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Evaluation study of a resource for developing education, audit and teamwork in primary care

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An evaluation of the views of primary health care team members participating in an intervention programme of a Resource for Education, Audit and Teamworking (CREATE) is presented. The pilot CREATE programme comprised of a series of nine educational and team building workshops delivered in protected time to all clinical and administrative staff in seven general practices in one Health Board locality, within a 12-month period. The content of the programme was developed in response to an educational needs assessment undertaken by the CREATE steering group. The purpose of the evaluation study was to identify if the CREATE programme altered participants' views of teamwork, education and audit, and to ascertain the suitability of the CREATE programme for more extensive implementation in Scotland.

The evaluation study utilized a combination of quantitative and qualitative survey methods. Quantitative questionnaires devised specifically as evaluation tools for the project were manually distributed and collected at the first and last CREATE workshops to all participants present on each occasion. Following the first and last CREATE workshop, key informants from each practice subsequently participated in qualitative, in-depth interviews.

The combined results of the quantitative and qualitative analyses reveal that the CREATE project is highly valued by the majority of primary health care team members who participated in the programme, particularly clinical staff but to lesser extent administrative staff. The findings indicate that a relatively simple but inclusive programme delivering appropriate education to primary care teams within protected time is able to overcome barriers to teamwork and has led to staff developing improved quality of health care services. Areas where teamwork and quality improvement were perceived as developing most significantly included: developing objectives, meeting as a practice and communication so people were more involved in discussions and decision-making. As a result of the findings from the pilot, the key elements of CREATE are being replicated elsewhere in Scotland.

Key words: audit; education; quality improvement; teamwork

Introduction

The advent of clinical governance and the development of a more integrated approach to teamwork when delivering health care in the UK means that many primary care teams are increasingly focusing their attention on the quality of the services they provide. Clinical governance is described as 'a framework through which National Health Services (NHS) organizations are accountable for continuously improving the quality of their services' (Donaldson, 1998: 14). This emphasis on quality improvement in health care provision is also present internationally (Health Funding Authority of New Zealand, 1998). Quality improvement in

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primary care is, however, difficult to achieve (Hearnshaw *et al.*, 1998). Attempts to introduce quality improvement in primary care have met with some success, but several studies of attitudes and approaches to audit have identified many barriers to quality improvement (Lawrence and Packwood, 1996; Eliasson *et al.*, 1998; Hearnshaw *et al.*, 1998). Barriers include a lack of quality improvement skills within practice teams and a lack of time to carry out the necessary work (Baker *et al.*, 1995; Grol and Wensing, 1995; Chambers *et al.*, 1996; Lawrence and Packwood, 1996; Johnston *et al.*, 2000). The NHS Centre for Reviews and Dissemination (1999) considered several studies adopting a range of approaches, but still barriers to quality improvement existed. Many practices lack the necessary leadership and commitment, and as a result staff may not see the benefits to the process (Grol and Wensing, 1995; Chambers *et al.*, 1996; Lawrence and Packwood, 1996; Hearnshaw *et al.*, 1998; Johnston *et al.*, 2000).

There is evidence that individuals working effectively within health care teams can improve the delivery of patient care and staff motivation (Wood *et al.*, 1994). Teamworking in health care provision has been suggested as a mechanism through which improved service delivery may be achieved (NHS Management Executive, 1993; Department of Health, 2002; Scottish Executive, 2003). Recent policy both in Scotland and England specify the need for quality improvement in health care. The recent white paper *Partnership for Care* aims to promote a culture of continuous improvement in NHS Scotland (Scottish Executive, 2003). *Liberating the Talents* specifically encourages nurses in primary care to adapt and change to better meet needs of clients for quality improvement (Department of Health, 2002). However, many obstacles exist to the development of this more comprehensive idea of teamwork in primary care. Some general practices remain hierarchical with centralized decision-making and arguably, little understanding of different team members' work roles (Hearnshaw *et al.*, 1998). West and Poulton (1997) in their comparative study of teamwork in primary care and other areas of the NHS using a validated questionnaire identified that teamwork functioning in primary care is poorer than in other areas. West and Poulton (1997) argue that within primary care, different team members may have different objectives and incentives, and this leads to conflict and that the existence of inequitable reward systems for different team members is considered to be divisive. Arguably, teamwork can be developed by providing practices with time and a place to regularly meet and learn together; yet even this modest resource is rarely available to primary care teams under present levels of work pressure (Grol and Wensing, 1995; West and Field, 1995; Lawrence and Packwood, 1996; Pollitt, 1996; Johnston *et al.*, 2000).

Pollitt (1996: p. 109) argues that 'the team that trains together works together' and that multi-professional training within teams is a key element of quality improvement. A recent review of *Continuing Professional Development* recognizes this and recommends a more patient-centred, multi-professional approach to education, which concentrates on general practices identifying their learning needs and learning within their teams (Department of Health, 1998).

Purpose of the study

The purpose of this study was to investigate if, when practices in primary care are given protected time in which to come and learn together, they develop teamworking, knowledge and quality health care. An evaluation study of the views of primary health care team members participating in an intervention programme of a Resource for Education, Audit and Teamworking (CREATE) was developed for this purpose. (The C in CREATE relates to the name of the locality where the programme was developed, to maintain confidentiality the locality is not named.) The study aimed to identify changes in perception with regard to education, audit and teamwork as a result of the CREATE programme.

The hypothesis was that involvement in the CREATE programme would improve team members' views of education, teamwork and audit. The working research question asked was:

- Do members of primary care teams have a different view of education, teamwork and audit after the CREATE programme compared with before the CREATE programme?

The overall purpose of the evaluation study was to examine the appropriateness of the pilot programme for wider implementation.

Background to the pilot CREATE programme design and development

In this pilot study, a needs based series of nine multidisciplinary educational workshops were provided and time was given for the study participants to come together to develop their knowledge and networking. This article presents the findings of the evaluation of CREATE and indicates to what extent the participants' views on education, teamwork and audit developed during the CREATE programme. This information could be of use to other members of primary care teams as they evolve and develop to meet the challenges of health care provision in the UK.

