

Implementation of Medical Education Handbook to Enhance Comfortability and Efficiency during First Year of Pediatric Residency

Darla Fink MD, Saloni Sheth MD, Jessica Goldstein MD
Rainbow Babies & Children's Hospital, Cleveland, OH, USA

Background

The transition from medical student to resident physician is challenging. New resident physicians are rapidly expanding their medical knowledge and learning their new hospital-specific protocols. Application based handbooks seeking to improve resident knowledge and procedural skills have gained popularity in recent years [1]. However, many handbooks focus on resident education, many do not attempt to increase knowledge of hospital-specific protocols and nuances [2]. This resident-led project seeks to fill that gap. The **objective** of this study is to assess the impact of a hospital-specific resident handbook application on intern confidence and comfort on new rotations.

Aim

We hypothesize that the use of a medical education handbook will improve comfortability and efficiency on rotations for interns.

Methods

Prospective, IRB-exempt study of pediatric residents at a single institution.

- A **needs assessment** was emailed to the residency. Questions asked how residents prepare for rotations and what resources residents would like included in a handbook.
- The **handbook** was created on the Google Classroom platform, which is available for download as an application.

Methods (Continued)

- A **post-survey** was sent out two months following the distribution of the handbook to first year pediatric residents. Primary outcomes included comfort and efficiency following use of handbook. Secondary outcome included handbook ease of use.

Before starting residency, would you have wanted one unified resource through which to access tips and tricks for succeeding on various Rainbow rotations?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I prefer not to say
Prior to using the intern handbook, did you have difficulty finding pre-rotation resources?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I prefer not to say
Before starting a new rotation, how do you prepare? Select ALL that apply.	<input type="checkbox"/> Up to Date <input type="checkbox"/> Harriet Lane <input type="checkbox"/> PubMed <input type="checkbox"/> Medstudy books <input type="checkbox"/> Intern Handbook <input type="checkbox"/> Other <input type="checkbox"/> Talk to other interns
If "Other" above, please elaborate	_____
Did you use the intern handbook while on rotation?	<input type="radio"/> Yes <input type="radio"/> No
How often did you use the intern handbook?	<input type="radio"/> Never <input type="radio"/> Once a month <input type="radio"/> 1-2 times a week <input type="radio"/> 3-4 times a week <input type="radio"/> 5-7 times a week
If you did not use the intern handbook, why not? Skip this question if you used the handbook.	_____
How comfortable did you feel at the BEGINNING of your block 2 (1/27-5/23) inpatient rotations?	<input type="radio"/> Not comfortable at all <input type="radio"/> Somewhat comfortable <input type="radio"/> Neutral <input type="radio"/> Comfortable <input type="radio"/> Very comfortable <input type="radio"/> I wasn't on inpatient this block
How comfortable did you feel at the END of your block 2 (1/27-5/23) inpatient rotations (even if you didn't use the handbook)?	<input type="radio"/> Not comfortable at all <input type="radio"/> Somewhat comfortable <input type="radio"/> Neutral <input type="radio"/> Comfortable <input type="radio"/> Very comfortable <input type="radio"/> I wasn't on inpatient this block
If you utilized the intern handbook, do you think it impacted your comfort level on rotations?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I did not use the handbook
Explain how the intern handbook impacted your comfort level on rotations. If you did not use the handbook, type "N/A."	_____
How much did the handbook change your efficiency on rotations?	<input type="radio"/> Decreased efficiency by a lot <input type="radio"/> Decreased efficiency <input type="radio"/> Neutral <input type="radio"/> Improved efficiency <input type="radio"/> Improved efficiency by a lot <input type="radio"/> I didn't use the handbook
After using the intern handbook, how helpful was it?	<input type="radio"/> Not helpful at all <input type="radio"/> Somewhat helpful <input type="radio"/> Very helpful <input type="radio"/> I didn't use the handbook
What parts of the handbook were MOST helpful?	<input type="checkbox"/> Pager Card <input type="checkbox"/> PALS Card <input type="checkbox"/> How to series <input type="checkbox"/> Ambulatory Pediatrics <input type="checkbox"/> Inpatient Tips and Tricks <input type="checkbox"/> Friday Team Based Learning <input type="checkbox"/> Clinical Practice Algorithms <input type="checkbox"/> Electives <input type="checkbox"/> Step 3 and Board Resource List <input type="checkbox"/> Other <input type="checkbox"/> None
If "Other" above, please elaborate	_____
What parts of the handbook were LEAST helpful?	<input type="checkbox"/> Pager Card <input type="checkbox"/> PALS Card <input type="checkbox"/> How to series <input type="checkbox"/> Ambulatory Pediatrics <input type="checkbox"/> Inpatient Tips and Tricks <input type="checkbox"/> Friday Team Based Learning <input type="checkbox"/> Clinical Practice Algorithms <input type="checkbox"/> Electives <input type="checkbox"/> Step 3 and Board Resource List <input type="checkbox"/> Other <input type="checkbox"/> None
If "Other" above, please elaborate	_____
Is there other content you would like to see added to the handbook?	<input type="radio"/> Yes <input type="radio"/> No
If "Yes" above, please describe:	_____
Would you like the option to add content to the handbook? (i.e. crowdsource the handbook)	<input type="radio"/> Yes <input type="radio"/> No

