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Using a Novel, Online Relational Database Tool to Track Attendance and Increase Didactic Evaluations in Graduate Medical Education

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#### **Authors**

Sungar, WG  
Byyny, R  
Moreira, M  
et al.

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framework, we now collect Milestone data using a “check all that apply” evaluation system. The data collected from both attendings and nurses are mapped in real time into a visually easy-to-understand dashboard that allows residents and residency leadership to identify deficiencies and access specific qualitative feedback. While development of a dashboard is time intensive, it is easy to maintain. The cost of this project is supported by an internal grant, and the technology is currently being provided free of charge by Qualtrics as a pilot.

**Impact/Effectiveness:** Using a feedback dashboard that is easily accessible to both residents and residency leadership provides the opportunity to significantly improve transparency regarding performance. The promise of being able to individually tailor resident education using similar technology is encouraging. Thus far, residency leadership and residents have been pleased with the ability to access the robust data quickly.

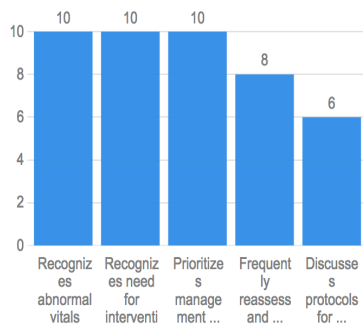
**Example of Evaluation question:**

MS1 - Emergency Stabilization of the Critically Ill Patient. (check all that apply)

- Recognizes abnormal vitals
- Recognizes need for intervention
- Prioritizes management for stabilization
- Frequently reassesses and Recognizes need for further intervention
- Discusses protocols for managing critically ill patients

**Example of how the question is mapped to Resident Dashboard:**

MS1 - Emergency Stabilization of the Critically Ill Patient 10 Responses



# 41 Using a Novel, Online Relational Database Tool to Track Attendance and Increase Didactic Evaluations in Graduate Medical Education

*Sungar WG, Byyny R, Moreira M, McCormick T, Kaplan B, Buchanan J, Blok B, Angerhofer C, Baker B, Lawson C / Denver Health Medical Center, University of Colorado School of Medicine, Denver, Colorado; University of South Carolina School of Medicine Greenville, Greenville, South Carolina*

**Background:** The ACGME requirement that emergency medicine (EM) residents attend a specific percent of planned didactic experiences, makes accurate recording of attendance critical in residency program administration. Additionally, adequate evaluation of conference material is essential for program evaluation and faculty development and promotion.

**Educational Objectives:** Our goal was to implement a system to automatically track resident conference attendance and to increase the number and quality of evaluations completed for sessions presented at the weekly didactic conference within our EM residency program.

**Curricular Design:** Through a re-design of our conference curriculum we adopted a new curriculum management system (Emergency Medicine Curriculum Assessment Tool [EMCAT] created by MedEd Guru), operated through Airtable, a free cloud-based relational database system. This tool allows for curriculum mapping and scheduling, and further functionality was developed to collect online evaluations and track attendance. Due to the ease of the system, a new mandatory evaluation process was instituted within our program, whereby attendees – both faculty and residents – only receive attendance credit if they complete an evaluation for each session that they attend. Following each didactic session, attendees are reminded to access the online evaluation form via their smartphone to complete an evaluation. To evaluate effectiveness, we compared the number of evaluations completed in our old format, in which evaluations were completed through an e-mailed form, to the new process.

**Impact/Effectiveness:** Using this system, attendance is recorded automatically and in real time, decreasing the amount of administrative efforts that were previously required, and allowing faculty and residents to access their attendance records at any time. Additionally, we have seen a drastic increase in the median number of evaluations that we receive for each conference session (3 [interquartile range (IQR) 2-4] vs 31 [IQR 25-40], difference 27 [95% confidence interval,

22.2-31.8]). This increase in the number of evaluations has also resulted in a more than threefold increase in the total character count of qualitative feedback per session (266.2 vs 851.5). This improvement in the quantity and quality of feedback incentivizes faculty participation and allows for more robust program evaluation.

