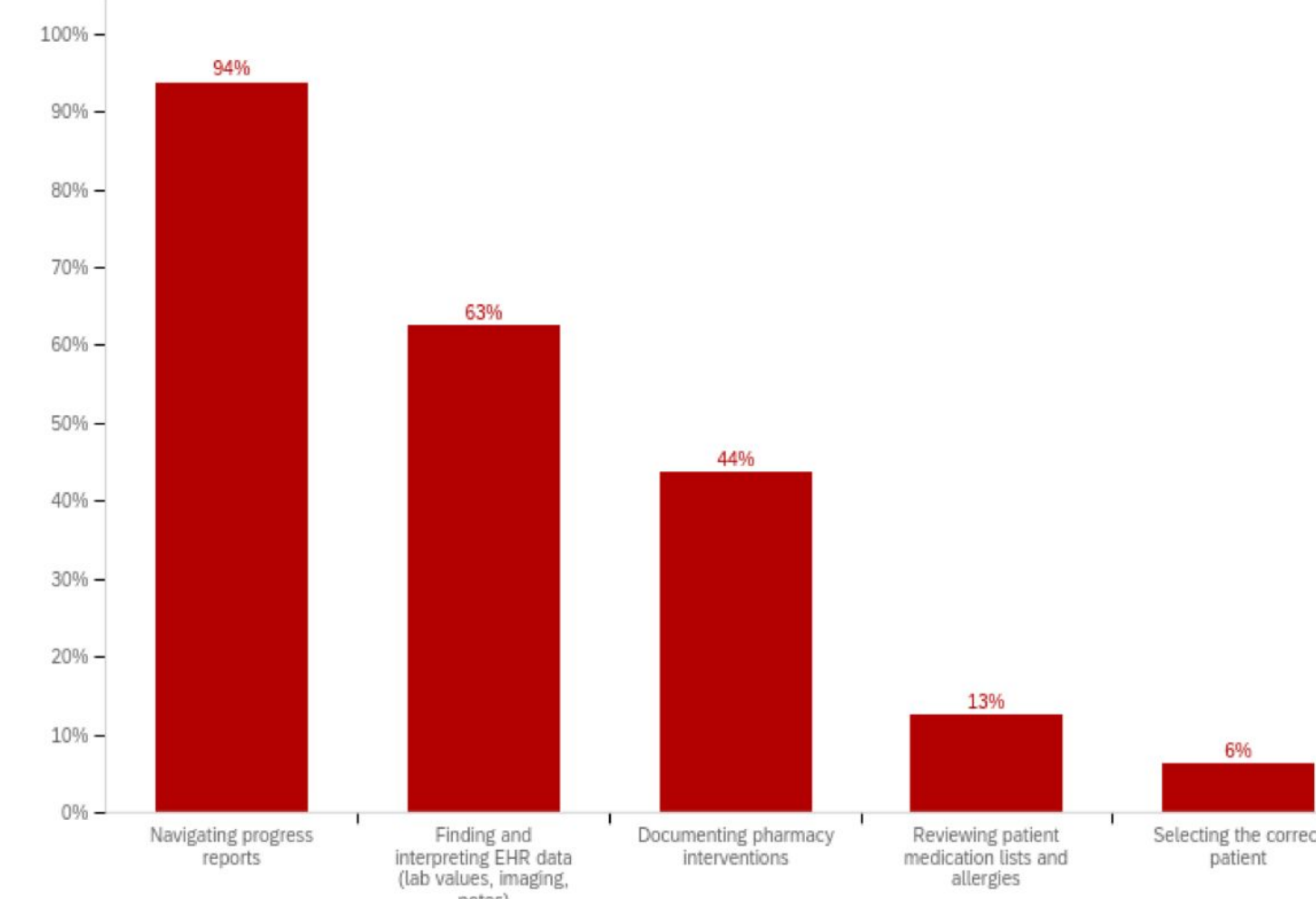

Figure 4. Student Survey - What challenges have you