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Introducing service improvement to the initial training of clinical staff

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ABSTRACT

Background It is well recognised in healthcare settings that clinical staff have a major influence over change in how services are provided. If a culture of systematic service improvement is to be established, it is essential that clinical staff have an understanding of what is required and their role in its application.

Methods This paper describes the development of short educational interventions (a module of 6—8 contact hours or a longer module of 18—30 h) for inclusion in the initial training of future clinical staff (nursing, medicine, physiotherapy, occupational therapy, dietetics, social work, operating department practice, public health and clinical psychology) and presents the results of an evaluation of their introduction. Each module included teaching on process/systems thinking, initiating and sustaining change, personal and organisational development, and public and patient involvement.

Results Over 90% of students considered the modules relevant to their career. Nearly 90% of students felt that they could put their learning into practice, although the actual rate of implementation of changes during the pilot period was much lower. The barriers to implementation most commonly cited were blocks presented by existing staff, lack of time and lack of status of students within the workforce.

Conclusion This pilot demonstrates that short educational interventions focused on service improvement are valued by students and that those completing them feel ready to contribute. Nevertheless, the rate of translation into practice is low. While this may reflect the status of students in the health service, further research is needed to understand how this might be enhanced.

BACKGROUND

Over recent years, there has been increasing interest in systematic approaches to the improvement of clinical services.[1][2] Drawing heavily on experience from the industrial and commercial sectors and from psychology,[3—5] a discipline of service improvement in health settings has been described.[6] This comprises four elements—process and systems thinking, initiating and sustaining improvement and innovation, personal and organisational development, and public and patient involvement. A key element of these approaches is that all staff have some personal responsibility for improvements in services; thus, all staff need to understand how improvements can be brought about in services, and most need to have the skills to contribute actively. As it is well recognised in healthcare settings that clinical staff have a major influence over change in how services are provided,[7] there is a particular need for clinical staff to be provided with opportunities to learn about service improvement.

In 2005, the UK Department of Health established the NHS Institute for Innovation and Improvement. As part of its strategy to build innovation and improvement capability in the NHS workforce,[8] the Institute commissioned three universities to develop and pilot the implementation of brief educational interventions focused on enabling future clinicians early in their training to develop an understanding of, and the skills needed for, service improvement. The Institute also commissioned an independent evaluation of the modules. This paper describes the modules that were developed and the principal findings of that evaluation.

METHODS

Development and delivery of the modules

Each university was required by the Institute to produce both a short module (6—8 contact hours), aimed at developing 'core' understanding, and a longer module (18—30 contact hours), aimed at developing deeper learning in the participants. The universities were also asked to balance the content across the four elements of service improvement (described above) and to design the modules for, and pilot them with, students on courses of initial training for clinical roles; no other aspects of the modules were prescribed by the Institute. Further details on the final content of the modules are available at http://tinyurl.com/37khfx.

The resulting modules did have a number of features in common (summarised in table 1) but differed in their exact format and content, and in their timing within the students' courses. At two sites, the modules were offered to students undertaking postregistration nursing or medical training programmes as well as to undergraduates.

EVALUATION

Three key evaluation questions were considered: the personal impact of the modules on participants; factors affecting impact; and the feasibility of including the modules in existing clinical curricula.

A mixed method approach was used to allow the validity of findings from any one method to be tested through triangulation with findings from other methods. The methods comprised: telephone interviews (with students and teaching staff); direct observation of the modules; focus groups with members of local steering groups; and

Original research

Table 1 Common features of modules produced

Common features
Inclusion of the four key subject areas
Developed and delivered in collaboration with local NHS trusts
Involved service users at some point
Delivered to students in a variety of professions and using interprofessional learning at some point(s) in the course (at one site teaching was undertaken almost entirely in multiprofessional groups; at the other two sites, the majority of the teaching was undertaken in uni-professional groups)
Delivered in either final or penultimate year of initial training or to recent qualifiers

a questionnaire survey of students who had attended the modules. The final content of this questionnaire was based on the results of an initial pilot and is summarised in table 2.

The evaluation began in April 2006 and was completed in early February 2007. The overall response rate for the questionnaire survey was 78% (269/347). Twelve students (four from each site, and representing five different career paths) were interviewed.

RESULTS
General findings
Although attendance at the modules was voluntary, the modules were popular, being oversubscribed at two of the three sites. In total, 347 students attended at least the short module. Students came from a wide variety of backgrounds—nursing, medicine, physiotherapy, occupational therapy, dietetics, social work, operating department practice, public health, clinical psychology and radiography. Of the 265 questionnaire respondents providing the relevant data, 24 (9.1%) were post-registration students.

Ninety-two per cent (247/269) of questionnaire respondents indicated that they considered the module to be relevant to their future career.

From the direct observation of students' responses during the modules, the independent observer identified four themes as being important to students in their learning about service improvement: listening to service users as the basis for making improvements; the need for all staff to contribute to, and take some personal responsibility for, improvement; the impact and power of small-scale changes (as opposed to large, system-wide changes); and the importance of looking at processes to improve services.

The questionnaire survey demonstrated that students particularly liked talking to service users (or hearing their views via recordings) and working in groups. Suggestions for improvement were relatively infrequent, with the most common being changes to the timing within their course (10% of respondents), more examples of service improvement (11%) and changes to the pace of delivery of the module (12%).

