

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

Global Health and Graduate Medical Education: A Systematic Review

Permalink

<https://escholarship.org/uc/item/34r9410c>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 16(4.1)

ISSN

1936-900X

Authors

Bills, C.
Ahn, J.

Publication Date

2015

Copyright Information

Copyright 2015 by the author(s). This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

residency management software. Three subgroups: random, delayed, and immediate response, were analyzed. Evaluation survey forms were web-based and automatically emailed to all attendees following each conference presentation. The random group completed evaluations at their leisure. The delayed group was provided a 10-minute block of protected time to complete evaluations at the end of the 4-hour conference block. The immediate group was given 2-3 minutes of protected time to complete evaluations after each hourly presentation. All residents had handheld devices and Internet access.

Impact: By providing residents with handheld technology, internet access, web-based surveys, and protected time immediately following presentations, we doubled the response rate to the feedback surveys (Table 1). The residency management software automated the generation, collection, and storage of surveys. Additional functions can easily configure, manipulate, summarize, and export the data.

Table 1. Response rate to survey forms evaluating residency conferences.

	Survey response rate	Comment rate
Random group	35% (507/1435)	7.5% (107/1435)
Delayed response	66% (67/101)	8.9% (9/101)
Immediate response	74% (79/107)	21% (22/107)

28 Global Health and Graduate Medical Education: A Systematic Review

Bills C, Ahn J / Stanford University, Stanford, CA; University of Chicago, Chicago, IL

Background: Global health (GH) interest is peaking in graduate medical education (GME); many residencies now offer curricula in GH. The popularity of GH has created growth in medical education literature surrounding this topic.

Objectives: We aim to provide a systematic review of published approaches to GH in GME. **Methods:** We searched PubMed using variable terms to identify articles? with abstracts published between January 1975-April 2014 focusing on GH GME. Methodological quality was assessed using the Medical Education Research Study Quality Instrument (MERSQI), which has demonstrated reliability and validity. Articles meeting inclusion criteria were evaluated for content by two reviewers to ensure reliability.

Results: Overall 60 articles met inclusion criteria; 16 articles were evaluated by two authors to ensure inter-rater reliability. Intraclass correlation coefficient was excellent (Table 1). Articles represented research and curriculum from a number of specialties at variable institutions. Overall study quality was found to be poor. Many studies lacked multiple institution analysis, randomization, evidence supporting clinical benefit and poor

Table 1. Intraclass correlation coefficient for individual MERSQI questions.

MERSQI item	Intraclass correlation coefficient (95% CI)
Study design	1.00 (NA)
Institutions	1.00 (NA)
Response rate	0.99 (0.88-1.00)
Type of data	1.00 (0.99-1.00)
Validity-internal structure	1.00 (0.99-1.00)
Validity-content	1.00 (0.94-1.00)
Validity-relationships to variables	1.00 (NA)
Appropriateness of analysis	1.00 (NA)
Sophistication of analysis	1.00 (0.83-1.00)
Outcome	1.00 (0.99-1.00)
Total	1.00 (0.99-1.00)

MERSQI, medical education research study quality instrument

reliability and validity evidence. The mean MERSQI score was 7.57 ± 2.79 ($\hat{A} \pm SD$) out of a possible score of 18 (Table 2).

Conclusions: Overall there is significant heterogeneity in curriculum with no single strategy for teaching GH in medical education. The quality of literature (as determined by MERSQI scores) were of poor methodological quality. Deficiencies in medical education research are already widely acknowledged and GH literature is no different. GH-related manuscripts have a lower mean MERSQI score than previously studied medical education manuscripts (7.57 vs. 10.7). GH medical education literature is a field that must demand increased rigor in study methodology. Improved methods of curriculum evaluation and publication guidelines would ensure positive impact on educational quality.

Table 2. Average and standard deviation of individual MERSQI scores (n=60).

Question	Average	Standard deviation
1	1.13	0.33
2	0.61	0.29
3	0.65	0.67
4	1.34	0.91
5	0.20	0.40
6	0.52	0.50
7	0.13	0.34
8	0.74	0.44
9	1.15	0.44
10	1.10	0.26
Total	7.57	2.79

MERSQI, medical education research study quality instrument