encountered when using EHR systems in your pharmacy setting?
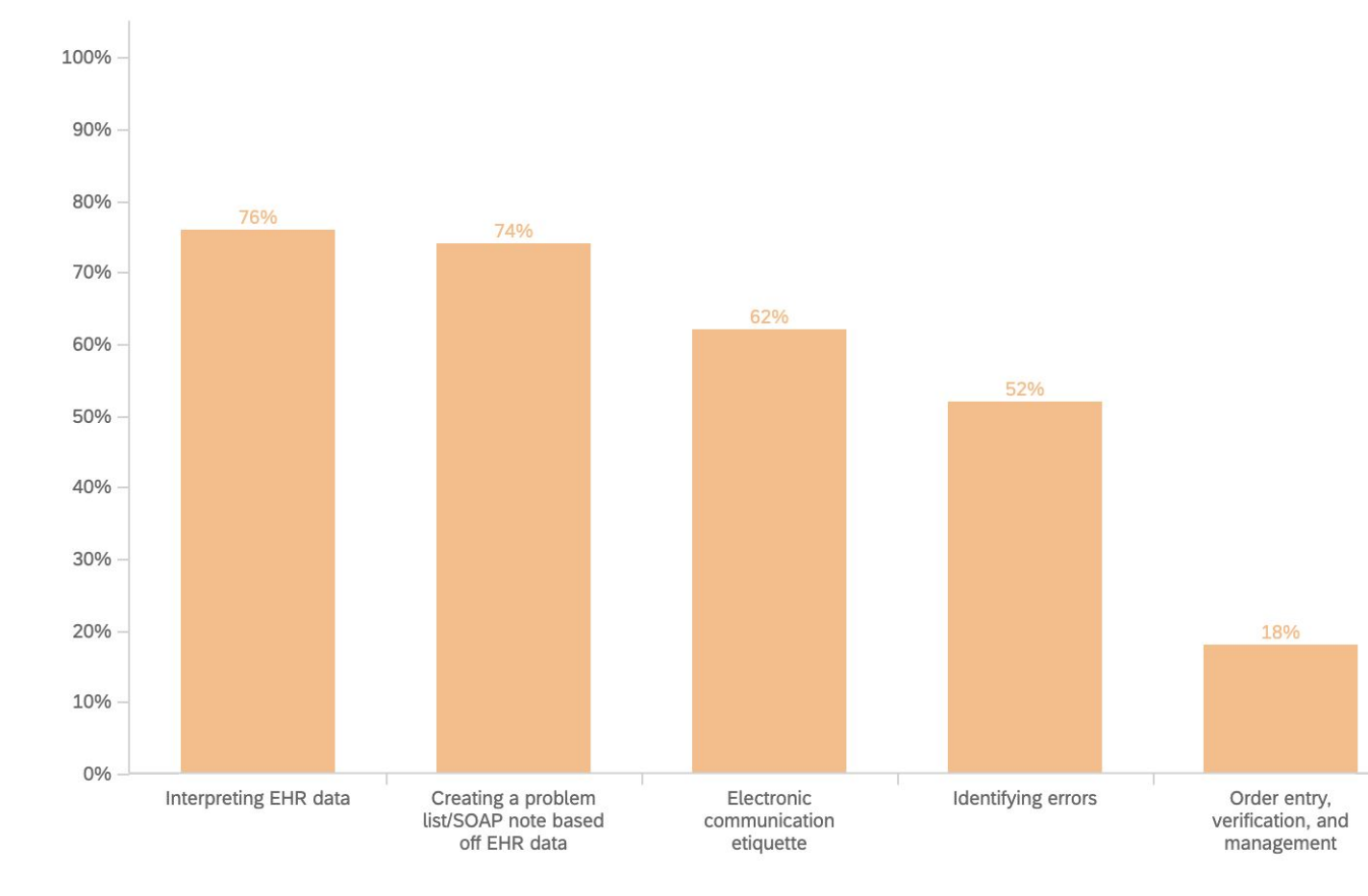