In September 1999, seven general practices within one locality in Central Scotland agreed collectively to pilot the CREATE programme with the intention of enhancing teamwork and the quality of health care provision. The programme was initiated through the enthusiasm and leadership of a general practitioner (GP) who encouraged seven GP practices to seek funding for the pilot programme. All practices and professional groups with the exception of reception staff within the locality were asked if they were interested in becoming involved in CREATE before funding was sought. All expressed enthusiasm for concept of team education in protected time and did not require ongoing persuasion. Some of the ideas for CREATE were based on the Time for Audit, Review, Guidelines, Education and Training (TARGET) scheme in Doncaster, England where practices closed to allow GPs to meet and learn together whilst the remaining members of the practice teams continued to work. CREATE developed this concept so that it would be multidisciplinary and could develop whole practice teamwork.

The programme was financially supported by the Primary Care Trust Development fund (£33 000), which provides pump prime funding for innovative projects to improve and develop services. The Scottish Council for Postgraduate Medical and Dental Education funded the evaluative research (£5000). Private funding was also secured to support the educational meetings (£7000). The CREATE programme was therefore funded a total of £45 000 to implement and evaluate.

A key feature of the CREATE programme was to ensure protected time to enable practice team members to meet and learn together within their own locality. Protected time involved all seven practices in the locality closing for nine afternoons in a 12-month period from March 2000 to March 2001 for the CREATE programme. Protected time was enabled by the use of the out-of-hours emergency clinical cover for the medical and nursing teams. The Doctors On Call (CEDOC) which normally operates from 6 p.m. every evening extended its cover from 1 p.m. on the days of CREATE. The out-of-hours emergency nursing cover similarly extended its hours of operation. A doctor and nurse from each practice had a mobile phone in case care was required relating to terminally ill patients, but the clinical staff were very seldom required during the protected time. The cost of providing emergency cover was £8000 for the year. The part-time staff were reimbursed for their time if they did not usually work on the CREATE afternoons.

Patients were informed about practice closures and CREATE by advertisements in the local newspapers, leaflets and posters in the health centres and local pharmacies. The Local Health Council was involved in the planning of CREATE and also carried out an independent evaluation of the emergency cover during CREATE afternoons and identified no problems with the emergency cover. Patients were not involved in the development of the first year of CREATE (but have been involved in subsequent workshops development).

All staff in the locality were invited to become involved in the steering group and it comprised willing volunteers. The multi-disciplinary steering group was established from the seven participating practices with representation from three GPs, two practice managers, a receptionist, two district nurses, a health visitor, a practice nurse and an administrator.

The steering group undertook an educational needs assessment of the different members of the practices prior to developing and co-ordinating the programme with the assistance of an administrator. The educational needs assessment identified the shared needs for both the locality and individual practices. During the CREATE afternoons practices either met together for locality sessions (but clinical and nonclinical staff were separated into their groups) or individually for practice sessions. There was an equal balance of locality and practice workshops throughout the programme. Locality needs were addressed in locality

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CREATE sessions and the individual practice needs were addressed by practices independently in their own practice CREATE sessions. This allowed CREATE to address the objectives in respect of learning needs for individual practices and the locality. Four of the five locality workshops separated clinical and administrative staff. This was partly due to a practical issue of not being able to accommodate all staff on one site and that it is hard to develop workshops for all clinical and nonclinical staff on a locality-wide basis and make them relevant to all staff groups. The practice sessions were all embracing as they addressed topics within practice teams which were relevant to clinical and nonclinical staff.

The CREATE workshop content was designed in response to the findings of an educational needs assessment of all participating general practice team members. The needs assessment was undertaken by the CREATE programme steering group who developed the CREATE programme content and organization. A variety of people with specialist experience were involved in delivering the workshops relevant to their area of expertise. The CREATE steering group identified relevant people to undertake the workshops through their professional contacts and the administrator facilitated the organization of the workshop by way of facilities, catering, etc. The educational strategies developed for the workshops included a range of interactive techniques with case studies and group work. Each workshop was evaluated by the administrator using a standard questionnaire. The evaluation was fed back to the steering group who used this information to develop and improve future workshop sessions. The academic researcher was not involved in workshop content design or delivery.

All the locality sessions were multidisciplinary and there was an opportunity at the end of the locality session for individual practice teams to meet and discuss the implications of what they had learned in relation to their practice and patients. During practice sessions individual practice teams had the opportunity to meet and address education and training needs relevant to their specific GP practice. The objectives of these sessions were to promote teamwork within practices, to provide appropriate education and allow time for staff to consider how to implement change to improve patient care. Tables 1 and 2 summarize briefly the content of the locality and practice workshops, respectively. Post Graduate Education Allowance (PGEA) approval was sought and granted for the afternoons for medical staff and Post-Registration Education and Practice (PREP) forms were made available to all nursing staff. The PGEA accreditation was important as it encouraged and enabled medical staff to meet their professional requirements of continuing professional development through CREATE.

Evaluation study method

The evaluation study aimed to identify changes in perception with regard to education, audit and teamwork as a result of the CREATE programme. This required the study to have pre- and post-intervention data collection. The hypothesis was that involvement in the CREATE programme would improve team members' views of education, teamwork and audit. The evaluation utilized a combination of quantitative and qualitative methods to achieve a more thorough understanding of the impact of the programme than a single-method approach could achieve (Cowman, 1993; Pawson and Tilley, 1997; Crotty, 1998).

