future occurrences.

Results: Six of twenty (6/20) teams failed to follow standardized safety procedures, which resulted in a potentially life-threatening medication error. One team failed to identify the medication dosing error despite patient decompensation. Interestingly, though 19/20 teams eventually knew about the medication error or near miss, only 63% of all residents chose to report the significant medication error/near miss in ERS. Most residents who reported the error demonstrated insight into how the identified error occurred; however, 65% of residents failed to offer any suggestions for mitigating future errors. Using the CLER pathway to excellence framework in safety, this assessment highlights educational gaps in Pediatric Procedural Sedation. Our patient safety curriculum will be modified to help residents recognize errors/near misses and act to prevent future error.

Best of the Best Research Oral Presentations

1 Assessment of Accountability and Professionalism Competencies by Emergency Medicine Residency Programs

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Background: Non-technical skills (NTS), such as professionalism and accountability, are vital to providing high quality patient care. While NTS are mandated core competencies for Emergency Medicine (EM) residents, the methods used to evaluate performance and determine NTS competency are not standardized, bringing the validity of measurements into question.

Objectives: To determine the type and frequency of methods US-based EM residencies use to assess the NTS competencies of Accountability and Professionalism, as well as how often graduating residents meet NTS competency goals.

Methods: The study group, all of whom are involved in resident education, created a cross-sectional survey exploring assessment and competency in Accountability and Professionalism. The survey was piloted and modified for content and clarity through iterative feedback from EM physicians not involved in the study. In August 2017, the final survey was sent online to the Clinical Competency Committee (CCC) chair or Program Director of the 185 ACGME-accredited residencies. Results were summarized using descriptive statistics and parametric confidence interval estimates.

Results: 121 programs (65.4%) completed the survey. The most commonly used methods of assessment for both competencies were faculty shift evaluation (89.7%; 95% CI 85.1, 93.2), CCC opinion (86.8%; 95% CI 81.8, 90.8), and faculty summative assessment (76.4%; 95% CI 70.6, 81.6). Self-evaluation (46.7%; 95% CI 40.3, 53.2), gestalt (52.9%; 95% CI 46.4, 59.3%) and lack of complaints (36.4%; 95% CI 30.3, 42.8) were also used as assessment tools. 28.9% [95% CI (21.0, 37.9)] of programs use a formal measurement rubric to assess NTS. Only 11.2% [95% CI (6.1, 18.4)] of programs felt they are very effective at determining mastery of these competencies. Only 40.1% [95% CI (33.7, 46.7)} felt that greater than 95% met the milestone graduation goal, while 3.0% [95% CI (1.2, 6.1)] felt that less than 50% met this goal.

Conclusions: Programs rely heavily on faculty opinion, often without a formalized rubric, to determine if residents attain competency in Accountability and Professionalism. Less than half of residency programs felt that greater than 95% of their residents met the graduation goal for these competencies, suggesting a need for improvement in training and evaluation of NTS.

2 Comparison of Faculty and Nurse Assessment of Emergency Medicine Residents

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Background: The Accreditation Council for Graduate Medical Education requires emergency medicine residencies to use multi-source feedback when assessing their residents' clinical competencies. Few studies have compared faculty evaluations to those of nurses.

Objectives: To assess the reliability of a nursing evaluation instrument for resident feedback, as well as to compare nursing evaluations with attending physician evaluations using the same instrument.

Methods: A retrospective analysis of 224 anonymous nursing evaluations and 623 anonymous faculty evaluations of 37 residents during 2016 was performed. Participants were asked to evaluate the resident on a five-point Likert scale on four measures: overall bedside manner, communication skills with patients, communication skills with nurses and other non-physician staff, and medical knowledge and clinical skills. They were also asked to answer yes or no to the question "would you want this resident to take care of you or a member of your family?" An intraclass correlation coefficient (ICC) and Pearson correlation coefficient (PCC) were determined for each question in order to evaluate the

reliability of nursing and attending physician evaluations as well as to evaluate how well they correlate with one another.

Results: The ICC inter-rater agreement measures for nurse evaluators were fair to good, ranging from 0.56 to 0.68 for the 5 questions on the instrument. The ICC inter-rater agreement measure for the physician evaluators was poor, ranging from 0.15 to 0.33. For all questions, nursing and attending responses were moderately, positively correlated, with PCC ranging from 0.40 to 0.51 and p-values below 0.05.

Conclusions: When used by nursing staff, our evaluation instrument is a reliable means to provide resident feedback that correlates positively with attending feedback.

