

Guidelines for Standardized Reporting of Improvement in Health Professions Education: SQUIRE-EDU

Publication guidelines, which offer a standardized format for writing, allow writers, reviewers, readers, and editors to focus on the quality and content of emerging evidence. The goal of publication guidelines is to improve the transparency and completeness of published reports (<http://www.equator-network.org>). Reports of health care improvement work were standardized in 2009 with the publication of Standards for quality improvement reporting excellence (SQUIRE; Davidoff, Batalden, Stevens, Ogrinc, & Mooney, 2009) and were updated in 2016 (Ogrinc et al., 2016). Extensive use of the SQUIRE guidelines prompted the development of an extension of the SQUIRE guidelines for the improvement of health professions education; this extension of the SQUIRE guidelines is called SQUIRE-EDU.

Health professions education is a broad arena, with multiple disciplines and wide-ranging approaches to publishing improvement in educational approaches. The lack of standardization in how to report educational improvement creates perplexing variation in what is reported and how work is reported, thereby limiting further adoption of potentially important work. Sharing educational improvement outcomes in a systematic way can ignite readers' learning, facilitate spread of work, and reduce redundancy.

Applying improvement methods to health professions education might be new to health care educators. The Carnegie Foundation for the Advancement of Teaching has already recommended the use of improvement science methods in education. The Carnegie approach identifies educational gaps, attends to con-

text, develops educational innovation informed by stakeholders, and then tests, adapts, and scales up promising interventions (Bryk, Gomez, Grunow, & LeMahieu, 2015). The six core principles of improvement in the Carnegie approach mirror quality improvement principles. SQUIRE-EDU provides health professions educators with an opportunity to learn, apply, and report their educational improvement work in a way that aligns with Carnegie's leadership in this area.

SQUIRE-EDU was developed from SQUIRE 2.0. Between February 2016 and January 2018, a five-person inter-professional leadership team used the SQUIRE 2.0 guidelines to develop, test, and revise the SQUIRE-EDU extension to increase the completeness, transparency, and replicability of reports that describe systematic efforts to improve the quality and value of health professions education. A three-phase process guided the work of this team. In phase one, the team recruited an advisory group within health professions education, resulting in 27 members representing medicine, nursing, pharmacy, education, and journal editors from the United States, Canada, and the United Kingdom. Through an iterative process, this advisory group contributed to the draft and editing of potential new guideline items. A 1-day, face-to-face development meeting allowed systematic review and improvement of each section of the guidelines. In phase two, the team invited individuals to apply SQUIRE-EDU in writing or editing a health professions education manuscript, identifying where SQUIRE-EDU items could be applied and which text the item applied. These writers also

completed a survey about their interpretation of key concepts in the guidelines, as well as their use of the guidelines. Phase three focused on integrating the feedback of the writing participants into an updated version of the guidelines, asking for feedback on this version from the advisory group, and posting this version on the SQUIRE website for public review and feedback.

One clear mandate of the diverse advisory group is for explicit consideration of how educational improvement impacts stakeholders beyond the learners and the learning. Educators often focus on the impact of educational improvements to the learners, faculty, or educational program. How do educational improvements impact patients, families, health care systems, communities, or the delivery of care? These distal connections may be hard to establish but are important to consider in the planning and reporting of educational improvement work. The idea of fidelity also surfaced as a key component of SQUIRE-EDU. Researchers understand fidelity to be the extent to which an intervention adheres to the planned protocol for that intervention. In improvement work, the intervention is modified through each cycle of change as the team gains insight into what works, for whom, and in what context. Thus, fidelity specific to SQUIRE-EDU has two elements. It refers to the adherence of the intervention to the planned protocol within each cycle of change and to the faithful use of data to inform the next cycle of change. Attention to both facets of fidelity ensures changes are driven by the findings of the previous iteration.

Nurse educators continually update curricula based on emerging practice guidelines, recommendations of initiatives such as Quality and Safety Education for Nurses, End-of-Life Nursing Education Consortium, or from updated accreditation requirements (e.g., from the American Association of Colleges of Nursing). SQUIRE-EDU will facilitate long-needed standardization in the planning and reporting of educational improvement. The widespread use of the SQUIRE guidelines has increased the rigor and quality of health care improvement literature; the authors an-

ticipate a similar impact on health care professions education literature from use of SQUIRE-EDU. Educators can find SQUIRE-EDU in an upcoming issue of *Academic Medicine*, with subsequent publication in other journals.

References

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