Data were gathered through the self-completion of structured questionnaires which were hand distributed and collected by the researcher and research assistant at the first and last CREATE workshops in March 2000 and March 2001. The questionnaires were designed by the researcher as specific research tools for evaluating the CREATE programme. A new research tool had to be devised to examine the specific research questions of the study. The questionnaires comprised primarily of Likert scale type statements on a scale of 1–5. Respondents were asked to circle their measurement of agreement with the statements. The key constructs were developed from a review of the literature and are similar to some points made by Firth-Cozens (1998). The pre- and post-intervention questionnaires differed only very slightly. Section 1 of the questionnaires examined issues relevant to education and the CREATE workshops (21 questions), Section 2 examined participants' views about teamwork (36 questions), Section 3 examined audit issues (15 questions) and the final section requested demographic information (6 questions). Statistical analysis of the data was

Table 1 Summary of the content of the CREATE workshops conducted for the locality

Clinical staff	Administrative staff
Palliative care	Overview of primary care administration
How do you audit palliative care?	Customer service skills
Mental health	Working with the sensory impaired patients
Assessing and treating patients with dementia	Working with violent aggressive patients
Paediatric resuscitation and emergencies	Cardio-pulmonary resuscitation
Asthma and cystic fibrosis	Health and safety issues
Significant event analysis	Significant event analysis
Reflection on the CREATE process in practices	Reflection on the CREATE process in practices
Research evaluation	Research evaluation

Table 2 Summary of the content of the CREATE sessions conducted in general practice teams

Main topic area	Specific content
Information technology	Practice Intranet, web pages, information technology security, data protection, email, GPASS training
Clinical approaches to quality improvement	Flu immunization, ischaemic heart disease, repeat prescribing, autism, alternative treatments
Developing practice teamwork	Improving communication, practice development planning, Practice Accreditation issues, appraisal systems, service redesign
Improving quality in care	Critical event analysis, risk management
Improving the quality of practice administration	Appointment systems review, appointments and workload, complaints handling, how are GPs paid? Telephone and time management
Health and safety at work	Moving and handling, health and safety risk assessment

GPASS: General Practice Administration System for Scotland

aided by the use of the Statistical Package for Social Scientists (SPSS). Much of the data analysis involved non-parametric tests as the Likert scales in the questionnaires are ordinal data.

The qualitative data were gathered through semi-structured, face-to-face interviews which were tape recorded and then transcribed. The interviews took place in May 2000 and April/May 2001, and lasted about 40 minutes. Interview schedules were developed specifically for the purpose of the study by the researcher. The interviews were conducted by a research assistant with experience of working in primary care as a health visitor, but who was not employed in the study area. The research assistant had previous research interview experience and received further interview training for this study.

Analysis of the interviews involved content analysis for the identification of key concepts and themes by the researcher.

The final CREATE workshop which involved the evaluation also encouraged practices to reflect on the CREATE process, and consider how it could be improved in the future.

Sample and key informants

All participants at the first and last CREATE workshops were asked to complete a questionnaire, respectively, $n = 140$ and $n = 116$ questionnaires were completed. Attendance at the workshops and participation in the evaluation was on a voluntary basis. Table 3 indicates the work role of staff who completed the questionnaire at the first and last workshops. Attendance was consistent for much of the programme, but part-time nursing and administrative staff were less able than full time staff to attend all the workshops. Prior to the nine CREATE workshops, 22 participants were asked to participate

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Table 3 Number and work role of people completing the questionnaire at the first (pre) and last (post) CREATE workshops

Practice	District nurse		General practitioner		Health visitor		Staff nurse		Practice nurse		Practice manager		Receptionist/ secretary		Other staff		Work role not given	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1	1	5	5	4	2	2	1	0	0	0	0	3	5	0	1		
2	2	2	4	5	2	2	2	0	0	0	1	1	6	6	0	0		
3	2	0	5	5	2	3	0	0	1	1	0	1	6	7	1	0		
4	2	1	6	6	3	3	3	3	2	0	0	0	0	2	0	2		
5	3	1	3	4	2	0	0	1	0	0	1	1	5	3	1	0		
6	2	1	5	3	1	2	2	1	1	2	0	0	6	9	2	0		
7	2	1	3	4	0	2	0	0	0	0	1	1	5	3	0	0		
Total	14	7	31	32	14	14	9	6	4	3	3	4	31	34	4	3	30	13

in semi-structured, face-to-face interviews to obtain a theoretical sample of 14 key informants, two from each of the seven GP practices. A variety of staff were selected for interview based on their work role, the intention being to obtain views from both clinical and administrative staff from each practice. The final sample obtained for the pre-CREATE interviews was 13 people. The post-CREATE interviews involved the same 13 people and included one additional member of reception staff who agreed to be interviewed to achieve the theoretical sample of 14 key informants.

Results of the study

Respondents' views on the educational component of CREATE and its impact on ways of working

The CREATE programme was viewed favourably by the majority of respondents pre- and post-CREATE. At the last workshop, most respondents either agreed or strongly agreed with the statements that CREATE was relevant (69%) and that it had fulfiled some of their educational needs (80%). In the baseline evaluation of CREATE (prior to the workshops), respondents views on education were elicited and variations in perceptions were identified in relation to work role: that is, whether they were clinical (doctor, nurse, health visitors, practice nurse, etc.) or administrative (receptionist, secretary, practice manager, etc.). Generally, the clinical staff respondents were more positive about CREATE than the administrative staff (Mann–Whitney U: $P < 0.05$). Most respondents (68%) wish to see the CREATE programme continue.

This key informant elaborates on the value of CREATE for a multi-disciplinary approach to education and teamwork:

I: What do you think are the achievements of the CREATE programme?

R4: I think, well, the whole locality together. There's certainly people wouldn't, I'm sure, attend so many study sessions if it wasn't for CREATE. People are struggling to achieve their sort of points or GPs who would be struggling to get all their hours in that they have to. I think it's brought us all together and there's a sort of secretism that goes on behind

practices – I think that's gone – that people are quite happy to talk to people from other practices and not see it as they're only there for their practice and they don't want to tell anybody what they're doing. And that everybody's got the same problems…. So it's great for networking.

