

patient safety (PS). Programs already track resident procedures.

**Objective:** To identify trends in resident recorded concerns about the clinical environment in the ED.

**Methods:** This study was conducted at a 4 year training program hosting 13 residents a year within a suburban health care system with two academic training sites. After IRB review, the residency procedure logging software New Innovations™ was used to collect resident observations of their concerns in the ED. The Residency Steering Committee required 3 logs per 28 day ED rotation. Use of the formal institutional PS reporting system was noted via submission number. Logs contained the resident’s observation, a suggested cause and a proposed countermeasure. Logs were reviewed qualitatively using methodology described by MacQueen et al and are analyzed descriptively.

**Results:** From 8/2016 through 5/2019 63 residents submitted 965 logs. Of these, 133 were PS reports, 6 were incomplete and 21 were deemed repeat submissions of the same event. The remaining 805 de-identified logs were reviewed and assigned to 1 of 19 themes each with sub-categories. Table One demonstrates this analysis. By PGY year, 1’s most commonly submitted concerns with nursing, 2’s issues with policies/ protocols, 3’s behaviors and 4’s triage issues. Notable were 24 logs from events outside the ED.

**Conclusions:** In this single site study of resident logs, it appears that required observations yields a variety of PS concerns. While the logs were a convenience sample, they can be used to inform future resident QI projects. With the submission of formal PS report numbers, the logs can document resident involvement in formal institutional PS systems. By submitting non-ED events, it appears the requirement contributed to a culture of PS.

**Table 1.** Qualitatively Analyzed Themes in Resident Patient Safely Logs By Order of Frequency.

Theme	Log Count (Percent)
Nursing Practices	103 (12.8%)
Communication	95 (11.8%)
Equipment, Stocking	80 (9.9%)
Hallway Beds	70 (8.7%)
Hospital Systems	68 (8.4%)
Issues with Triage	51 (6.3%)
ED Policies, Administration	40 (5.0%)
ED Providers	38 (4.7%)
Laboratory Issues	38 (4.7%)
ED Throughput, Operations	37 (4.6%)
Professionalism	33 (4.1%)
Issues with the EMR	33 (4.1%)
Factors Outside the ED/Hospital	28 (3.5%)
ED Staffing Issues	27 (3.4%)
Issues with Security	19 (2.4%)
Registration Concerns	16 (2.0%)
Need for Further Staff Education	12 (1.5%)
Scheduled IT Software Downtime	10 (1.2%)
Sanitation	8 (1.0%)

44

**Qualitative Feedback and a Revised AIR Score: An improved Quality Evaluation Tool for Online Educational Resources**

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**Background:** Learners increasingly rely on online educational resources. However, most online resources lack peer-review, leading to concerns about content accuracy and quality. The Academic Life in Emergency Medicine Approved Instructional Resources (ALiEM AIR) score was developed for expert educators to appraise the quality of online educational resources and has demonstrated validity when used in this context.

**Objective:**

- We sought to evaluate the usability of the ALiEM AIR scoring tool among a diverse population of practicing physicians and medical trainees.
- We sought to use that qualitative feedback to improve the ALiEM AIR scoring tool.

**Methods:** As part of the larger METRIQ blog study, medical students, EM residents, and EM attendings used the ALiEM AIR score to assess 5 medical blog posts, after which they evaluated its usability, clarity of items, and the likelihood of recommending it to others via an online survey with free response items. Qualitative analysis using a thematic approach was performed by two independent analysts. Inter-rater agreement was 81.4%. Discrepancies were resolved through in-depth discussion and negotiated consensus.\*

**Results:** Of 330 initially recruited, an international sample of 301 participants completed the ALiEM AIR Score evaluation. Results of qualitative analysis are shown in Table 1. Four major themes related to ease of use were identified including: clarity, logical structure, concise, and alignment with educational value. Major themes related to limitations of the tool included questionnaire best practices, validity concerns, and challenges assessing and limitations of evidence based medicine. Major themes in support of use included evaluative utility and usability.

**Conclusions:** While the ALiEM AIR score has numerous strengths, specific components require improvement to improve usability and utility.

\*We are currently updating the AIR tool in response to the feedback.

**Table 1.** Results of Qualitative Analysis.

	Major Themes	Subthemes	Exemplar Quotes
Describe why the ALiEM AIR tool was easy to use	Clarity		"I gave relatively clear cut criteria for evaluating a blog post" "The ALiEM AIR tool asked simple questions and offered simple responses"
	Logical Structure		"It contains logical questions that are easily applied to each resource." "I think the tool was fairly intuitive to use" "Overall questions were direct and easy to apply to blog posts"
	Concise		"Relatively short" "It was easy to use because it was short and concise" "The questions are very relevant" "The tool is simple and hits on several major aspects of what makes a good quality blog post"
What was unclear about this these items?	Questionnaire best practices	Double barreled questions Lack of written anchors for all response items	"Gaps in the anchors levels leave some level of interpretation which reduced utilization" "More than a few blog posts did not match with any of the answers because some were 'interesting' but not 'new', some were not 'new' but were definitely 'important'
	Validity concerns	Score utility may vary according to purpose of the blog Scores may vary depending on audience/learner level Score is dependent on assessor's knowledge and experience	"Clinical educational pearls for residents" is a little too subjective and the group is too broad. Perhaps stratifying by year? Interns, juniors, seniors?" "ROADM has been criticized for over-emphasizing very new topics and under-representing core concepts and this question could systematically down-rate important topics that are not strictly 'new'" "Clinical pearls [was] challenging since I do not feel qualified to know whether the information presented would change current practice. I also did not feel qualified to comment on the key educational pearls with confidence...at this point in my training." "Regarding accuracy, I think this implies the reader of the blog has some previous knowledge which is often not the case, making it difficult at times to answer."
Why would you recommend the ALiEM score for the evaluation of blog posts?	Challenge assessing and limitations of evidence based medicine		"Just because it's 'EM' doesn't mean it's without bias." "It is very easy to appear to be practicing EBM but to do it badly."
	Evaluative utility		"It is more relevant and reflects usability better for clinical practice" "seems to encompass what I would care about in a blog" "Criteria used to rate the blogs are those that I feel are most important to establish valuable medical education sources"
	Usability		"Straightforward and easy to use" "It is a good and simple score to use"