FOAM Club: A spin on the traditional journal club format focused on blogs and podcasts

- 3 Running title: FOAM Club
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Need for Innovation – Free Open Access Medical (FOAM) resources are a widely available source of 8 9 education and practice changing information that health care providers utilize in parallel to traditional medical journals.¹³ The tried and true journal club format as we know it today has its origins in the latter 10 11 half of the 19th century, and this collaborative review of peer-reviewed and publisher-controlled 12 resources has long been a part of medical education.⁴ No such widely adopted format exists for the critical appraisal of FOAM content. Given the rapid proliferation of FOAM resources, and the 13 14 Accreditation Council for Graduate Medical Education (ACGME) endorsement for the use of 15 asynchronous online materials to count for didactic and interactive educational credit in Emergency 16 Medicine residency training there is a definitive need to create an experience akin to journal club for 17 open educational resources in medicine that teaches users how to critically appraise blogs, podcasts and other FOAM resources.5-7 18

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20 Background - Medical knowledge outpaces the rate of publication in traditional journals. The need to 21 incorporate a structured assessment of FOAM resources is now more critical than ever as the spread of 22 new knowledge occurs largely online.⁸ This deluge of information assumes many forms including 23 primary literature, manuscripts, data published online before peer review, and FOAM resources such as 24 blogs and podcasts which are being created by collaborative networks among a growing 25 multidisciplinary community of practice.³ It is crucial that we critically appraise both FOAM resources 26 and traditional peer reviewed articles alike. While Graduate Medical Education (GME) includes 27 instruction on the appraisal of primary source articles, there is a gap in training on how to appraise 28 FOAM resources. Our innovation sought to fill this need, and FOAM Club closes this gap.

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30 Ongoing work supports a structure and methodology that allows educators and clinicians to assess the 31 quality of FOAM blogs and podcasts using an evolving series of user friendly tools that incorporate factors unique to these online educational materials.^{9,10} The work to develop these tools is paramount, 32 33 as it has been noted that individual gestalt ratings for FOAM resources are unreliable for quality 34 assessment.¹¹ The most high profile of these tools is the ALIEMAIR (Academic Life in Emergency 35 Medicine Approved Instructional Resources) score which is based in part on the Best Evidence in Emergency Medicine (BEEM) score and is used to assess content for ALiEMU, an asynchronous online 36 37 platform that has been widely adopted by emergency medicine residency programs to fulfill the ACGME 38 requirements for monitored asynchronous online educational content.⁹

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40 In contrast to the ALIEM AIR score, which is designed for use by educators and requires multiple assessors, the revised METRIQ score (rMETRIQ) is designed for point of care use in the assessment of 41 42 blog articles and was recently used in a systemic review of Emergency Medicine focused FOAM content.^{12,13} Separate rating tools for the assessment of blogs and podcasts, like those published by 43 44 Colmers et al., are particularly attractive for an educational experience like FOAM Club, as we believe that reviewing quality indicators unique to each modality enriches the discussion.¹⁰ Ultimately, any of 45 these tools may serve as a well-structured template that can teach health care providers about the 46 47 critical appraisal of FOAM resources in an interactive format that is true to the spirit of the traditional journal club. 48

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50 <u>Objective of Innovation</u> – The goal of our educational innovation is to provide instruction on the quality 51 assessment of blogs and podcasts using existing materials in an in-person and online format that is 52 applicable in numerous GME settings.⁸ Structurally, our platform echoes the traditional journal club 53 format, and that familiar scaffolding is leveraged to promote a novel educational experience that will 54 effectively teach attendees how to critically appraise FOAM content in a manner that al lows them to 55 assess resources that impact clinical practice and the education of colleagues and trainees.

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57 <u>Development Process</u> – Our innovation targets GME programs with residents and teaching faculty that 58 possess a strong foundation in primary literature appraisal. To best meet the needs of this advanced 59 adult learner, we sought to rely on group learning, hands-on teaching, and curation of a community of 60 learners. We developed a 60-minute educational experience called "FOAM Club" that involves both 61 didactic and interactive elements. It echoes the format of existing journal clubs and can be readily

62 incorporated into protected educational time, academic half-days, and online video-based learning. As is

63 the case in the traditional journal club format, attendees are expected to review materials in advance.

64 One blog post and one podcast episode are selected for review, and learners are given access to

introductory materials and the assessment tools. The project was exempted by the institutional review
 board (HUM00174632).