Table 2 Content of questionnaire survey of students

Subject	Format
Reason for undertaking the module	Response selected from list
Satisfaction with the module	Likert scale
Perceived barriers to putting learning into practice	Response selected from list
Views on the timing of the modules within their course	Yes/no
Students' expectations	Freetext
Highlights of the module	Freetext
Suggestions for changes to the module	Freetext
Examples of learning put into practice	Freetext

Impact on students
Eighty-eight per cent of questionnaire respondents (234/266) thought that they would be able to put the learning from the module into practice. Eight per cent (22/266) had already done so, citing process examples (eg, conducting a Plan—Do—Study—Act cycle, undertaking a process map or gathering patient views regarding specific services) and outcome examples (ie, the introduction of specific changes) such as a modified GP referral form, a modified record of intravenous cannulation and compiling a new resource file. Interviews with students confirmed these findings with three of the 12 students citing outcome examples—changes to equipment, the use of 'early warning' markers, and a system to reduce inappropriate bed occupancy.

Factors affecting impact
Students' perceptions of barriers to putting their learning into practice are presented in table 3.

The modules themselves did have some effect on impact. The examples of putting learning into practice came almost exclusively from those students who had undertaken the longer module, and the timing of the module within the course was considered important for practical reasons (eg, some students were not able to put their learning into practice due to lack of a suitable placement opportunity or through the timing of examinations).

Feasibility of module inclusion in existing curricula
By the time the pilot was completed, leaders and their local steering groups felt that the modules trialled could be used by other universities and NHS organisations, provided the modules were modified both to reflect the experience of the pilot and to ensure that the content was relevant to each individual site. Other factors identified as enhancing feasibility were a strong alliance at local level between higher education and NHS organisations, institutional champions for the work, leaders prepared to maintain the user focus and the use of facilitatory rather than didactic approaches to teaching and learning. The crowded curriculum was acknowledged as a possible barrier to further roll-out, although the sites felt that this was unlikely to be a significant impediment. Although support from the relevant

Table 3 Students' perceptions of barriers to putting learning into practice

Barrier	Percentage (N=255)
Inability/unwillingness of existing staff to change their current ways of working	76.1
Insufficient resources in the NHS—not enough time	69.8
Lack of status/seniority as a student or new qualifier	68.6
Insufficient resources in the NHS—staff shortages	66.3
Inadequate support in the workplace	41.6
Lack of status of staff group	28.2
Big changes are distracting attention from service improvement	20.8
Innovation/service improvement is seen as a specialist role	10.2
Incomplete understanding of module content	9.0
Insufficient examples given during module	5.9
Lack of relevance of module content to real life	4.3
Other	4.3

regulatory and professional bodies was considered important for successful inclusion into existing curricula, sufficient flexibility was considered to exist already to allow the inclusion of service improvement elements.

DISCUSSION

This pilot demonstrates that students preparing for a wide variety of clinical roles do consider learning about service improvement relevant to their future careers. The findings that this learning helps them to understand both the value of listening to service users as the basis of change and their personal role in and responsibility for delivering safe, high-quality services are particularly encouraging for the NHS[9] and have implications for the organisation of practice and the process of education. It is encouraging that the vast majority of students felt that they could put their learning into practice, and that some students were able to provide examples of changes in practice resulting from their learning.

The study does have limitations. First, it must be recognised that this pilot provided an evaluation primarily at the lower levels of education evaluation proposed by Kirkpatrick;[10] although an attempt to use a higher level of evaluation (ie, system change as end-point) was made, in retrospect this was unrealistic given that students have limited authority to implement change in complex service environments. Second, the evaluation was subject to a cohort effect, as responses were sought soon after the module; the responses principally represent immediate response to the courses, and even with the necessary opportunities, respondents would have had insufficient time to put their learning into practice. Third, the evaluation was subject to a dilution effect in that results from the short modules and the longer modules were combined, which may have diluted a greater impact of the longer module. Nevertheless, these effects are most likely to mean that the estimate of students' ability to implement change (8% of respondents) is an underestimate rather than an overestimate of the real potential of such modules. Finally, other assessments of the learning from this pilot (eg, an analysis of the different costs and benefits of the two approaches so that an informed judgement could be made on whether or not the short module brings sufficient benefit to be worth maintaining) would have been helpful; a more complex evaluation was not undertaken at this stage because this was a pilot activity with the primary purpose of testing whether or not this approach was feasible on a large scale and in more than one institution.

It is of concern that the principal barriers identified by students to implementing their learning were manifestations of organisational culture; such barriers are likely to be more difficult to resolve than simple operational barriers and are therefore likely to pose the most serious impediment not only to maximising the benefit of educational interventions designed to support service improvement but more generally to enabling service improvement to become a normal part of everyday practice. Although this may be in part attributable to the particular status of students in the clinical workplace, this finding is not new[7 11 12] and underlines the central importance of creating environments receptive to change. Addressing the problems (perceived or real) within NHS organisational cultures must therefore be considered a priority if service improvement is to become an everyday reality.

The study does demonstrate that it is possible to introduce new elements to the curriculum where the subject matter is considered important by the teachers and the students, the curriculum demands are modest, NHS commissioners are engaged, and the students enjoy the methods. However, it must be recognised that the universities and NHS trusts who developed and piloted these modules are unlikely to be representative of others, and their positive views on the feasibility of introducing modules (despite the pressures on the curricula for initial clinical education) may not be widely shared. To consider this further, an extended pilot is under way in which these modules will be implemented by six further consortia of Universities and NHS Trusts.

Systematised improvement of healthcare is a key priority for the National Health Service. Its success is dependent on staff recognising that priority, and being equipped to play their part. This pilot demonstrates that short educational interventions, included as part of their initial clinical education, are valued and that those completing them feel ready to contribute to service improvement. Nevertheless, while it may be an unrealistic goal for such short educational interventions, actual rates of translation of learning into completed change are low. Further research is needed to understand whether the greatest improvement in translation rates could be achieved through changes in the course content, course process (including duration) or NHS organisational culture.

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