As medical student interest in global health grows, medical mission trips (MMTs) play an increasingly important role in medical education. More medical students are engaging in these short-term health care experiences, where participating, typically travelling from well-resourced countries to low- and middle-income countries (LMICs), deliver medical care, conduct research while learning from local patients and providers. These medical missions vary significantly in their characteristics, and with different destinations, durations, and objectives, they can be difficult to assess for quality and efficacy.

This difficulty in characterizing and evaluating MMTs is especially important because there are meaningful concerns about the ethical implications of these brief international interventions in often indigent and vulnerable communities. A 2017 systematic review of recommended practices for MMTs determined that there was little consensus about standard of care, patient selection, and trip duration, and that comprehensive global standards were still lacking.

Several systematic reviews of the MMT literature suggest that rigorous evaluation of MMTs is lacking. Martiniuk et al. (2012) reviewed 230 MMT articles between 1985 and 2010 and found that 76% of the articles were merely descriptive without contextual or theoretical analysis. Another 2014 review of 67 articles with empirical results found that 95% had little or no data collection (Spillner et al., 2014).

Given these deficits in the evaluation of medical missions as a whole, the objective of this rapid review is to characterize the nature of studies on mission medical trips for medical trainees and determine whether these studies adequately evaluate their own success in achieving their stated objectives. If so, does the evaluation focus primarily on educational outcomes or also address outcomes for patients and communities in the host country? Finally, does evaluation of student educational outcomes rely primarily on surveys of student perceptions or are there efforts to measure these outcomes objectively? This review will differ from those discussed previously in its focus on MMTs conducted specifically by medical students, and in its analysis of MMT evaluation.

This rapid review was conducted using PRISMA guidelines. The search was conducted in PubMed between December 1, 2020 and February 1, 2021. Initial search yielded 4598202 articles, which were screened and 360 articles were evaluated using EndNote X9. Title and abstract screening were conducted to determine article eligibility and for inclusion in full text assessment. This initial screening was intended to exclude articles that did not discuss MMTs or were entirely unrelated to global health education, and 360 articles were ultimately found to be irrelevant. After title and abstract screening, descriptive articles and critical appraisals were further sorted according to categories offered by Martiniuk et al. (2012). At this stage in article screening, descriptive articles, and critical appraisals were excluded if they did not involve evaluation of medical missions.

Ten additional articles were excluded at this stage because they did not discuss medical students or because they did not evaluate MMT outcomes. The full text of the remaining 42 articles was evaluated for final inclusion in the qualitative synthesis. 19 and 19 were ultimately selected. To be included in the final cohort, articles had to conduct some evaluation of discreet MMTs to LMICs involving medical students. Some articles were excluded at this stage because they collected data about numerous trips to unspecified countries over a wide range of years. Studies in which the type of evaluation was not clear were also excluded. Study characteristics were recorded using an Excel spreadsheet. Features of each article were extracted including the country of origin of participating students and other health professions students. Finally, four articles were ultimately found to be irrelevant. Of the articles that assessed student perceptions of their international experiences, several also asked students to write reflective essays or keep journals that were also included in thematic analysis of their perspectives.

Ultimately, 19 articles were selected for inclusion in the qualitative synthesis. Article publication dates ranged from 2000 to 2020. Nine of these (47.4%) exclusively assessed educational outcomes for students or did not discuss medical students. While six (31.6%) evaluated a mix of participants including resident and attending physicians along with medical, dental, nursing, and physician assistant and other health professions students. Finally, four articles (21%) did not evaluate student participants but instead assessed host site coordinators or clinicians. A majority (17) of these articles evaluated MMTs that included students from the US, with only two studies exclusively discussing MMTs for students from other countries (Australia and Canada). Six articles evaluated MMTs for students from various, mostly Western countries. Articles discussed missions to numerous countries across Asia, Africa, and Central and South America.

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Seven of the nineteen articles aimed to evaluate student attitudes about MMTs, international health care delivery, and or are there efforts to measure these outcomes. Three articles specifically evaluated student perceptions of, and experiences with, ethical issues on their international experiences. The three articles evaluated attitudes of MMTs to their sites. Three studies evaluated changes in student competency in various topic areas (e.g., cultural competency). Dohrnoff et al. (2020) was unique for evaluating technical knowledge with a test of POCUS skills. Rovers et al. (2019) evaluated the cost of MMTs for students and providers. Finally, Nkoka et al. (2020) measured changes in student perceptions of the value of interprofessional collaboration before and after a medical mission involving medical, physician assistant, and nursing students. None of the articles in this cohort aimed to assess patient outcomes or evaluated patient perspectives.

The nineteen articles selected for relevance in this review demonstrated a common focus on the perceptions, motivations, and educational outcomes of students who embark on medical mission trips to LMICs. They also reflect a finding of existing reviews described previously, that there is a dearth of quantitative data collection and evaluation with respect to the success and efficacy of mission trip objectives. Only seven of the identified articles evaluated changes in medical student competencies, while the vast majority of studies instead focused on qualitative appraisals of students’ opinions about their international experiences. One troubling finding of this review is that none of the included articles made any effort to assess the impact of mission trips on the patients they served. Without rigorous evaluation of the potential drawbacks and benefits of MMTs for host communities, the ethical concerns around the potential exploitation of these communities and of medical tourism persist.

This review supports findings from reviews of the broader MMT literature, that there is a relative lack of quantitative assessment of the outcomes of MMTs. It is also clear that the attitudes of participants and clinicians are overwhelmingly positive and disproportionately represented. Methodologies tended to focus on qualitative data using primarily surveys and interviews. The vast majority of reviews make conclusive statements about the value of MMTs in educational outcomes such as clinical skills or cultural competency. These results support a need for a better standard of evaluation when it comes to medical missions for medical trainees. When combined with the lack of evaluation of potential outcomes from the literature, whether MMTs are truly benefiting students and the communities that they visit, increased attention on the need for better evaluation suggests that study authors and trip organizers are aware of the necessity of rigorous evaluation, and this review supports that same need when it comes to trips organized for medical students.

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