Table 1. Resident post-survey.

Results

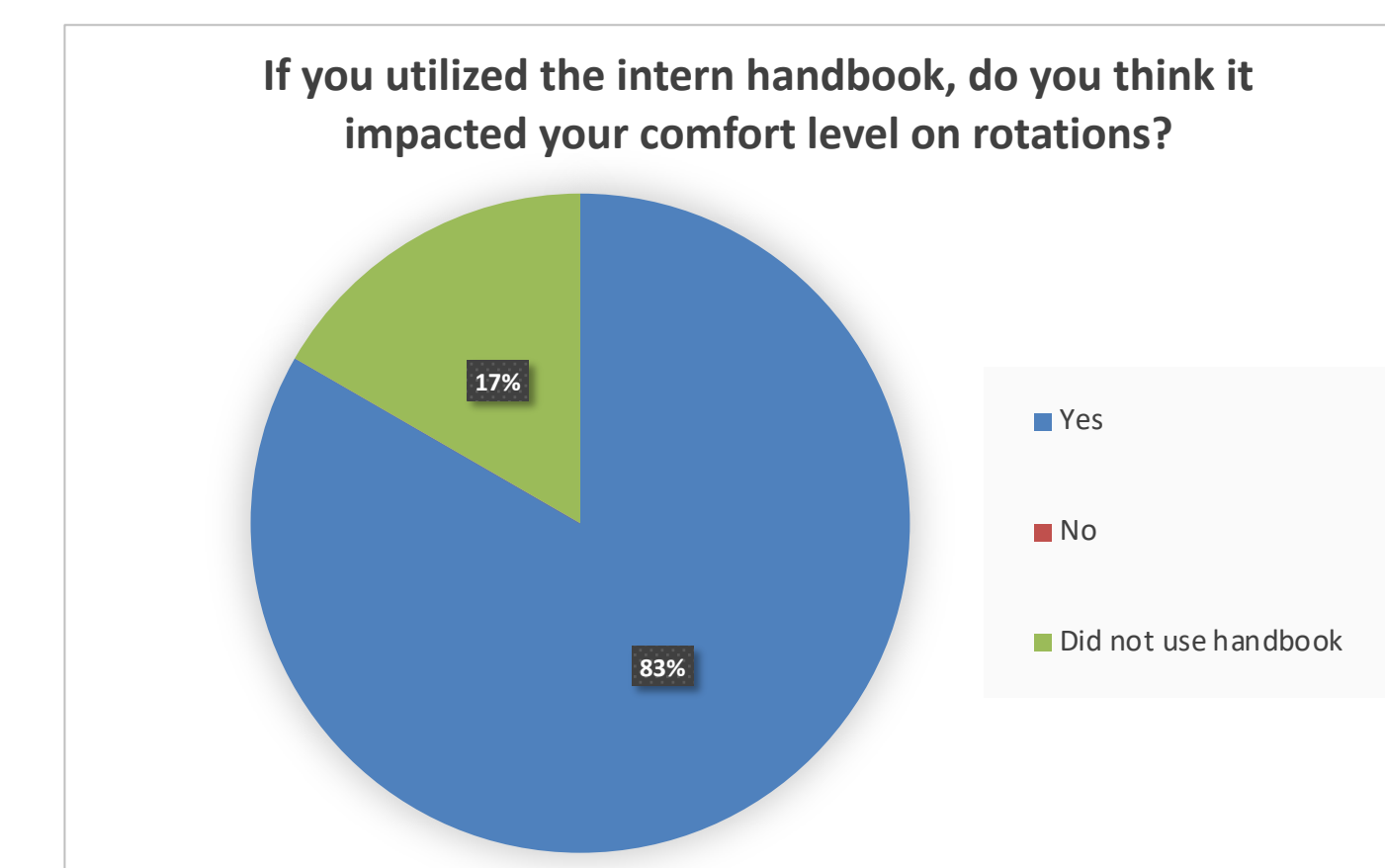


Figure 1. Eighty-three percent (5/6) of residents felt that the handbook impacted level of comfortability

