

Criteria to Assess Health Equity Implications of Research Articles in a Family Medicine Residency Journal Club

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ABSTRACT

Background: The purpose of this study was to evaluate a novel process for appraising the health equity implications of research articles.

Methods: We added 4 questions assessing health equity implications to existing resident journal club rubrics. We assessed family medicine resident attitudes toward and confidence in assessing health equity implications using surveys and focus groups at baseline and 6 months after implementing the additional questions.

Results: Average confidence in evaluating health equity implications of research articles increased between baseline surveys (n=33) and follow-up surveys (n=12; mean change, 0.7; range, 1-4).

Discussion: Incorporating additional journal club questions increased resident confidence in critically appraising the health equity implications of research articles.

BACKGROUND

The Accreditation Council for Graduate Medical Education (ACGME) requires that family medicine residency curricula address social needs and health disparities.¹ Current efforts to meet this requirement take a variety of forms, including quality improvement projects and didactic seminars.² However, initiatives have not traditionally taught residents to evaluate how study design and discussion of findings in research articles address social needs and health disparities.

Journal clubs are a staple of graduate medical education and are widely used to teach epidemiology, biostatistics, and critical appraisal of research articles. These skills prepare trainees to ask

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relevant questions, assess research quality, and apply appropriate knowledge to clinical practice.³ Critically appraising research articles can also include assessing whether study design and associated findings impact health outcomes across distinct communities (eg, those facing systemic barriers to health equity). Systematic evaluation of the health equity relevance and implications of research articles is essential to understanding how evidence may apply across diverse populations. Currently, there are no known validated tools for the critical appraisal of health equity implications in research articles.

To address this knowledge gap, this study assessed a novel approach to appraising health equity implications during article evaluation. This approach added 4 questions to 4 existing sections of an established resident journal club evaluation rubric (ie, guiding questions to facilitate critical assessment of research articles). The additional questions direct residents to consider: (1) how the researchers included members of the target community in the study design; (2) whether study participants are representative of the target population; (3) the conceptualization and understanding of race as a social—rather than biological—construct, and (4) the use of inclusive language.⁴ These 4 areas of focus were developed based on a literature review and expert consultation with health equity researchers and teachers.^{2,5,6}

We measured the impact of the additional questions on resident attitudes toward and confidence in evaluating the health equity implications of research articles.

METHODS

We conducted this pilot study with family medicine residents at the University of Wisconsin Department of Family Medicine and

Box. Questions Added to Journal Club Evaluation Rubric

1. Do the authors describe engaging or partnering with the community they are studying as part of their research? If so, at what stage of the research process (eg, developing the research question, study design, data collection, data analysis, sharing results, etc.)?
2. Is the study sample representative of the study's target population? Do the authors report sample characteristics including age, gender, race, ethnicity, disability, sexual orientation, gender identity, and socioeconomic status? If the sample is not representative, do the authors address this in the limitations section of the paper?
3. Do the authors report outcomes based on race? Do they discuss race as a biological factor? Do they account for social determinants of health or racism as an alternate cause of the outcomes?
4. Are there any instances of noninclusive language used to describe people or groups of people (eg, "Caucasian" instead of White, "non-White" instead of reporting specific racial or ethnic groups, etc.)?

Community Health (DFMCH) (16 residents per post-graduate year [PGY]) during the 2023-2024 academic year (Figure 1). This study was exempt from review by the university's Institutional Review Board.

As part of the residency curriculum, each resident leads a 1-hour journal club to review a research article relevant to their clinical practice. Residents use article evaluation rubrics with guiding questions prepared by residency program faculty to assess relevance, validity, study population, study design, study conduct, and results.

We reviewed existing literature to develop 4 questions to guide learners in evaluating health equity implications of research articles by applying a health equity lens framework.⁷ We refined these questions based on author expertise as residency faculty, researchers, journal editorial board members, and journal editors (Box). We added 1 question to each of the 4 main sections of the article evaluation rubric to encourage consideration of health equity throughout (Appendix). We then adapted questions for application across the various study designs routinely discussed in journal club (eg, cohort, randomized controlled trial, systematic review).

Prior to implementing these new questions, we used baseline surveys and focus groups conducted between November 2023 and January 2024. Surveys measured the importance and frequency of, and confidence in, evaluating the health equity implications of research articles using a Likert scale from 1 ("not at all") to 4 ("very").

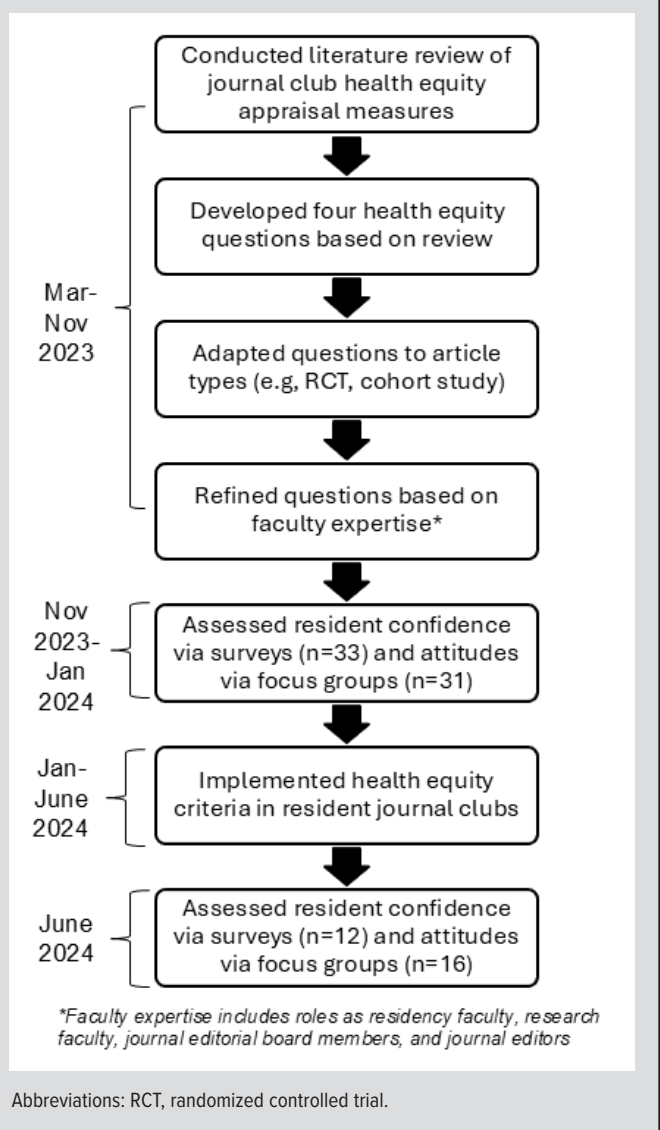
We implemented the new rubric questions in January 2024 and conducted follow-up surveys and focus groups before the end of the academic year in June 2024. Baseline and follow-up surveys and focus groups were administered to the same cohort of DFMCH residents. We compared differences in mean survey responses and identified key themes from the focus groups.

