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Use of Online Marketing Technology To Track Resident Engagement In A FOAM-Supplemented Curriculum

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interpersonal and communication skills. Immediate direct feedback by the standardized patient was invaluable and well received by the residents. The OSCE provided valuable information regarding resident performance and may be used to track resident progress.

Table 1.

EM Year	EM milestones/Level addressed
1	Milestones 1,2,3 and 4 (level 1)
2	Milestones 1,2,3,4,5, 16, 18 and 19 (level 2)
3	Milestones 1,2,3,4,5, and 7 (level 3)
4	Milestones 2, 16, 20, 21, 22, 23 (level 4)

71 Use of a CPC to Demonstrate Resident Completion of Multiple ACGME EM Milestones

Background: The Clinical Pathologic Conference (CPC) is a case presentation in which an unknown case is presented to a discussant in advance of a didactic to prepare a presentation of an organized approach to a differential diagnosis. Several Emergency Medicine (EM) professional groups hold annual CPC competitions utilizing resident presenters and faculty discussants. Our group previously reported on the use of the CPC format to enhance faculty development.

Educational Objectives: To utilize the CPC format to document senior resident completion of multiple Milestones within the ACGME EM Project.

Curricular Design: This educational project was conducted at a dually approved 1-4 Emergency Medicine (EM) residency containing 13 residents per class. As prior to the Milestones project, all PGY 2 residents submit a clinical case including history, physical examination and initial data, as well as a separate case resolution including the final diagnosis and case outcome, noting relevance to EM. Due to time constraints of a 5 hour didactic session, the best 8 cases as judged by the program's CPC Chair (using the available CORD online "Selecting a Case for the CPC") were previously distributed to faculty and discussed. With the introduction of the Milestones Project, PGY 4 residents serving as case discussants could meet multiple milestones. Therefore, all 13 unknown cases were distributed to senior residents to evaluate.

Impact/Effectiveness: Given time constraints, 8 cases continued to be presented orally by PGY 4 discussants. The remaining 5 resident case discussions are returned to the CPC Chair in electronic format; they are evaluated by a core faculty member and then included in the resident portfolio. The 8 cases presented were evaluated by at least 3 faculty with CPC competition experience. The feedback on these forms is summarized by the CPC Chair, disseminated to the resident as feedback, and included in the resident's file. The organized discussion by all PGY 4's, depending on quality, serves to begin evaluating residents for the Level 5 anchors of Milestones 2, 3 and 4. It also can substantiate

prior documentation of Milestones 2, Level 4; 3, Level 3; 4 Levels 2, 3, 4; and 6 Level 4. The most outstanding resident discussant represents the program at a state-wide CPC competition rather than a faculty member.

72 Use of Online Marketing Technology To Track Resident Engagement In A FOAM-Supplemented Curriculum

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Background: Resident engagement in EM curricula is critical. Supplementing traditional textbook reading with FOAM-based content is becoming standard for modern EM learners. Possessing real-time, detailed data of resident engagement would allow for targeted intervention and tailoring of the curriculum. Survey-based studies of engagement are limited by recall bias and self-reporting. Modern technology allows for extremely powerful and comprehensive data collection affording new opportunities for improvement in resident education.

Educational Objectives: To obtain real-time, detailed tracking of resident engagement in an internet-based EM curriculum incorporating both traditional and FOAM materials, facilitating continuous improvement in resident education and providing data for study.

Curricular Design: We use a free, online, multimedia-rich e-mail delivery program (MailChimp™) as the delivery vehicle for our enhanced curriculum. Each week a senior resident generates an e-mail to residents with access to textbook chapters and primary literature, in addition to supplemental podcasts, blogs, and quizzes. MailChimp registers when, and if, a resident opens the e-mail or its links. The program continuously calculates "opened," "not opened," and "clicked" rates for the distribution list, subgroups, and individual residents both for specific e-mails and the year as a whole. Data are presented in an easy to interpret online dashboard. This allows for nearly effortless capture of resident engagement in the prescribed curriculum.