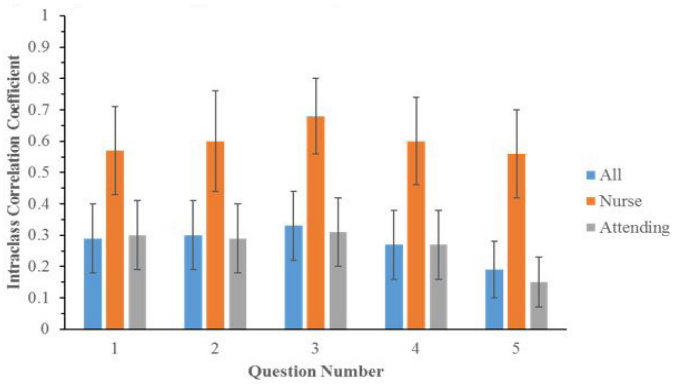

Figure 1. Intraclass correlation coefficient with 95% confidence interval of nurse and attending evaluators from a 360-degree evaluation of emergency medicine residents' interpersonal, communication, and clinical skills, 2016.

Table 1. Pearson correlation coefficients and p-values comparing nursing and attending from a 360-degree evaluation of emergency medicine residents' interpersonal, communication, and clinical skills, 2016.

Question	Pearson Correlation Coefficient	P Value
1	0.48	0.003
2	0.47	0.003
3	0.47	0.004
4	0.40	0.02
5	0.51	0.001

3 Demographic Differences Between High and Low Scorers on the Standardized Video Interview

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Background: For the 2018 emergency medicine residency application cycle, the Association of American Medical Colleges (AAMC) is conducting an operational pilot of a Standardized Video Interview (SVI). Applicants answer a series of questions that are designed to assess knowledge of professional behaviors, and interpersonal and communication skills. Responses are scored by third party raters that have undergone AAMC unconscious bias training. Previous field testing showed no significant group differences based on sex or self-reported race/ethnicity, however it is unknown whether these findings hold true for the operational pilot.

Objectives: To determine if there are differences between high and low scorers on the SVI in regards to self-reported sex, race/ethnicity, type of medical school attended, and other demographic details.

Methods: After IRB approval, de-identified ERAS applications to one ACGME-approved emergency medicine residency were retrospectively reviewed. Data abstracted included SVI score, sex, race/ethnicity, medical school type, age, and step 1 score. Candidates were separated into quartiles by SVI score and the highest and lowest scoring quartiles were compared using chi-squared testing.

Results: A total of 1500 applications were reviewed. After exclusion of 60 for lack of SVI score, the mean and SD of SVI scores were 19.55 and 2.94, respectively, which closely approximates AAMC data for the 2018 application cycle (n=3532, mean 19.1, SD 3.1). The highest scoring quartile included applicants scoring greater than 21 and the lowest scoring quartile included applicants scoring less than 18. Differences between these groups are summarized in Table 1. Significant differences included the higher prevalence of females, self-identified Asians, and US private school applicants in the top quartile of SVI scorers. Age and Step 1 scores were similar between the two groups.

Conclusions: Differences between high and low scorers on the SVI include an increased prevalence of females, self-identified Asians, and US Private medical school applicants. These findings need further exploration prior to universal implementation of the SVI on all ERAS applications.

Table 1. Differences between high and low standarized video interview scorers,

Characteristic	Top Quartile of SVI scorers (>21) n=375	Bottom Quartile of SVI scorers (<18) n=332	Difference between Top and Bottom scorers (95% CI)
Sex, % (n)			
Male	55.5% (208)	71.4% (237)	-15.9 (-8.6 to -23.0)
Female	44.5% (167)	28.6% (95)	15.9 (8.6 to 23.0)
Self-Identity, % (n)			
White	51.5% (193)	57.8% (192)	-6.3 (-13.8 to 1.3)
Asian	19.2% (72)	12.0% (40)	7.2 (1.6 to 12.7)
Black or African American	8.5% (32)	5.7% (19)	2.8 (-1.2 to 6.8)
Hispanic, Latino, or of Spanish Origin	2.4% (9)	6.0% (20)	-3.6 (-7.0 to -0.5)
American Indian or Alaskan Native	0% (0)	0.6% (2)	-0.6 (-2.2 to 0.5)
Other	1.1% (4)	2.1% (7)	-1.0 (-3.3 to 1.1)
Multiple	8.3% (31)	7.8% (26)	0.5 (-3.8 to 4.7)
None Selected	9.1% (34)	7.8% (26)	1.3 (-3.1 to 5.6)
Medical School, % (n)			
US Public	41.6% (156)	42.2% (140)	-0.6 (-8.1 to 6.9)
US Private	34.4% (129)	20.5% (68)	13.9 (7.1 to 20.5)
Osteopathic	14.7% (55)	20.8% (69)	-6.1 (-12.0 to -0.3)
International	9.1% (34)	16.0% (53)	-6.9 (-12.1 to -1.8)
Multiple	0.3% (1)	0.6% (2)	-0.3 (-1.9 to 1.0)
Age			
Mean (SD)	27.7 (2.8)	28.2 (3.3)	-0.5 (-1.0 to 0)
Step 1 score (n)	355	316	
Mean (SD)	231.1 (16.1)	228.6 (15.7)	2.5 (0.1 to 4.9)