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The Point-of-Care Evidence-Based Medicine Online Resource: Two Year Follow-Up

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statistically significant. When comparing the change from baseline to post-intervention, there was not a significant difference between the control and intervention group survey responses or ITE scores.

Conclusions: Our wellness intervention did not make a statistically significant difference in burnout components or medical knowledge among residents. Our study was limited by the number of participants.

Table 1. Comparison of baseline responses and ITE scores between control and intervention groups.

Variable	Control Group Median (IQR)	Intervention Group Median (IQR)	P-value
Compassion Satisfaction Score	35.0 (31.0, 38.0)	36.0 (33.0, 42.5)	0.132
Burnout Scale	28.0 (25.0, 33.0)	24.5 (21.0, 30.0)	0.105
Secondary Traumatic Stress	22.5 (19.0, 26.0)	20.0 (18.5, 22.0)	0.197
Emotional Exhaustion	33.0 (26.0, 39.0)	27.0 (19.5, 36.0)	0.152
Depersonalization	24.0 (17.0, 27.0)	19.0 (15.0, 24.5)	0.210
Personal Accomplishment	32.0 (25.0, 36.0)	34.0 (29.0, 36.5)	0.342
2015 ITE Score	69.0 (67.0, 80.0)	75.0 (72.0, 79.0)	0.416

The values in the control and intervention group columns show the median and interquartile range of the assessment summary variable or ITE score.

Table 2. Comparison of changes from baseline to post-intervention between control and intervention groups.

Variable	Control Group Median (IQR)	Intervention Group Median (IQR)	P-value
Compassion Satisfaction Score	1.0 (-2.0, 4.0)	0.0 (-2.0, 3.0)	0.695
Burnout Scale	-1.0 (-4.0, 1.0)	-1.0 (-3.5, 2.0)	0.557
Secondary Traumatic Stress	-2.0 (-5.0, 3.0)	0.0 (-2.5, 2.5)	0.284
Emotional Exhaustion	0.0 (-6.0, 2.0)	-1.0 (-4.0, 3.0)	0.769
Depersonalization	-1.0 (-2.0, 1.0)	-1.0 (-4.5, 4.5)	0.634
Personal Accomplishment	2.0 (-2.0, 4.0)	1.0 (0.0, 3.5)	0.855
ITE Score	3.0 (1.0, 8.5)	1.5 (-1.0, 10.0)	0.523

Changes were calculated by subtracting the baseline ProOOL or MBI summary variable from the corresponding post-intervention value and similarly, subtracting the 2015 ITE score from the 2016 ITE score. A positive value in the above table signifies that the score increased.

46 The Point-of-Care Evidence-Based Medicine Online Resource: Two Year Follow-Up

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Background: Evidence-based medicine (EBM) is a professional core competency, the purpose of which is to inform decisions about the care of individual patients. Most residencies fail to provide formal EBM instruction due to inadequately trained personnel and incomplete awareness of EBM resources, relying instead on teaching modalities that are asynchronous relative to the bedside. The result is often inconsistent application of EBM towards cases which incited

the original clinical question. We previously described a novel online resource which simultaneously mitigates lack of local expertise by delivering knowledge through information literacy and process experience, and promotes point-of-care (POC) EBM for direct, real-time patient benefit. This two-year follow-up analyzes the archived clinical questions and results of literature searches facilitated by the guidance of our POC EBM tool.

Objectives:

1. To understand the types of clinical questions most commonly asked by bedside EM providers.
2. To evaluate the influence of an online, POC EBM tool on rates of searching pre-appraised resources relative to unfiltered resources hierarchically lower on the EBM pyramid.
3. To determine where target literature is most often found, and what types of study designs ultimately inform clinical practice.

Methods: This is a retrospective analysis of our POC EBM registry. Questions are posed by EM providers during patient care activities. Searches are carried out in real-time by senior EM residents working an “educational shift”, who also enter questions, search strategies and results into the POC EBM registry for archival. Descriptive statistics were used to characterize the types of clinical questions asked, which resources were used in the course of the literature search, which resources yielded the target article, and which types of articles ultimately informed clinical practice.

Results: There were 304 records entered into the POC-EBM resource registry over the two-year period since its inception. The most common clinical questions related to the to cardiovascular (19.60%) and infectious disease (14.62%) subspecialties, and the therapy (52.96%) and diagnosis (23.68%) EBM action domains. Searches most commonly involved unfiltered sources of single studies (e.g. Pubmed/Medline) (79.54%) and “other” sources (e.g. Google) (57.43%). Searches least commonly involved pre-appraised resources for syntheses (e.g. DARE) (10.23%) or single studies (e.g. ACP Journal Club) (4.29%). Target articles were most commonly identified using Pubmed/Medline (36.18%), and the most common study type which answered the clinical question was a review article (23.84%).