RESULTS

Baseline Results

The 2 baseline focus groups included PGY-1s (n = 14) and a combined group of PGY-2s and PGY-3s (n = 15). Prior to the inter-

Figure. Timeline of Pilot Study Activities



vention, most residents agreed that health equity implications are important to understand when evaluating research articles. However, they lacked confidence in appraisal skills and were concerned about the potential additional time commitment required because of the new questions.

Table 1 describes resident response to baseline survey questions. Prior to the intervention, residents (n = 33; 69% response rate) completed baseline surveys. While 97% of respondents reported that it was important or very important to consider health equity factors when evaluating a research paper, only 27% reported doing so. Only 18% were confident or very confident in their ability to evaluate how a study's approach incorporates health equity, and 15% reported they were confident or very confident in their ability to evaluate the implications of findings on health equity.

Follow-up Results

The 2 follow-up focus groups included PGY-1s (n = 9) and PGY-2s/

PGY-3s (n = 7). Participants expressed overall positive reactions to the new questions. Identified themes included: (1) the questions were valuable in helping residents think about health equity systematically, and (2) the new questions integrated well with the existing rubrics without adding a time burden. Participants reported that the new questions offered a framework for measuring impact on health equity.

Twelve residents completed follow-up surveys, showing significant increases in mean confidence to evaluate how a study's approach incorporated health equity (baseline mean [SD], 2.1 [0.7] vs follow-up mean [SD], 2.8 [0.6]; $P = .004$) (Table). Similarly, there was a significant increase in mean confidence to evaluate the impact of findings on health equity (baseline mean [SD], 1.9 [0.7] vs follow-up mean [SD], 2.5 [0.5]; $P = .002$) (Table).

DISCUSSION

In this pilot study, we established that the ability to assess the health equity implications of research articles is important to family medicine residents. With the addition of guiding questions to journal club rubrics, residents reported increased frequency and average confidence in their ability to assess health equity implications. These results suggest that such questions are acceptable to residents and feasible to implement. Because validated tools do not exist for this purpose, our findings can support other residency programs seeking to improve health equity education, training, and resources.

This work builds on previous efforts to advance the assessment of health equity in research practices (eg, randomized trials,⁸ implementation research⁹). Within academic medicine, activities that promote health equity—such as building relationships and developing research questions with community partners and building diverse and inclusive work environments—have often been considered auxiliary to the work expected for academic promotion.¹⁰ Integrating health equity into journal clubs emphasizes its relevance during medical education. Little research has examined how applying a health equity lens in journal clubs can improve understanding and the application of health equity within research. Previous attempts focused on topics related to diversity, equity, inclusion, or social determinants of health.^{11,12} However, evaluating the potential implications of health equity within scholarly articles is a novel training activity for graduate medical education.

Limitations of this study include a small sample size, single-institution setting, and a lack of validated questions. Additionally, the response rate was low after the intervention despite multiple reminders. The same group of residents was invited to participate in focus groups before and after the intervention, but par-

Table. Mean Responses to Attitudes About and Confidence in Assessing the Health Equity Implications of Journal Articles Before and After Implementing New Evaluation Rubric Questions

	Before n = 33 Mean (SD)	After n = 12 Mean (SD)	Change in Mean
How important is it to pay attention to health equity factors when evaluating a research paper?	3.5 (0.6)	3.8 (0.5)	+0.3
How often do you think about health equity when reading a research paper?	2.3 (0.6)	2.9 (0.7)	+0.6 ^a
How confident are you in your ability to evaluate how a study's approach incorporated health equity?	2.1 (0.7)	2.8 (0.6)	+0.7 ^a
How confident are you in your ability to evaluate the impact of a research study's findings on health equity?	1.9 (0.7)	2.5 (0.5)	+0.6 ^a

Scores ranged from 1 to 4 with higher scores reflecting greater importance, frequency, or confidence.

^aStatistically significant change in the mean value with $P < .05$.

ticipation varied. By the end of the study, all PGY-3 residents had completed residency and were more difficult to contact.

Future work includes conducting a Delphi study with health equity research experts to develop consensus on criteria for medical residents and other learners to consider as they critically appraise the health equity implications of research articles. Subsequently, this research may be extended to other residency programs and disciplines. These additions to existing journal club curricula may help advance Family Medicine ACGME's efforts to address social needs and disparities.

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Appendix: Available at www.wmjonline.org

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