

New SQUIRE publication guidelines: supporting nuanced reporting and reflection on complex interventions

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In 2008, the Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines were published to clarify the content and format for published scholarly reports of healthcare improvement (<http://www.squire-statement.org>).¹ The guidelines were intended to increase the completeness, precision and transparency of those reports by establishing a level of rigour. The field has dramatically advanced even in the short time since their release, and the SQUIRE guidelines are being revised to align with those changes.

As part of the development of SQUIRE 2.0—expected to release in Autumn 2015—Brady *et al*² ‘road-tested’ a draft version of the new SQUIRE guidelines as they wrote their paper on their 6-year experience with family-activated medical emergency teams (METs) at Cincinnati Children’s Hospital.² Providing an excellent example of how the field of quality improvement has developed, their paper exemplifies how SQUIRE 2.0 will continue to help authors report their work and support the growth of the field.

Brady *et al*² took on an important topic that would be difficult to study using only the experimental research methods familiar to clinical researchers. They developed an intervention where there was uncertainty about whether it would be effective—a programme in which families would be enabled to call the MET directly if they felt their child was deteriorating and that they had not been able to secure a satisfying response on the ward. The stated goal of the programme, according to the paper, was to increase activations and reduce preventable codes, but the rationale for how that intervention would work and what exactly family-activated METs would accomplish was not fully developed at the outset. As is the case for many similar programmes, measures for outcomes and the

appropriate goal could not be easily defined before the intervention was launched: for instance, the ‘right’ number of family calls to the MET could not be determined in advance.

Further complicating the work, the events of interest occurred infrequently: families called on average only about once per month, making assessment of data challenging. The setting in which the intervention developed changed over the 6 years of the study, for example, as staff underwent training to improve their situational awareness. Even the intervention itself changed (common in quality improvement work) when the posters and family education used to teach families about the programme were altered based on feedback.

Fraught with potential confounders, an outcomes research approach to this topic would likely be doomed to fail. And yet, it was crucially important to understand what family activation of a MET could bring to the table, given that it was an intervention with strong face validity but a potentially large opportunity cost if families called too often. SQUIRE, with its emphasis on reporting iterations of the work and examination of the meaning of the results obtained, provided the framework needed to explore these issues. It provided a much-needed structure for guiding the reporting of the introduction and implementation of an intervention that changed over time, as did the context in which the intervention was deployed.

The authors navigated this report well, showing some unexpected results, the value of a family-activated MET and the challenges that emerged along the way. The data they provide will allow others to determine whether family-activated MET programmes are right for their facility, and what measures might be appropriate to determine programme success in future.



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One important learning point, for example, is that the benefits of the MET cannot be judged just by looking at the number of codes prevented. The *meaning* of the number of family-activated METs would have been hard to interpret without an exploration of the context in which the calls were made, and this Brady and colleagues succeeded in communicating. Though they hoped there would be more calls (and an associated drop in codes), an equally laudable goal could have been to decrease calls by family (eg, if families felt they could get the response they needed without making a call) and also decrease the number of codes.

In using SQUIRE to explore why they got the result they did, the authors were able to show us what families were actually doing when they made a MET call. Most often, families were ringing the alarm about a failure of communication. The authors created a more complete theory about the purpose and meaning of MET activation by family and showed it was a signal for communication failures, a problem that could otherwise be hard to identify, and that festers and adversely affects delivery of care and the family experience. This more complete theory moves the field forward by expanding our lenses beyond the medical model of MET activation and revealing what family-activated MET brings to families rather than just the health care professionals. This insight could not be obtained as easily from other methodologies and approaches to reporting.

By making clear the true value family-activated MET brings to a facility—and what needs to be done to support its implementation—we can understand what gap the programme fills in high quality care and

make more informed decisions about its suitability for other facilities.

The reporting seen in the family-activated MET paper is a window into what will be expected from authors with the next version of SQUIRE. Authors will be encouraged to report not just what happened—which is traditional outcomes research—but to move beyond that to more nuanced reporting that will help the reader understand what happened over time, and what the meaning was of the outcomes and events that were observed. Projects to improve health care quality are getting bigger and have farther-reaching consequences than ever before, and SQUIRE will continue to support the field...watch for it in Autumn 2015.

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REFERENCES

- 1 Davidoff F, Batalden PB, Stevens DP, *et al*. Development of the SQUIRE Publication Guidelines: evolution of the SQUIRE project. *Jt Comm J Qual Patient Saf* 2008;34:681–7.
- 2 Brady PW, Zix J, Brill R, *et al*. Developing and evaluating the success of a family activated medical emergency team: a quality improvement report. *BMJ Qual Saf* 2015;24:203–11.