Conclusions: The most common bedside EM questions relate to the therapy action domains, and the cardiovascular system. While our POC-EBM tool was developed with the goal of guiding users through the process experience of a hierarchical literature search, most questions were investigated using unfiltered, non-appraised resources and answered using review articles.

Table 1. Question Type.

	Proportion (%)	Confidence Interval (%)
Action Domain		
• Therapy	52.96	47.30, 58.54
• Diagnosis	23.68	19.22, 28.82
• Prognosis	9.54	6.70, 13.42
• Harm	13.82	10.36, 18.20
Organ System		
• Neuro	11.63	8.45, 15.79
• CV	19.60	15.48, 24.50
• Pulm	8.64	5.94, 12.41
• GI	10.30	7.32, 14.30
• GU	7.31	4.85, 10.87
• Heme	5.32	3.27, 8.52
• ID	14.62	11.04, 19.10
• Tox	4.65	2.77, 7.72
• Trauma	4.98	3.02, 8.12
• Other	11.96	8.74, 16.16

Table 2. Search sources and results.

	Proportion (%)	Confidence Interval (%)
Sources searched		
• Summaries	46.53	40.95, 52.20
• Guidelines	14.85	11.26, 19.34
• Synopses of syntheses	10.23	7.27, 14.21
• Syntheses	34.00	28.85, 39.54
• Synopses of studies	4.29	2.50, 7.27
• Studies	79.54	74.59, 83.73
• Other	57.43	51.76, 62.91
Source of target article		
• UTD, ACP Pier, Dynamed	7.89	5.34, 11.53
• NGC	2.30	1.10, 4.77
• DARE, Annals of EM SRS	0.66	0.16, 2.61
• Cochrane	12.83	9.50, 17.11
• ACP Journal Club	0.33	0.05, 2.32
• Pubmed/Medline	36.18	30.95, 41.77
• Trip	8.55	5.88, 12.29
• Google	21.38	17.11, 26.38
• Other	4.28	2.49, 7.25
• Not Found	5.59	3.49, 8.83
Type of target article		
• Review article	23.84	19.35, 29.00
• Guideline	5.96	3.78, 9.28
• Synopsis of synthesis	7.28	4.83, 10.84
• Synthesis	14.57	11.00, 19.04
• Synopsis of single study	0.33	0.00, 2.34
• RCT	10.60	7.58, 14.63
• Cohort	15.23	11.59, 19.77
• Cross-sectional	3.97	2.26, 6.89
• Case-control	4.30	2.51, 7.29
• Other	10.26	7.30, 14.25
• Not found	3.64	2.02, 6.48

47 Validation of a Behaviorally Anchored Evaluation form for Resident Lectures

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Background: Developing and delivering high quality lectures is a critical skill for residents seeking a career in academic Emergency Medicine. Validated tools for assessing resident lectures currently do not exist.

Objectives: We developed and tested a behaviorally anchored tool for assessing resident lectures.

Methods: We used a literature-based, consensus-building methodology to derive a lecture assessment tool (Fig. 1). We obtained resident baseline characteristics including training level and comfort with lecturing using a 1-5 Likert scale. During conference, faculty and senior resident evaluators used the assessment tool for all resident lectures. Performance in each domain of the lecture assessment was compared to training level and comfort with lecturing using ANOVA with a post-hoc Bonferroni correction. Generalizability theory testing was used to assess reliability of the scoring. A post-intervention survey was sent to faculty and residents to assess the quality of the feedback and the usability of the assessment tool.

Results: The baseline survey was completed by 64 residents. First-year residents performed worse than more advanced residents in the domains of content expertise and lecture presence (Fig. 2). Residents who felt uncomfortable with lecturing on the baseline survey performed more poorly in the domain of lecture presence than those who indicated they were comfortable with lecturing ($p < 0.0001$). There was fair reliability for all domains (G coefficients 0.445 to 0.529) except Goals & Objectives (G coefficient 0.198). On the post-intervention survey, 87% of 39 evaluators indicated they found the form to be usable and 92% indicated they were able to complete the form during the resident lecture. 96% of lecturers indicated the feedback they received was at least somewhat specific, 96% indicated the quality of the feedback was adequate to excellent, and 92% indicated the amount of feedback was adequate or more than they would have expected.

Conclusions: The derived lecture assessment tool is easy to use and provides specific, quality feedback. Scoring on the behaviorally anchored assessment displays fair reliability. Lecturer performance in the content expertise and lecture presence domains correlate with training level. Performance in the domain of lecture presence correlates with subjective comfort with lecturing.