Protected time is an integral feature of the CREATE programme and the majority of people (89%) feel that they had 'protected time' to undertake the CREATE workshops. However, a few respondents (9%) felt they had to attend CREATE in their own time. The administrative staff were less able to attend in protected time than clinical staff (Mann–Whitney U: $P < 0.01$).

Most key informants described a main benefit resulting from CREATE to be an opportunity for shared learning within the primary care team. CREATE is perceived as a method for consolidating views within the team so, as a couple of the key informants explained, they are '*singing from the same hymn sheet*' in relation to health care philosophy within the practice. Where ambiguity exists between ways of delivering health care or ways of organizing the practice infrastructure, CREATE enables these issues to be tackled in relation to the workshops. Most of the key informants with very few exceptions were enthused and excited by the opportunities to develop teamwork and develop their knowledge together:

I: Can we go on to the CREATE programme itself? What do you feel the benefits of the programme are?

R3: The benefits of the programme, as far as I can see, is that everybody from the practice and I suppose there's certain subjects where GPs and the community nursing staff and the practice nursing staff – if you're dealing with, for example, coronary heart disease, mental health, whatever it is – whatever subjects are covered at the CREATE sessions, everybody's getting the same message. Hopefully it would create discussion in practice meetings and hopefully – I use the word hopefully – we'd all start seeing it from the same viewpoint.

Many key informants describe how they and the practice reflected on the CREATE sessions and this has influenced how they work. Some have made changes and improvements in their work which they attribute to CREATE:

I: How has CREATE influenced your work?

R7: Well it's funny – after each session, whatever it's been, I suppose you've thought more about it. Maybe lead you to do something slightly differently. And you keep remembering back to things that you did, so it must have helped. Maybe you don't realise it at the time, but I think it has.

I: How is CREATE beneficial in your work?

R6: Well take for example the first session – oncology was the first one – and it was our practice how we could improve what we were already doing. It made the GPs more aware of our role and vice versa, and how we could improve on that. And that – I think communication probably is the most important thing that came out of it. That we could help each other and how things weren't being duplicated which we perhaps had been doing. So, yes, it was really beneficial.

Most people are able to describe how CREATE had benefited their own work and that of the practice as a whole. Key informants illustrated the developments they have made by giving examples of practice developments and often related the changes they have made to the content of specific CREATE workshops they participated in:

I: Have you been using some of the information and learning that you had in the programme?

R6: Yes. And we've made out like a checklist on, for example, somebody that comes on, the GP now informs us far quicker of somebody who is likely to come on our books, we'll maybe get to meet the person earlier than what we would. We've made out a checklist of things that may be needed over the time that we're with that patient…. I think especially sort of even simple things like messages. I think, for example, the doctors are a bit more aware that writing or leaving a message to say to go and see Mrs Bloggs' leg, you know, that they need a wee bit more information than that and vice versa. So I think it has improved communication. It's made the

job just a wee bit easier so there is a start there.

I: How has CREATE influenced your work?
R3: I think, from my point, I take a more sort of global view. As a health visitor in the past, historically, you have your own caseload plus your family's – and I'm not just talking about under 5s. You have your patients who have got heart problems, you've got your over 75s and you're actually working – this is what I do for my patients. I'm much more likely now to come back and write in my doctor's notes what's been happening, discuss things with other professionals and look at things from a multidisciplinary approach rather than just from health visiting. I do think at one time a GP wouldn't know what a health visitor thought and a health visitor wouldn't know what a GP's thoughts were. I think that's probably changing now.

The key informants viewed the inclusive nature of CREATE as having an impact on the practice as a whole and for most participants, the positive developments in the way that they work were attributable to the whole team:

I: You see the benefits (*of CREATE*)?
R9: I do. I definitely see the benefits and right across the board. I think it was very good to see that the girls in reception had some perceptions of the possible knock-on effects of giving simple advice over the phone and that sort of thing. Or not getting the right message across. So that was quite good for them as well and I think the reception staff get their eyes opened to a lot of things that we take for granted.… I would say without a doubt it's been a benefit to the practice. Some decisions we have taken forward apart from anything is the CPR, so that's actually allowed everybody in the practice to update skills and give the girls at least, if not super confidence, the knowledge that they could at least initiate something in an emergency, which they weren't equipped to do before. So, from a practical point of view, that one wee thing is really good. The other thing we've done is we've gone through practice plans and discussed communication in the practice and there's no doubt that the first session we did there was a real eye opener and did improve communication across the board. It absolutely did. We sometimes took what we learned in the previous two CREATEs and we went to the practice and picked up on them and tried to spend some time on these practice based sessions saying – is there anything that anybody learned that we could benefit from? So there was a forum for actually improving the practice one way or another.

Many of the interviewees gave examples where they believed improvements in care had occurred as a result of being involved in CREATE. Only 16% ($n = 18$) of the 114 respondents of post-CREATE did not perceive that CREATE had improved the quality of the work of the practice and 19% ($n = 21$) did not feel CREATE had improved the quality of their own work.

During the final CREATE meeting all practices were given time to meet and reflect on the problems of implementing CREATE and impact of the CREATE programme on people's work. Over 40 examples of change to practice that occurred as a result of the CREATE sessions were identified. A sample of these changes is included in Table 4. Changes that had been implemented covered a wide range of issues including information technology, practice procedures and protocols, improvements in communication, and administrative and clinical developments. Changes occurred in all practices.

Respondents' views on teamworking

Several significant changes in perceptions about teamwork are identified by comparing the pre-CREATE data with the post-CREATE data and can be associated with the implementation of CREATE. All significant changes associated with the CREATE programme are positive. The positive changes in views about teamworking are summarized in Table 5. There was no significant increase in negative views, only positive views. CREATE has influenced more positive views of teamwork.