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Implementation Phase – The 60-minute FOAM Club didactic was piloted at two pediatric emergency
 medicine fellowship programs. The details of the sessions were recorded by facilitators who took
 detailed written notes and solicited feedback from attendees.

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We piloted our educational innovation at the University of Michigan and Cincinnati Children's Divisions of Emergency Medicine in the fall of 2019. We intentionally selected a blog article and podcast episode that focused on a topic familiar to fellows and attendings (the limping child). This emphasized the appraisal tools, rather than shifting the focus to unfamiliar clinical concepts. The process of preparing for and the execution of FOAM Club is shown in Figure 1.

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78 Planning for the session included a series of introductory emails with a brief overview of the topic and 79 the assigned blog article and podcast episode for review in advance. The in-person educational 80 experience (Figure 1) began with a brief interactive introduction into the evidence supporting the use of 81 the checklists. The majority of each FOAM Club session was spent in small, facilitated groups applying 82 the checklists to the selected blog article and podcast episode. The session concluded with a facilitated 83 large group discussion. A written learner survey, which was developed by the investigators and based on 84 one in use at Cincinnati Children's was used to gather feedback. The results were analyzed via 85 descriptive statistics and content analysis of the written comments.

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We posted detailed instructions and a step-by-step guide, including reference materials, introductory
content, and facilitator resources on <u>FOAM-club.com</u>. Our hope is that by sharing both our methodology
and resources in a fashion that is true to the spirit of FOAM it will allow other programs to easily
incorporate FOAMClub into their curricula.

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92 Outcomes – Anonymous feedback was obtained from 18 participants. One third (6/18, 33%) reported 93 any prior education on FOAM resource appraisal. All attendees noted their ability to appraise FOAM resources as "confident" or "very confident" following the session. The written comments were largely 94 95 supportive of incorporating FOAM appraisal into the current curriculum (13/18 respondents) with one 96 respondent noting "it would be nice to have this in addition to journal club." Themes in the narrative 97 comments included the value of the group discussion and the structured presentation. One respondent noted that "part of the beauty of FOAM is that it can be done individually and asynchronously." We can 98 99 imagine that they would use these tools for independent review in the future. And finally, attendees remarked that it "would also be good to have an example of a poor resource." 100

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Reflective Discussion – Developing an educational intervention when the tools and evidence that 102 103 supports it are still a work in process is, in many ways, true to the spirit of FOAM. The ongoing work of 104 the METRIQ study group and others promises to refine what we know about the impact of FOAM 105 content, and how we assess it in the near-term future.^{12,13} Sharing our work on a freely available website 106 will allow us to solicit feedback and update the content at a pace that matches that of the evolving 107 evidence. With many assessment tools at our disposal we ultimately chose the individual blog and 108 podcast assessment checklists for FOAM Club because we felt that this would facilitate a more engaging 109 discussion and highlight some of the differences in each platform.¹⁰ The ALIEMAIR score is used by educators for curriculum development, and rMETRIQ is point of care, but specific to blogs.^{9,12} 110 Anecdotally, many of our colleagues consume one or the other, but not necessarily both. FOAM Club 111 112 should offer practice in assessing both blog articles and podcast episodes while exposing attendees to 113 the ongoing work that is being done. In the future we should focus on the impact of learning these skills 114 on clinical practice and engagement with the FOAM community. Finally, FOAM Club coupled with a 115 related journal club reviewing the FOAM material's key source references would make for a stimulating academic half day. 116

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<u>Conclusion</u> - Residents, fellows, students, and faculty can all benefit from learning how to critically
 appraise FOAM resources. FOAM Club is a novel, highly interactive, one-hour educational intervention
 that can improve self-reported confidence and teach new skills in the assessment of popular online
 educational resources.