Impact/Effectiveness: Internet-based delivery and incorporation of FOAM into the curriculum has resulted in a more engaged and prepared resident body during conference. Data analysis allows us to identify which materials inspire the greatest resident engagement, and has shed insight into wide differences both between and within post-graduate years in preferred methods of learning; particularly notable is decreasing engagement with textbook-based materials with increasing level of training (see Table 1). There is significant enthusiasm for the new curriculum although wide variation in utilization by individual residents shows opportunity for continued development.

Table 1.

Total Textbook Chapters Provided	39	Total FOAMed Items Provided	110
PGY-1			
Mean Chapters Read	19	Mean FOAMed Items Read	18
Median Chapters Read	17	Median FOAMed Items Read	16
Standard Deviation	12	Standard Deviation	14
Range	2 - 39	Range	1 - 48
PGY-2			
Mean Chapters Read	12	Mean FOAMed Items Read	10
Median Chapters Read	10	Median FOAMed Items Read	4
Standard Deviation	10	Standard Deviation	12
Range	0 - 39	Range	0 - 40
PGY-3			
Mean Chapters Read	5	Mean FOAMed Items Read	15
Median Chapters Read	3	Median FOAMed Items Read	9
Standard Deviation	5	Standard Deviation	20
Range	0 - 14	Range	0 - 77

Table 1. Consumption of Textbook Chapters and "FOAMed" Content by Post-Graduate Year (Sample Size: 16 Weeks; 14 Residents Per Post-Graduate Year)

73 Utilization of Educational Blogs to Supplement Self-Directed Learning and Small Group Based Didactic Sessions

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Background: The current generation of learner uses free open access medical education (FOAMed) such as blog posts, podcasts, Twitter and Facebook alongside traditional teaching methods such as textbooks and conference lectures to advance their knowledge of emergency medicine. The emergency medicine residency curriculum at The Ohio State University lacked any formal education to guide participation in the FOAMed community. We developed a system to publish regular posts on a departmental blog site to promote digital scholarship.

Educational Objectives:

1. Critically evaluate online sources for accuracy and applicability to emergency medicine practice.
2. To generate scholarly articles or blog posts appropriate for an emergency medicine audience.
3. Develop digital professionalism.

Curricular Design: Four residents were recruited as editors for the department blog site. They worked with

the residency to generate scholarly blog articles with a goal to post one article per week. Topics could be related to the conference curriculum, interesting clinical cases, recent publications, or other areas of personal interest. The resident editors generated draft blog posts and then attending physicians edited for accuracy and readability. Attending editors removed any potential protected health information. Published posts were distributed on the department list serve and advertised on twitter. Since inception in September 2015, residents and attendings published 10 blog posts with 3427 views and 1995 visitors from 10 different countries. Residents that have participated in the process have felt a great sense of accomplishment and were engaged in the material more than typical lecture style teaching.

Impact/Effectiveness: The modern resident engages with online learning and discussion. Medical students and residents need instruction on how to navigate this online community and how to be active participates in digital scholarship. Through organizing regular posting on a departmental blog, a few resident editors have felt great accomplishment, honed skills of digital scholarship, and developed digital professionalism. Limitations include reaching the entire resident body, as only motivated and interested learners participate regularly in the blog post production and discussion.

74 Utilizing E-Value as a Novel Approach to Create Small Group Modules and Review Completed Resident Coursework

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Background: The flipped classroom learning approach is recognized as the preferred curricular model in medical education. Our residency didactic curriculum is based on the flipped classroom design with small group discussions rather than traditional lectures to teach the core content of emergency medicine. Learner preparation is vital to maximize their mastery of weekly core content topics; therefore, methods to review completed assignments are necessary to ensure curricular success.

Educational Objectives:

1. Customize and utilize E-Value, our institution's chosen electronic organization system for medical education, as a didactic curriculum manager and method to create small group modules to be completed by resident learners prior to small group discussions.
2. Utilize E-Value to review completed resident coursework and provide feedback to the learners.

Curricular Design: Our residency program coordinator worked closely with E-Value developers to customize the interface to specifically meet our curricular needs. As curricular material is created by education faculty, small group