The results indicate that after the CREATE workshops there is more communication within

Table 4 Examples of changes in practices as a result of CREATE

Practice	Changes identified by participants in the last CREATE workshop
1	Improved CPR skills Health and safety risks identified in the building Ischaemic heart disease clinic developed Improved clinical use of computer by GPs
2	New procedures for dealing with mail Use of message boards and procedures book All staff trained in CPR/anaphylaxis Introduction of formalized meetings
3	Improved communication: monthly clinical meetings with agenda/minutes Computerized appointments for GPs Introduction of protocols for deaths and sensory impairment Health visitor run lifestyle clinic
4	Improved flu immunization campaign: targeting and informing patients and recording immunizations Development of practice Intranet Updated practice protocols Computer appointments in use
5	Adopted appraisal system Altered mail system Dementia: memory template developed to aid management Helped to achieve Practice Accreditation
6	Minor surgery recording Development of Intranet Adaptation of appointment system Developed chronic disease clinics Resuscitation skills improved
7	Improved use of email Consulting room use of GPASS computer system Proper and safe moving and handling Improvement of premises for sensory impaired patients More multidisciplinary discussion

CPR: Cardio Pulmonary Resuscitation; GPASS: General Practice Administration System for Scotland

and between practices, resulting in improved discussion and decision making. Individuals and practices are clearer about considering formulated objectives when delivering health care. The quantitative analysis reveals positive change in teamworking in relation to CREATE (Tables 6a–6e). Most respondents (70%) perceive teamwork in their practice to have developed during the period of CREATE.

The observed positive change is not consistent for all practices (Tables 6a–6e) and work roles (Tables 7a–7c). So whilst the results indicate a positive change overall, some individuals within practices are less positive than others. Generally, but not consistently the administrative staff are less positive in their views about teamwork than clinical staff. Two practices were viewed to have developed teamwork to a lesser extent than the other five practices. This disparity between practices and work role was also evident prior to CREATE. It would appear that CREATE has a positive impact, but certain practices and team members gained more from CREATE than others. The practice that people belong to and the work they undertake in their practice team seems to be associated with the amount of positive change CREATE can make.

This variation in perception is particularly evident in relation to statements which considered issues of:

- being self-critical as a practice,
- having clear leadership in the practice,
- having respect within the practice,
- being listened to.

The evidence suggests that there is variation in attitude for different members of staff in relation to the practice they work in (Tables 6a–6e). Certain practices have more developed teamworking after CREATE than others. Practices 1 and 2 have the least developed teamwork, whereas Practices 4 and 6 tend to have the most developed teamwork. Practices which have clear leadership, listen to and respect the views of team members seem to view CREATE more favourably. Respondents indicated that people and practices who are unclear about the leadership and who were unwilling to engage with and listen and respect others, favour CREATE less. The evidence suggests that all practices benefited from involvement in CREATE, but those practices and people who benefited most from CREATE are those who already considered themselves to be working reasonably or very well together.

Practices that had good teamwork and leadership before the start of CREATE were able to make the most of the opportunity, prepare their staff for the CREATE programme. Arguably these practices were better able to organize valuable

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Table 5 Significant differences in changes in perceptions about teamwork before and after the CREATE programme

Teamwork questionnaire statement	Pre-CREATE (total $n = 140$) Strongly agree/agree		Post-CREATE (total $n = 116$) Strongly agree/agree		Significant change Mann–Whitney U
	n	%	n	%	
Q2 The practice team has clear objectives to benefit the health of the practice population	68	50	79	69	$P < 0.004$
Q3 The team is critical of what it is doing to achieve good patient care	55	42	74	64	$P < 0.001$
Q5 The team meets regularly to review whether the team is effective in meeting practice objectives	63	48	62	55	$P < 0.038$
Q8 I have clear objectives for my work in the practice	86	63	94	82	$P < 0.001$
Q16 Members of the team attend pre-arranged meetings	101	77	102	88	$P < 0.014$
Q18 Much improvement is required in communication between team members in the practice[a]	74	56	50	44	$P < 0.035$
Q23 The practice identifies its educational needs and arranges appropriate education and training	51	38	60	52	$P < 0.010$
Q33 Much improvement is required in communication between practices within the locality[a]	80	61	50	43	$P < 0.002$

[a] The two statements about communication are worded negatively and the scores indicate that respondents felt improvements in communication were not required to the same extent post-CREATE as pre-CREATE

Table 6a Practice differences in perceptions about teamwork after the CREATE programme

Q2[a] (Kruskal–Wallis: $P < 0.001$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	n	%	n	%
Practice 1	9	9	3	3	1	1
Practice 2	8	8	3	3	5	5
Practice 3	11	10	6	6	0	0
Practice 4	17	16	3	3	0	0
Practice 5	9	9	1	1	0	0
Practice 6	17	16	1	1	0	0
Practice 7	9	8	1	1	1	1

[a] The Practice team has clear objectives to benefit the health of the practice population

Table 6b Practice differences in perceptions about feelings of belonging to the team after the CREATE programme

Q10[a] (Kruskal–Wallis: $P < 0.034$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	n	%	n	%
Practice 1	8	7	4	4	2	2
Practice 2	9	9	2	2	5	5
Practice 3	12	11	4	4	0	0
Practice 4	18	17	1	1	1	1
Practice 5	7	7	3	3	0	0
Practice 6	16	15	2	2	0	0
Practice 7	9	8	2	2	0	0

[a] Feels part of the practice team and belongs to it

Table 6c Practice differences in perceptions about team functioning after the CREATE programme

Q11[a] (Kruskal–Wallis: $P < 0.005$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
Practice 1	7	7	4	4	3	3
Practice 2	10	9	4	4	2	2
Practice 3	11	10	5	5	0	0
Practice 4	19	18	0	0	0	0
Practice 5	8	8	2	2	0	0
Practice 6	16	15	2	2	0	0
Practice 7	9	9	1	2	1	0

[a]Practice team functions well

Table 6d Practice differences in perceptions about respect after the CREATE programme