| #  | Total Attendance (Hrs) | Attendance % TOTAL | Attendance % TO DATE | Current Through |
|----|------------------------|--------------------|----------------------|-----------------|
| 1  | 53.0                   | 26.2%              | 55.8%                | 11/28/2018      |
| 2  | 43.5                   | 21.5%              | 45.8%                |                 |
| 3  | 76.5                   | 37.8%              | 80.5%                |                 |
| 4  | 55.8                   | 27.5%              | 58.7%                |                 |
| 5  | 70.0                   | 34.6%              | 73.7%                |                 |
| 6  | 77.5                   | 38.3%              | 81.6%                |                 |
| 7  | 61.4                   | 30.3%              | 64.6%                |                 |
| 8  | 52.8                   | 26.0%              | 55.5%                |                 |
| 9  | 37.8                   | 18.6%              | 39.7%                |                 |
| 10 | 28.0                   | 13.8%              | 29.5%                |                 |
| 11 | 78.0                   | 38.5%              | 82.1%                |                 |
| 12 | 78.3                   | 38.6%              | 82.4%                |                 |
| 13 | 38.0                   | 18.8%              | 40.0%                |                 |
| 14 | 33.8                   | 16.7%              | 35.5%                |                 |
| 15 | 47.3                   | 23.3%              | 49.7%                |                 |
| 16 | 65.5                   | 32.3%              | 68.9%                |                 |
| 17 | 48.5                   | 24.0%              | 51.1%                |                 |
| 18 | 30.0                   | 14.8%              | 31.6%                |                 |

## 42 Innovative Evaluation Tool: Fast, Robust and Mobile Engaging Faculty in Both Written Evaluations and Verbal Communication

Harrison R, Goldflam K, Tsyrlunik A, Wood B, Della-Giustina D / Yale School of Medicine, New Haven, Connecticut

**Background:** Across all specialties, residency leadership is required to provide evaluation and feedback to residents. We identified a need for improved compliance with resident evaluation of clinical performance within the emergency department.

**Educational Objectives:** A novel evaluation tool was developed to engage more faculty in the completion of evaluations and encourage more timely and useful feedback to residents. The evaluation tool assesses Milestones, procedural competencies, and general feedback in a quick, easy, and mobile fashion.

**Curricular Design:** Gathering data from two focus groups and two internal surveys, we developed an evaluation tool using Qualtrics that faculty could access via a mobile device. A simple version of the tool was initially piloted, and modifications have since been made to make it more robust. Currently, the evaluation tool is a web-based survey form easily accessed on a mobile device or

computer. It takes 3-4 minutes to complete. The evaluator is given two randomized questions from a pool of 17 that represent the non-procedural Milestones. The language of the questions is designed to extract the clinical aspects of the Milestones. The evaluator is not forced to place the resident on a scale, but rather check all competencies that apply. The evaluator is then given a list of procedures. If the evaluator has observed a procedure performed by a resident, he or she can evaluate the resident's performance based on Milestone competencies. Lastly, there are two qualitative questions that can be dictated if using a mobile device: strengths of shift, and items to work on/medical topic to focus on. A prompt is then provided to assess whether verbal feedback was given to the resident.

**Impact/Effectiveness:** This survey-based evaluation form is an easy and quick method for faculty to complete resident evaluations. Compliance with evaluations has increased from approximately 18 faculty with the traditional system to over 45 with the new tool. Additionally, residents were surveyed after receiving the new evaluations and found the information to be more specific and more useful. Attendings have increasingly self-identified an increase in the amount of verbal feedback that is being communicated. During the pilot phase, 39.4% (n = 494) of individual evaluations noted that the attending did not provide any feedback. In the current model after a year of implementation, 31.7% (n = 1083) of individual evaluations noted that attendings did not provide feedback. The amount of constructive feedback has increased from 32.9% (n = 494) to 43.12% (n = 1083). In summary, the new survey-based tool has proven to engage more faculty in evaluation while providing more timely and specific information to the residents. Because the tool is based on a survey system, a similar tool would be easy to implement within other emergency medicine residencies.

## 43 Residents as Teachers: Applying the Foundations Model for Structured Near-Peer Education

Grabow Moore K, Ketterer A, Dick-Perez R, Weygandt P. L., Caretta-Weyer H, Berberian J / Emory University, Atlanta, Georgia; Beth Israel Deaconess Medical Center, Boston, Massachusetts; Marquette General Hospital, Marquette, Michigan; Johns Hopkins University, Baltimore, Maryland; Stanford University, Stanford, California; Christiana Care Health System, Christiana, Delaware

**Background:** Meeting the needs of learners of different levels is one of the major challenges of resident education. Most programs cover core content by teaching to the middle, leaving beginners confused and advanced residents disengaged. Foundations of Emergency Medicine