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FOAM authorship: Who's teaching the learners?

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17 CORD COVID-19 Task Force Report on the Pandemic Impact on Undergraduate Medical Education

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Learning Objectives: We sought to describe the effects of COVID-19 on UME within EM.

Background: The COVID-19 pandemic has affected multiple aspects of Undergraduate Medical Education (UME) beyond infection and illness. Many universities, medical schools, and hospitals instituted policy changes around educational gatherings and clinical participation. State-issued travel restrictions impacted both rotations and altered the Match process.

Objectives: We sought to describe the effects of COVID-19 on UME within EM.

Methods: CORD chartered a COVID-19 Task Force comprised of 18 selected educators to explore the pandemic’s impact on EM. A Modified Delphi process was used to develop multiple survey instruments. This process included a literature search for validated questions and internal piloting with iterative changes. After IRB approval, the UME survey was distributed to members of CORD during the 2021 Academic Assembly. Using SPSS v26, a descriptive analysis was performed.

Results: Sixty-three individuals responded to the UME survey, with 27 (42.9%) program directors (PDs), 19 (30.2%) assistant/associate PDs, 5 (7.9%) core faculty, 5 (7.9%) clerkship directors, 4 (6.3%) residents/fellows and 3 others (vice chair of education, educational researcher, unknown). Most respondents were white (84.1%) and approximately half identified as women (50.8%). Table 1 provides means and standard deviations for statements displayed from most to least important.

Conclusions: The positive financial impact on medical students was described as the greatest benefit of the pandemic. Virtual technology was varied in its impact: positive for conferences and interviewing but negative as a surrogate for clinical rotations or the ability for students to evaluate residency program culture. The top challenge facing UME was the removal of students from clinical rotations. This may impact residency programs, requiring them to remediate those skills. A limitation of this geographically broad cohort was the number of respondents.

Table 1. Undergraduate medical education benefits and challenges.

Item	Mean	SD
<i>UME Benefits – Rank 1 to 6 with 1 being most important.</i>		
Decreased financial burden of away rotations/interviews	2.53	1.76
Increased utilization of asynchronous learning	3.08	1.49
Use of videoconferencing programs (Zoom, etc.)	3.29	1.61
Re-evaluation of current education modalities for students	3.63	1.68
Ability to attend virtual education sessions from a variety of departments/programs	3.69	1.58
Time for students to participate in scholarly activity	4.77	1.29
<i>UME Challenges – Rank 1 to 7 with 1 being most important.</i>		
Students pulled from clinical rotations	1.40	0.88
How students get the “fit” of the program over the virtual platform	3.32	1.61
Use of virtual rotations while students were pulled from clinical experiences	4.18	1.47
Restrictions on simulation activities	4.45	1.73
Inability to host in-person lecture	4.58	1.65
Virtual interviews	4.70	2.00
Students having to remediate required clinical rotations prior to 4th year electives	5.30	1.77

SD = Standard Deviation

UME = Undergraduate Medical Education

18 FOAM authorship: Who’s teaching the learners?

Andrew Grock, Tiffany Fan, Max Berger, Jeff Riddell

Learning Objectives: Of all posts from the top 25 blogs in 2020, more than half came from six sites, most contained clinical content, and authors were largely North American male academics with MD degrees. Learners, content-creators, and educators must recognize these limitations in utilizing online educational content.

Background: While use of Free Open Access Medical Education (FOAM) content has grown over the last decade, concerns about quality assessment remain. Given the disconnect between the high utilization of these resources by learners and the low barriers and oversight to publishing, the authors of FOAM resources require further scrutiny.

Objectives: We sought to describe the production and authorship characteristics of the most impactful FOAM blogs.

Methods: Based on previous studies, a classification system for post content was developed by two authors with content expertise in online educational resources. We included 12 months (August, 2019 - May, 2021) of blog posts from each of the top 25 sites in the 2020 social media index (SMI). We recorded the following: number of posts per site and per author, types of post; and author related details such as gender, title, affiliation, degree, location of practice and type of practice (academic, community, or hybrid). Gender was determined based on an online identification tool (genderchecker.com).

Results: We identified 2,141 posts by 1,001 authors, with more than half produced by six websites: EM Docs (266), Life in the Fast Lane (232), EMCrit (188), ALiEM (185),

Don't Forget the Bubbles (181), and Rebel EM (174). Most content (1680 posts, 78.5%), lacked a conflicts of interest (COI) statement. Posts averaged 5.9 + 11.1 references and 2.32 + 7.8 comments. Authors were mostly academic (89%), mostly held MD degrees (67.4%), and skewed male (59.7%). Geographically, most FOAM authors reside in the USA (59.5%), Canada (22.42%), or the UK (9.4%).

Conclusions: Of all the posts in the top 25 blogs in 2020, more than half came from six sites, most contained clinical content, and authors were largely North American male academics with MD degrees. Learners, content-creators, and educators should consider the ways in which a more diverse authorship pool might bring value to the FOAM educational experience.

Table 1.