Q12[a] (Kruskal–Wallis: $P < 0.001$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
Practice 1	4	4	4	4	6	6
Practice 2	5	5	6	6	5	5
Practice 3	9	8	6	6	1	1
Practice 4	16	15	2	2	2	2
Practice 5	6	6	3	3	1	1
Practice 6	14	13	3	3	1	1
Practice 7	8	7	2	2	1	1

[a]Practice team members respect each other

Table 6e Practice differences in perceptions about listening to and respect after the CREATE programme

Q17[a] (Kruskal–Wallis: $P < 0.001$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
Practice 1	5	5	3	3	5	5
Practice 2	11	10	4	4	1	1
Practice 3	8	7	6	6	3	3
Practice 4	17	16	1	1	2	1
Practice 5	6	6	3	3	1	1
Practice 6	13	12	4	4	1	1
Practice 7	8	7	3	3	0	0

[a]Team members' views are listened to and respected

practice CREATE sessions and implement positive change which resulted in positive feelings towards the CREATE programme. The practice teams which were less well developed may have benefited from external facilitation and support training to gain more from CREATE. In retrospect the baseline data which indicated variations in the amount of teamwork between practices could have been used to identify practices which would have benefited from external facilitation

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Table 7a Work role and differences in perceptions about involvement in decisions after the CREATE programme

Q7[a] (Kruskal–Wallis: $P < 0.001$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
District nurse	3	33	1	11	5	56
General practitioner	29	91	2	6	1	3
Health visitor	1	8	5	46	5	46
Staff nurse	0	0	4	50	4	50
Practice nurse	1	25	2	50	1	25
Secretary	0	0	2	50	2	50
Practice manager	3	100	0	0	0	0
Receptionist	4	11	7	19	25	70
Community pharmacist	1	33	0	0	2	67

[a] Involved in decision-making process within the practice

Table 7b Work role and differences in perceptions about respect after the CREATE programme

Q12[a] (Kruskal–Wallis: $P < 0.03$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
District nurse	5	56	4	44	0	0
General practitioner	26	81	5	16	1	3
Health visitor	5	46	5	46	1	8
Staff nurse	5	63	3	37	0	0
Practice nurse	4	100	0	0	0	0
Secretary	2	40	2	40	1	20
Practice manager	1	25	1	25	2	50
Receptionist	14	40	9	26	12	34
Community pharmacist	2	67	0	0	1	33

[a] Practice team members respect each other

Table 7c Work role and differences in perceptions about the need for improved communication after the CREATE programme

Q18[a] (Kruskal–Wallis: $P < 0.03$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
District nurse	5	56	1	11	3	33
General practitioner	6	19	11	34	15	47
Health visitor	6	55	1	9	4	36
Staff nurse	3	38	3	38	2	24
Practice nurse	2	50	1	25	1	25
Secretary	3	75	0	0	1	25
Practice manager	1	33	2	68	0	0
Receptionist	20	56	11	31	5	13
Community pharmacist	1	34	1	33	1	33

[a] Improvement in communication is required

during the process of CREATE but this did not take place. At the end of one year of CREATE those practices that seemed to be less developed at the start of CREATE still had relatively poorly developed teamwork compared with other practices in the study. CREATE did little to overcome some of the teamwork problems identified in the least developed practice teams.

Teamwork: building bridges

Some of the key informants consider CREATE was an opportunity to '*build bridges*' between different professional groups and individuals within practices for the development of better teamworking. Through the CREATE sessions people were able to bring up topics for discussion in relation to how practices work, which previously people lacked the confidence to do. The inclusive nature of CREATE gives people a feeling of being valued as part of the team and therefore they become more secure within the team to broach difficult subjects in relation to practice development:

I: Can you tell me about the teamwork in your practice since the involvement of CREATE?

R10: I think it's helped to foster an opportunity for honest discussion, for the receptionists to be able to discuss some of the difficulties they have, particularly when we were looking at Practice Accreditation. It provided an opportunity perhaps to explore some of the difficulties that they may not have felt able to explore with the GPs before CREATE and so I think it's probably fostered teamworking across the wider team. I think sort of between the nursing staff and GPs, there have been good teamworking anyway. I'm not sure that they have a better understanding on what health visitors do as a result of CREATE but I don't think that was really the objective of CREATE. But I think it's helped to build bridges.

R15: I would hope that one of the things from CREATE and everything was we had a practice development plan. We sat down with the practice and discussed things. Because we'd had CREATE, people were more secure in talking generally and I think one of the big things was that although we realise the importance of the reception staff, we maybe didn't tell them that, so they didn't feel as valued so it just came out. We were saying that everybody appreciated them and I think just hearing it made a difference. So I think because there's more mixing, people feel happier in talking about things and bringing things up.

The development of the organizational infrastructure of the practices through implementing practice development plans and discussions about Practice Accreditation are considered valuable developments which have been assisted through the CREATE process. Practice Accreditation is a quality assurance approach developed and administered through the Royal College of General Practitioners in Scotland. Practices have to fulfil certain criteria and produce certain documentation prior to an inspection visit for Practice Accreditation. The CREATE sessions allowed time for practices to plan and implement change to help them fulfil the criteria relevant to accreditation process. For example, the workshop which considered and carried out significant event analysis was directly relevant to achieving Practice Accreditation.

Respondents' views on audit

Post-CREATE some positive change with respect to audit could be associated with the CREATE programme. Significantly more respondents strongly agree or agree with the statement that the practice team regularly audits issues relevant to their work (pre-CREATE $n = 34$, 26%; post-CREATE $n = 43$, 39%; Mann–Whitney U: $P < 0.008$) and that they receive adequate feedback on audit relating to their work (pre-CREATE $n = 26$, 20%; post-CREATE $n = 31$, 28%; Mann–Whitney U: $P < 0.01$) than before the programme. These findings are consistent for work role and practice.