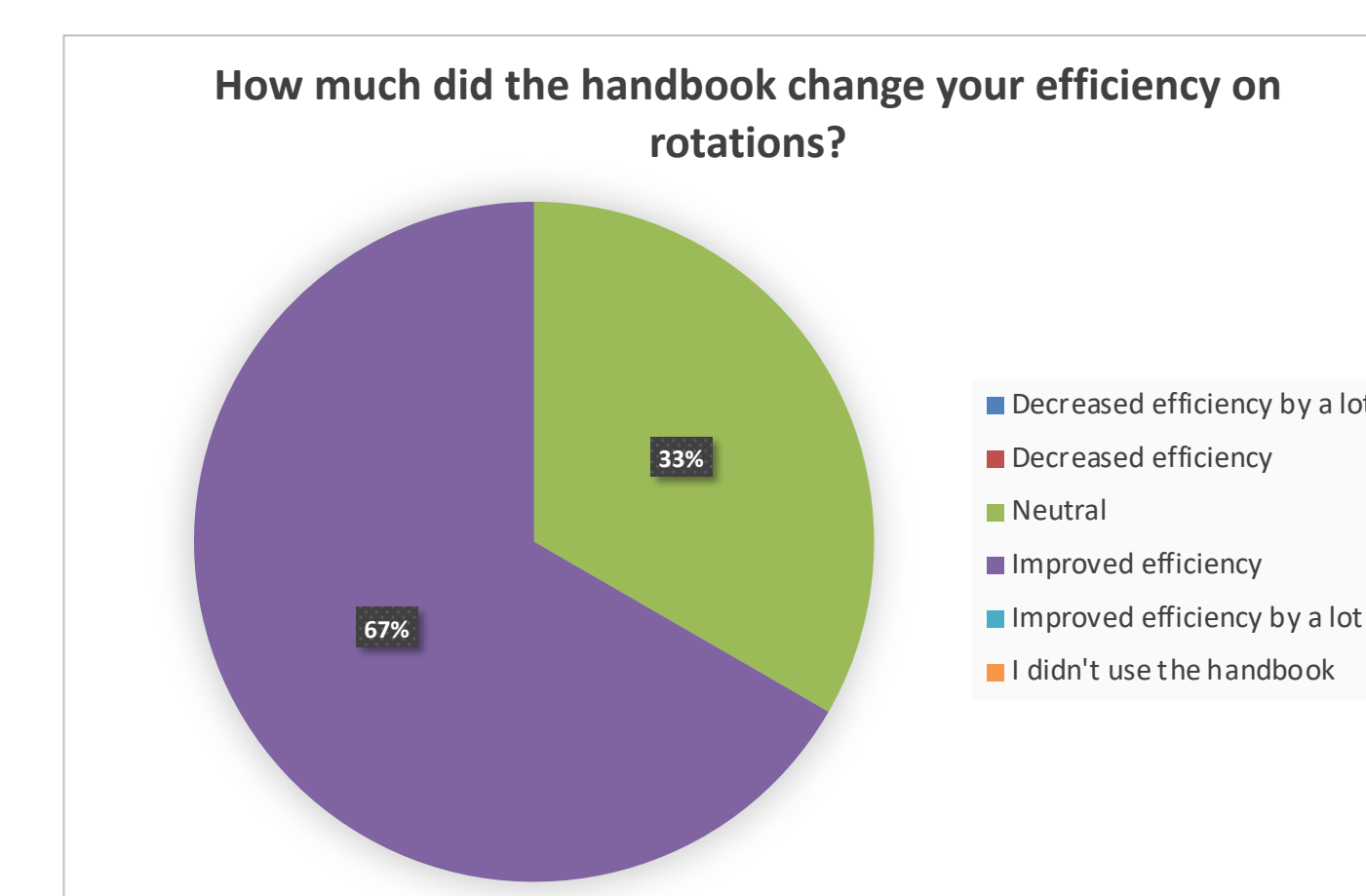


Figure 2. Sixty-seven percent (4/6) found that the handbook improved their efficiency on rotations

