



Capacity and capability research theme: evaluating undergraduate education in quality improvement

Introduction

According to Batalden & Davidoff¹ 'healthcare will not realise its full potential unless change making becomes an intrinsic part of everyone's job, every day, in all parts of the system'. Evidence from the higher education literature^{2,3,4} shows that students and early career professionals in particular (in their first five years post-graduation) have the potential to become powerful agents of change within organisations.

To help reach this vision, the University of Dundee and NHS Tayside provide several opportunities to enable students and staff to participate in improvement work. This component of SISCC's work is supported by the Academic Health Sciences Partnership (AHSP) which pays the subscription to BMJ Quality. 151 students and staff across Tayside have registered with BMJ Quality (a set of online modules in quality improvement) this year. Users have completed 201 learning modules. Nine papers have been published in BMJ Quality Improvement Reports and all nine papers are also available in a single publication on the [AHSP website](#); a further four are under review/about to be submitted.

As part of undergraduate and postgraduate medical education in NHS Tayside, medical students and early career doctors are offered the opportunity to participate in elective placements focussing on quality improvement. A total of 30 students have taken part in improvement projects this year, in years 2, 3, 4 and 5 of their medical degree, alongside 30 junior doctors. Each elective placement involves a four week project, working with a clinical mentor and a multi-disciplinary team to identify, plan and implement a specific improvement project, supported by the use of online resources (the IHI Practicum and BMJ Quality) to provide a structure to the improvement process.

Description of the work

The aim of the SISCC capacity and capability research theme is to evaluate this approach to developing students and ECPs as agents of change and to inform roll-out across other disciplines and other universities. Little is known about the best educational methods for

¹ Batalden PB and Davidoff F 2007 What is "quality improvement" and how can it transform healthcare? *Qual Saf Health Care* 2007, 16(1):2-3.

² Lucey C: Medical education: Part of the problem and part of the solution. *JAMA Internal Medicine* 2013, 173(17):1639-1643

³ Headrick LA, Barton AJ, Ogrinc G, et al. Results of an effort to integrate quality and safety into medical and nursing school curricula and foster joint learning. *Health Aff (Millwood)*. 2012;31(12):2669-2680.

⁴ Headrick LA, Shalaby M, Baum KD, et al. Exemplary care and learning sites: linking the continual improvement of learning and the continual improvement of care. *Acad Med*. 2011;86(11):e6-e7.

learning and teaching of quality improvement, and robust evaluation is crucial if we are to understand the most effective ways of building improvement capacity and changing organisational culture. Specifically, our evaluation uses a qualitative design to address the following three questions:

1. What are the barriers and facilitators to successful completion of improvement projects by students and ECPs?
2. In what ways might supervision of QI projects change clinical team culture?
3. In what ways might hosting QI projects facilitate organisational change?

Answering these questions requires a multi-perspective approach and thus the qualitative work consists of three concurrent phases: i) focus group interviews with students and ECPs, ii) individual interviews with clinical mentors, and iii) individual interviews with staff in clinical areas.

Two student focus groups have taken place (n=6, n=8), in addition to five interviews with mentors with another two scheduled for the end of August. Analysis has started, and preliminary themes indicate that improvement projects are perceived as highly valuable by students, ECPs and mentors who each gain new skills in facilitating improvement. Students have stated resoundingly that they will take their improvement knowledge into their future careers and mentors have shared some examples of student projects being enacted and sustained by staff in clinical areas after the placement is over. This is not always the case in education, and the importance of selecting a meaningful project, having positive relationships with the multi-disciplinary team, and mentors with a continued commitment to supporting sustained change, all seem to be key to ensuring success of improvement projects.

Recruitment of first year doctors and other clinical staff has been particularly challenging and so far no clinical staff have come forward to take part, with only two first year doctors indicating their interest (these interviews are currently being arranged). However, we have gained significant learning from these challenges and in addition to answering our three research questions, this work has been invaluable in testing suitable evaluation approaches. We have also sought participants' views on the most effective and efficient ways of collecting meaningful data in an unobtrusive way, taking into account the demands placed on students and staff within busy clinical and educational settings. This will inform our future work across the programme and gives us good insight into strategies for stronger recruitment in future projects.

Next steps

Data collection will be complete by the end of August and analysis is underway. Findings will be written up and submitted for journal publication by December 2016. It was intended that this preparatory study would lead on to a bigger roll-out across other disciplines and universities, with a large scale evaluation. However, the funding cut to SISCC has called this plan into question, despite the positive results and substantial potential.