Significantly more respondents strongly agree and agree that audit is a priority in their practice post-CREATE ($n = 45$, 41%) compared to pre-CREATE ($n = 37$, 28%; Mann–Whitney U: $P < 0.036$); however, there is a significant difference in this result between practices (Kruskal–Wallis: $P < 0.001$) as some practices evidently agreed with this statement more than others (Table 8a). Again the same practices who were less positive in their views about education and teamwork were also less

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Table 8a Practice differences in perceptions about audit after the CREATE programme

Q4[a] (Kruskal–Wallis: $P < 0.001$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
Practice 1	3	3	4	4	6	6
Practice 2	6	6	4	4	5	5
Practice 3	3	3	10	10	4	4
Practice 4	8	8	10	10	0	0
Practice 5	10	10	0	0	0	0
Practice 6	10	10	6	6	2	2
Practice 7	4	4	3	3	2	2

[a] Audit is a priority in the practice

Table 8b Practice differences in perceptions about audit after the CREATE programme

Q8[a] (Kruskal–Wallis: $P < 0.024$)	Strongly agree/agree		Neither agree/disagree		Disagree/ strongly disagree	
	n	%	*n*	%	*n*	%
Practice 1	5	5	7	7	1	1
Practice 2	7	7	6	6	3	3
Practice 3	10	10	7	7	0	0
Practice 4	11	11	8	8	0	0
Practice 5	8	8	2	2	0	0
Practice 6	12	12	5	5	0	0
Practice 7	3	3	7	7	0	0

[a] Audit has improved the quality of the service

positive about audit. Importantly, however, there is a positive change overall. Post-CREATE ($n = 22$, 16%) an increased number of respondents strongly agree and agree that the practice team discusses the audits of the practice than they did pre-CREATE ($n = 26$, 23%; Mann–Whitney U: $P < 0.015$), but again significant differences were evident between the practices (Kruskal–Wallis: $P < 0.001$). Some practices identified that audit had improved the quality of their services (Table 8b). In relation to locality audit, more respondents post-CREATE ($n = 11$, 8%) believed that as a practice team they discuss the locality audits more than they did pre-CREATE ($n = 14$, 13%; Mann–Whitney U: $P < 0.001$), but some practices clearly do this more than others (Kruskal–Wallis: $P < 0.003$).

Post-CREATE there remains some difference in perceptions about the value of audit in relation to work role (Mann–Whitney U: $P < 0.05$). These differences are similar to the pre-CREATE findings with the clinical staff *generally* being more positive in their views of audit than administrative staff.

The qualitative findings indicate that for some people there remains confusion about what audit is and how it is undertaken. Several people were still of the view that audit had little if anything to do with their work. The different disciplines consider audit more or less relevant to the kind of role they have with patients:

I: Thinking about audit now – what are your thoughts on audit in relation to your own work after being involved in CREATE?

R6: I wouldn't say that because we've had CREATE the past year, that there's been any difference as far as audit's concerned. As a practice – as nurses, we've only been involved in one in the last year. There's more goes on within the practice but we're not involved with

that, which is something else that we could maybe go back and think about as a team.

Audit means very different things to different people and priorities for audit vary immensely amongst primary care team members. Audit is often not seen as directly relevant to many of the staff and is considered less of a priority than providing direct patient care. The value of audit for quality improvement does not seem to be apparent to some staff. Developing consistent approaches to audit amongst professionals remains a challenge for all practices in the future.

Obstacles and difficulties with the CREATE programme

At the last CREATE workshop participants reflected on the CREATE programme within their practices. The locality sessions posed few difficulties for practices although some individuals felt they had not been involved in the choice of workshops provided. Particular workshops, however, were felt to be aimed at one professional group more than others and some participants preferred a lecture format, whilst others preferred small group work. Some people commented that the workshops were too rushed.

The practice sessions posed challenges for practice teams and common problems identified through practice discussions at the last CREATE workshop were difficulties in:

- choosing suitable topics for team learning;
- sharing responsibility for organizing the sessions (it was often left to the practice manager to arrange the sessions);
- having enough time to organize and plan the sessions.

One practice felt that external facilitation would have been useful for some practice sessions.

Discussion

Study limitations

It is evident from the completion of the questionnaires that, despite reassurances of anonymity, some people (mostly administrative staff) were reluctant to disclose their work role or participate in the research. These people were suspicious that they could be identified and possibly feared repercussions for expressing their views. A lack of familiarity with involvement in research means some staff were anxious about the process. Some individuals who attended the first and last workshops did not complete a questionnaire. The figures reported in the tables are therefore respondent numbers and not attendance figures and cannot be interpreted as such. It would have been useful to have taken a record of attendance at these workshops in addition to asking participants to complete a questionnaire.

A further limitation of the evaluation study method was the reluctance of several of the reception staff, staff nurses and practice nurses to be interviewed. Most staff who participated in the interviews arranged to meet with the research assistant within their normal working day. GPs and nurses found this to be convenient, but administrative staff and staff nurses were closely monitored in their activity by senior colleagues. It is possible that the people who declined the interviews felt it would be difficult to arrange confidential interviews during work time. The qualitative findings suggest these staff have less flexibility in their work pattern and less autonomy in arranging their workloads than their clinical colleagues.

The CREATE programme and the evaluation did not involve patients in either the development or the evaluation of the programme or research study. It would be useful to know if patients identify improvements in their care following CREATE, but this data was not gathered for this evaluation and would be valuable in future studies. In retrospect it would have been useful to use the baseline data to identify practices which had poorly developed teamwork to signify where external facilitation might be helpful.