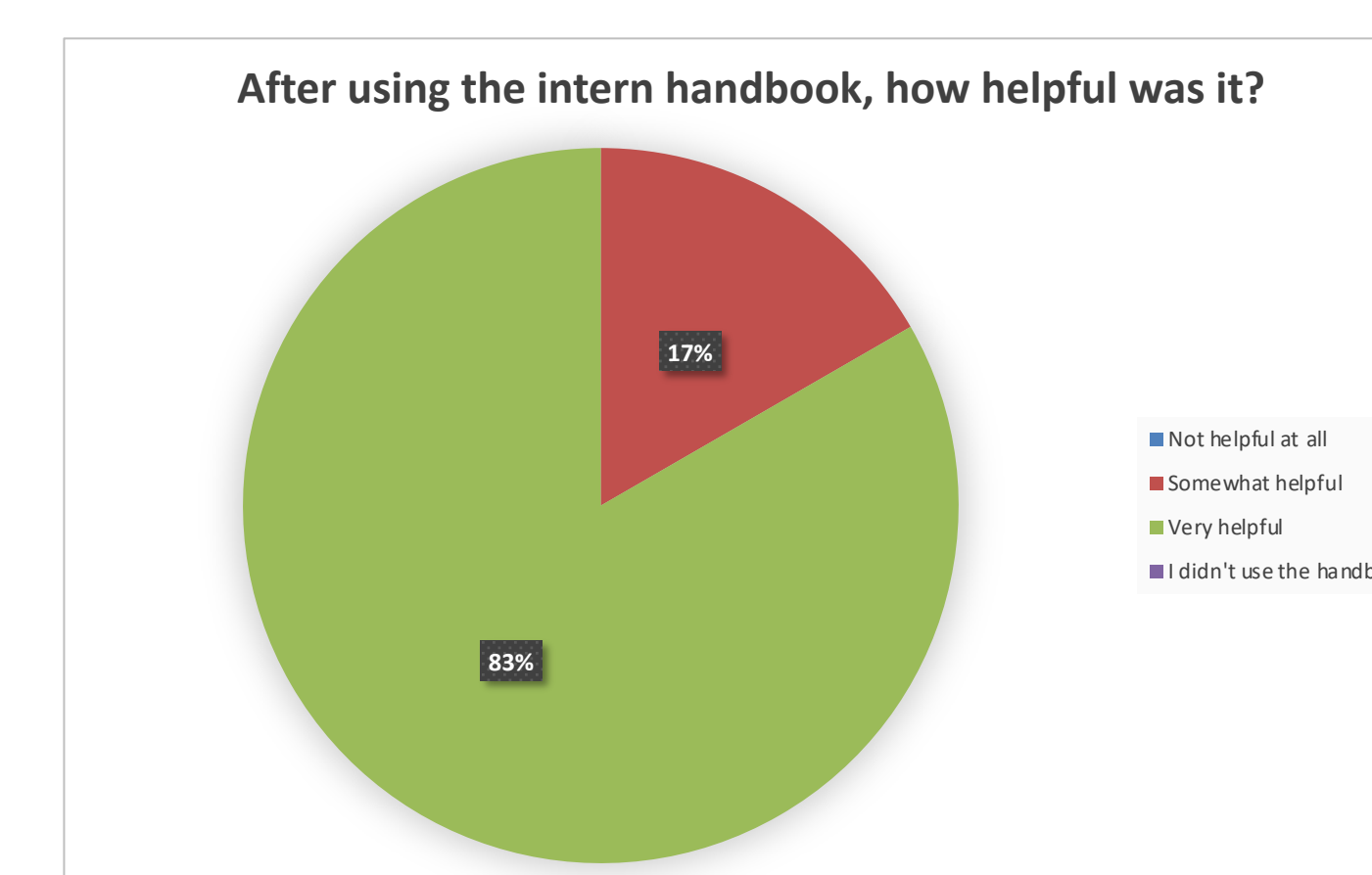


Figure 3. All residents that participated in the study found the handbook to be helpful with 5/6 finding it very helpful.

Limitations

- By nature of being on rotations, pediatric first year residents gradually become more comfortable.
- Small sample size with n = 6 in post-test.
- Prone to recall bias.

Future Steps

- Provide incoming first year pediatric residents with handbook at orientation
- Obtain presurvey prior to starting rotation and obtain post survey after finishing rotation

Conclusions

- The majority of pediatric first year residents found the digital handbook to improve their comfortability and efficiency on rotations.
- Most pediatric residents found the medical education handbook to be very helpful.
- Further application of a digital handbook may ease the transition to a new institution.

References

- Levin AS, Haq IU, LaPorte DM. Pre-course cognitive training using a smartphone application in orthopaedic intern surgical skills "boot camps". J Orthop. 2018;27;15(2):506-508.
- Zoghbi V, Caskey R, et al. "How To" Videos to Improve Resident Performance of Essential Perioperative Electronic Medical Records and Clinical Tasks. Journal of Surgical Education Philadelphia. 2017;75(2):489-496.

The authors report no conflicts of interest