FOAM Site	Total Post	Solo Vs Co-Authored			References		Comments		Conflicts of Interest Statement			
		Total Authors	Solo	Co-Authored	Mean	Median	Mean	Median	Yes	Conflict Stat	No Conflict Stat	Not Present
LITFL	232	56	209	23	5.69	0	0.34	10.35	1		0	231
EMCrit	188	35	173	15	5.55	2	10.35	4.5	1		177	10
ALiEM	185	224	65	120	3.45	2	na	na	2		0	183
Rebel EM	174	38	158	16	3.97	3	2.62	1	0		1	173
EM Docs	266	195	176	90	12	8	0.17	0	0		4	262
Emergency Medicine Cases	61	62	27	34	9.55	7	1.68	0	1		32	28
First 10 EM	71	7	70	1	9.38	5	3.3	2	0		67	4
CanadiEM	159	136	53	106	4.81	2	0.32	0	0		0	159
Dr Smiths ECG Blog	137	16	46	91	1.55	1	6.07	6	0		0	137
EMS 12 lead	1	1	1	0	0	0	0	0	0		0	1
The Skeptics guide to EM	159	2	159	0	2.63	1	2.25	0	124		0	35
FemInEM	26	28	22	4	0.69	0	0.19	0	0		0	28
St Emlyns Blog	82	17	82	0	6	5	0.65	0	3		2	79
Emergency Ultrasound Pod	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a
Dont Forget the Bubbles	181	105	159	22	7.98	4	0.48	0	1		0	180
Flight Bridge ED	47	4	47	0	1.34	0	NA	NA	0		0	47
Intensive Care Network	8	8	8	0	0	0	0	0	0		0	8
Emergency Medicine updat	8	7	6	2	1.75	0	0	0	0		0	7
Core Ultrasound (Ultrasound	15	9	13	2	4.07	4	0.53	0	0		0	15
FOAMCast	37	2	37	0	2.92	2	0.27	0	37		0	0
EM Lit of note	11	1	11	0	3.36	2	n/a	n/a	0		11	0
EM Basic	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a
Resus ME	1	1	1	0	2	2	0	0	0		0	1
Taming the SRU	92	47	88	4	7.89	2	n/a	n/a	0		0	92
TotalEM	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a
Totals (per site)	2141	1001	1611	530	5.9 + 11.1	2.36	2.32 + 7.8	1.33	170		294	1680

Table 2.

FOAM Site	Total Authors	Average Number of Posts per Author	Gender			Academic Vs Non-Academic			Degree													total	
			M	F	Unknown	Academic	Non-Academic	Not listed	MD	DO	MBBS+MD	MBBS/MD	MD-PhD	MBCB/MBBS-PhD	APRN/PhD/NP	PhD	Student	PharmD	EMT	PA	MSc/BSc		Other/Unknown
LITFL	56	4.1	33	22	1	39	8	9	15	0	20	1	2	2	3	2	0	0	0	0	11	55	
EMCrit	35	5.4	27	8	0	31	4	0	31	0	0	0	0	1	0	0	0	0	0	0	1	35	
ALiEM	224	0.8	134	90	0	209	15	0	172	27	2	2	0	4	1	5	4	0	0	0	0	217	
Rebel EM	38	4.6	25	13	0	30	8	0	26	8	0	2	0	0	0	0	0	0	0	0	0	38	
EM Docs	195	1.4	140	55	0	183	12	0	154	24	0	3	1	0	6	6	0	0	0	0	0	194	
Emergency I	62	1.0	45	17	0	56	6	0	60	0	0	0	1	0	1	0	0	0	0	0	0	62	
First 10 EM	7	10.1	4	3	0	7	7	0	4	0	0	0	0	0	0	2	0	0	0	0	0	7	
CanadiEM	136	1.2	78	58	0	131	5	0	85	1	0	0	1	0	1	12	39	0	0	0	6	146	
Dr Smiths EC	16	8.6	10	6	0	13	3	0	13	3	0	0	0	0	0	0	0	0	0	0	0	16	
EMS 12 lead	1	1.0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
The Skeptic	2	79.5	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	
FemInEM	28	0.9	0	28	0	25	3	0	24	2	0	0	0	0	0	0	0	0	0	0	0	27	
St Emlyns Bl	17	4.8	12	5	0	17	17	0	1	0	0	12	0	1	0	0	0	0	0	0	0	15	
Emergency I	n/a	n/a																					
Dont Forget	103	1.7	40	63	0	78	10	17	6	0	0	21	2	1	8	0	3	0	4	0	0	81	
Flight Bridge	4	11.8	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	
Intensive Ca	8	1.0	5	3	0	6	2	0	2	0	0	4	0	0	1	0	0	0	0	0	1	8	
Emergency I	7	1.1	4	3	0	6	1	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7	
Core Ultraso	9	1.7	8	1	0	9	0	0	8	0	0	0	0	0	0	1	0	0	0	0	0	9	
FOAMCast	2	18.5	1	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
EM Lit of not	1	11.0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
EM Basic	n/a	n/a																					
Resus ME	1	1.0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Taming the S	47	2.0	22	25	0	47	0		46	0	0	0	1	0	0	0	0	0	0	0	0	47	
TotalEM	n/a	n/a																					
Totals (#)	999	2.1	596	402	1	891	108	26	657	66	2	66	8	3	15	25	59	5	9	2	6	975	
Totals (%)			59.70%	40.20%	0.1%	86.9	10.5	2.5	67.4	6.8	0.2	6.8	0.8	0.3	1.5	2.6	6.1	0.5	0.9	0.2	0.6	5.3	100.0