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123	<u>Refer</u>	erence					
124	1.	Nickson CP, Cadogan MD. Free Open Access Medical education (FOAM) for the emergency					
125		physician. Emerg Med Australas 2014;26(1):76-83. (In eng). DOI: 10.1111/1742-6723.12191.					
126	2.	Cadogan M, Thoma B, Chan TM, Lin M. Free Open Access Meducation (FOAM): the rise of					
127		emergency medicine and critical care blogs and podcasts (2002-2013). Emerg Med J					
128		2014;31(e1):e76-7. (In eng). DOI: 10.1136/emermed-2013-203502.					
129	3.	Chan TM, Stehman C, Gottlieb M, Thoma B. A Short History of Free Open Access Medical					
130		Education. The Past, Present, and Future. ATS Scholar 2020;1(2):87-100. DOI: 10.34197/ats-					
131		scholar.2020-0014PS.					
132	4.	Linzer M. The journal club and medical education: over one hundred years of unrecorded					
133		history. Postgrad Med J 1987;63(740):475-8. (In eng). DOI: 10.1136/pgmj.63.740.475.					
134	5.	ACGME. ACGME Program Requirements for Graduate Medical Education in Emergency					
135		Medicine.					
136		(https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/110_EmergencyMedicine_					
137		<u>2020.pdf?ver=2020-06-26-125701-320</u>).					
138	6.	Sadosty AT, Goyal DG, Gene Hern H, Kilian BJ, Beeson MS. Alternatives to the conference status					
139		quo: summary recommendations from the 2008 CORD Academic Assembly Conference					
140		Alternatives workgroup. Acad Emerg Med 2009;16 Suppl 2:S25-31. (In eng). DOI:					
141		10.1111/j.1553-2712.2009.00588.x.					
117	7	Burdy F. Thoma P. Podparczyk I. Mignozult D. Shorbing I. The use of free online educational					
142	7.	resources by Canadian emergency medicine residents and program directors. CIEM					
145		2015:17(2):101.6 (In ang) DOI: 10.1017/com 2014.72					
144	0	Ting DK, Poroskie B, Luckett, Gatenouller S, Gyrold, Lanktree MB, Chan TM, Quality Appraisal and					
145	0.	Assurance Techniques for Free Open Access Medical Education (EQAM) Resources: A Panid					
140		Assurance recliniques for free Open Access Medical Education (FOAM) Resources. A Rapid					
147	0	Chap TM Crack A Daddack M Kulasagaram K Varris IM Lin M Examining Poliability and					
140	9.	Validity of an Opling Score (ALIENALP) for Pating Free Open Access Medical					
149		Education Resources Ann Emerg Med 2016;68(6):729-735 (In eng) DOI:					
151		10 1016/i annemergmed 2016 02 018					
152	10	Colmers IN Quinten S Paterson OS Lin M Thoma B. Chan T. The Quality Checklists for Health					
152	10.	Professions Plags and Podeasts, The Minnewer 2015, DOI: 10.15200/winn 144720.09760					
122		FTOTESSIONS DIORS and POULASIS. THE WITHOWEI 2015, DOI: 10.15200/WITH.144720.08769.					

- Thoma B, Sebok-Syer SS, Krishnan K, et al. Individual Gestalt Is Unreliable for the Evaluation of
 Quality in Medical Education Blogs: A METRIQ Study. Ann Emerg Med 2017;70(3):394-401. (In
 eng). DOI: 10.1016/j.annemergmed.2016.12.025.
- Colmers-Gray IN, Krishnan K, Chan TM, et al. The Revised METRIQ Score: A Quality Evaluation
 Tool for Online Educational Resources. AEM Educ Train 2019;3(4):387-392. (In eng). DOI:
- 159 10.1002/aet2.10376.
 160 13. Grock A, Bhalerao A, Chan TM, Thoma B, Wescott
- Grock A, Bhalerao A, Chan TM, Thoma B, Wescott AB, Trueger NS. Systematic Online Academic
 Resource (SOAR) Review: Renal and Genitourinary. AEM Educ Train 2019;3(4):375-386. (In eng).
 DOI: 10.1002/aet2.10351.
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165 Figure 1: Timeline used for executing FOAM Club (top) and day-of schedule for the FOAM Club session

166 (bottom).

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FOAM Club Timeline

The steps to implement an interactive didactic to teach the tools necessary to appraise FOAM resources at your institution.

4 Weeks	2 Weeks	1 Week	3 Days	1 Day	Day Of
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Watch Video

View introduction video

Introduction to Literature

- Review Learning Objectives
- Present slide deck overview of literature



Small Group Discussions

- S Facilitators break off into small groups with learners
- Assess blog article
- Assess podcast episodes

Solution Fill out validated podcast checklists

Large Group Debrief

- Share each groups assessment of sources
- O Discuss variances between groups
- Answer questions
- Explore strategies to incorporate into practice

Conclusions

Recap learning objectives

Share EM and PEM specific content sources

Share FOAM Club contacts and website

Feedback

Oistribute feedback to learners

O Distribute feedback to facilitators

Provide feedback to FOAM Club team