Figure 5. Preceptor survey - What should be taught to students about EHR systems prior to their rotation?
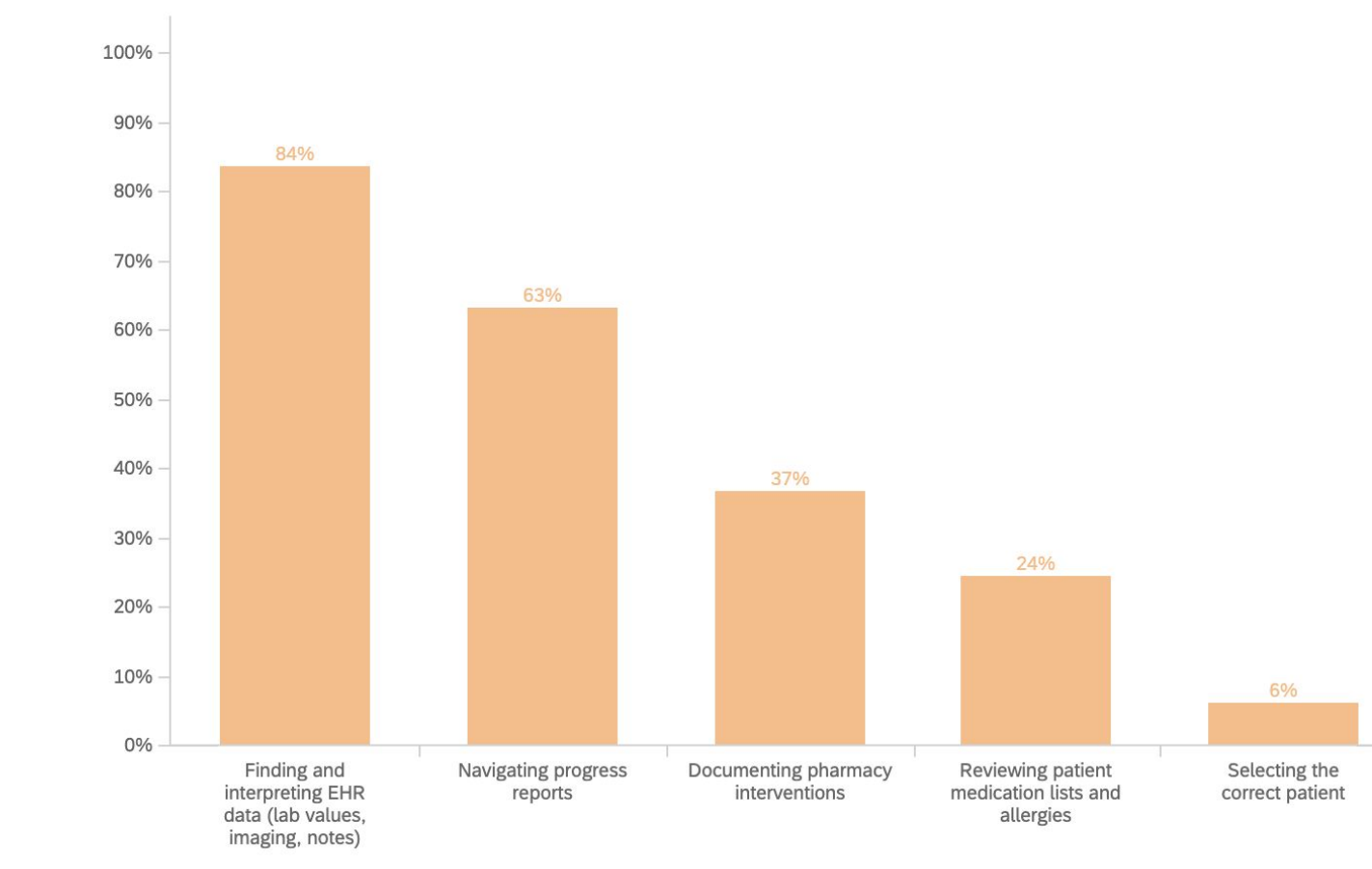

Figure 6. Preceptor survey - What challenges or difficulties did students face when using EHR systems?

Discussion

- Participation: 28 students and 79 preceptors resulting in a response rate of 14% and 12% respectively.
- 62% of students received on-site EHR training.
  - 80% of students found it most helpful in improving their proficiency.
  - Preceptors dedicate an average of 4 hours to training
- Only 10% of students revealed that they received EHR training through their academic courses, highlighting an opportunity for curriculum enhancement.
- 71% of students indicated that they felt somewhat confident in approaching a new EHR system within a 6-week time frame and 53% rated their competency in using EHR systems as "very good."
  - 84% of preceptors concluded that students face challenges finding and interpreting EHR data.
- When asked the importance of training, 58% of preceptors agreed that training is very important to students, 25% agreed that students should be taught how to interpret and create a problem list/SOAP note utilizing EHR data prior rotations. Suggesting a curriculum update to include practical EHR skills early on.

Conclusion

- Although students were able to efficiently navigate and utilize a rotation site's EHR system, most were only confident in doing so after receiving training through the rotation site.
- There is a lack of exposure to EHR systems in the comprehensive pharmacy curriculum and proposes the necessity of incorporating it.
- This study helped to determine the areas of knowledge and experience expected of students by the preceptors.
- Curriculum enhancements to bridge the gap in learning, are suggested to ensure that future pharmacists are better prepared and competent when approaching and interpreting EHR data.

References

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