Different expectations of staff for professional development

The evaluation indicates that the CREATE programme can be viewed as a positive intervention as all the significant changes in respondents' views between the pre- and post-CREATE questionnaires are positive. However, the findings suggest that the CREATE programme is *generally* perceived more positively by clinical staff than administrative staff. These differences between work roles may be accounted for by an expectation of clinical staff to maintain and develop their knowledge as

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part of their professional practice. In contrast, less emphasis is perhaps placed on professional development for administrative staff. At present administrative staff in the NHS do not have a professional responsibility to develop skills or knowledge. However, the administrative staff may have felt less enthusiastic about CREATE as they were less able to participate in protected time than their clinical colleagues due to part-time work patterns. Administrative staff were more likely to attend CREATE in their own time and although they were reimbursed for their time the impact of this intrusion on personal commitments would detract from the attractiveness of CREATE. In addition, no relief staff undertook administrative work and closure of reception during CREATE would mean a busy morning the following day whether they were able to attend CREATE or not. The lack of consultation of administrative staff prior to funding being sought and the introduction of CREATE means some administrative staff were not fully informed of the reasoning behind the CREATE programme. Involving all staff from the beginning may influence people more positively, and engender a sense of ownership and belonging.

Inclusiveness

The strengths of CREATE are based on its 'inclusiveness' and its consideration of participants' views and needs when developing the workshops. The CREATE approach meets many of the challenges for education identified by Owen *et al.* (1989) and Campion-Smith *et al.* (1998). These include the opportunity for peer and partner contact and the consideration of educational topics relevant to the day-to-day work of primary care teams, with an emphasis on implementing new information to bring about improved clinical practice (Owen *et al.*, 1989; Campion-Smith *et al.*, 1998). The opportunity for practices to openly reflect and discuss practice issues in relation to the CREATE topics covered in the workshops was valued. Such an approach allows sensitive issues to be tackled whilst avoiding a culture of victim blaming which can occur when such issues are raised only as a result of a complaint.

Protected time

The desire of the majority of respondents in this study for CREATE to continue reflects the value respondents place on protected time for study within their own locality when working towards quality improvement. These findings are congruent with those of earlier research where the provision of protected time is seen as an essential prerequisite to many quality improvement activities (Grol and Wensing, 1995; Chambers *et al.*, 1996; Lawrence and Packwood, 1996; Hearnshaw *et al.*, 1998; Johnston *et al.*, 2000). However, protected time for part-time staff is less easily achieved and further approaches to ensuring protected time for these practice team members needs to be pursued.

CREATE enhancing teamwork

The study revealed teamwork to be poorly developed in many practices at the first CREATE workshop, but improved by the last workshop. Particular team issues that were problematic prior to CREATE included; difficulties with communication, particular roles being less valued than others, decision-making processes not being defined or inclusive and often lacking clarity about the teams' objectives. These problems are a common finding in studies of the functioning of primary care teams and general practice (West and Poulton, 1997; Firth-Cozens, 1998). Compared to other teams, primary care teams are particularly low in team participation, support for innovation and clarity of and commitment to team objectives (West and Poulton, 1997). The evidence is that promoting teams in primary care is a difficult process and is hampered by existing hierarchies where some staff are employed by other team members or there is a lack of time to meet as a team and poor communication exists (Grol and Wensing, 1995; Lawrence and Packwood, 1996). The findings from the evaluation of CREATE indicate that an inclusive programme centred around an educational needs assessment of all practice members can bring GP practices together and overcome some of these barriers. Practices whose members are willing to listen and learn together can gain much from CREATE. Practices where communication and teamwork are poor would probably benefit from a facilitation process when embarking on CREATE, at least in the early months.

Attempts to improve quality in primary care teams have shown that to be successful, teams need to accept innovation and tolerate diversity. In addition they need shared objectives and effective

communication (Hearnshaw *et al.*, 1998). The implementation of the CREATE programme has enabled staff to meet the challenges of developing teams with the intention of providing improved services to patients. The results indicate that by adopting suggestions made in the research literature, the multidisciplinary approach and protected time have enabled progress to be made towards achieving the qualities of good teamwork. During the year of the CREATE project most respondents believed teamwork to have developed significantly. Practices and individuals identify improvements in meeting as a team, communication processes, decision making and the setting of objectives within teams. The CREATE project therefore supports evidence from existing research demonstrating that teamwork can be developed by staff, having time to meet and learn together with an intention to improve the quality of health services for patients.

Some may try to argue that protected time in itself promotes teamwork and education. Arguably protected time which is unfocused and lacking purposeful objectives or an agenda will achieve less than a programme such as CREATE. There is a necessity to focus protected time around quality improvement issues based on a needs assessment of the participants and the evidence from CREATE is that teamwork and working practices improve through this approach which would arguably not be achieved through protected time in itself.

The challenges

For all practices the planning and running of educational sessions for their teams posed challenges in identifying topics and sharing the planning and organizing of sessions. Despite this practices did implement change as a result of the sessions, and as their experience of the process grows and teamwork develops, it is likely that these difficulties should lessen. Issues for the organizers of locality sessions are how to develop further the process of needs assessment so that participants feel they are involved in the choice of topics which are delivered, and to ensure that the workshops are appropriate for multi-professional groups and those with different learning styles.

The findings relating to perceptions of audit in this study are congruent with those from previous research as many respondents feel audit is time consuming, and are not sure what audit involves or whether it makes a difference to patient care (Chambers *et al.*, 1996; Johnston *et al.*, 2000). The results from this study indicate that the CREATE programme can foster an increased understanding of audit and quality improvement activities. Audit, as a mechanism for quality improvement, remains a contentious area of work for many people, but CREATE has made a small, but positive impression on people and progress with audit is being made. Such results are congruent with the work of Grol (1995) who suggests that the benefits of audit in clinical practice can be progressed by regular meetings, protected time, effective training and improved communication within practices (Grol and Wensing, 1995). The implementation of such strategies through the CREATE programme have resulted in improved understanding of audit in most of the practices, but developing an appreciation of audit remains a challenge.

Audit is challenging to some practice team members as they do not identify with the quality improvement issues relating to audit. A lack of appreciation of audit in people's work with patients and clients means they feel this is less important than other issues which were considered in the CREATE programme. People could relate to the need for improved teamwork to benefit patients and improving their knowledge about issues relating to patient care, but monitoring processes were seen to be less important. The new General Medical Services Contract (Department of Health, 2003) places quality improvement issues high on the agenda and audit features significantly in this. Audit is an area in which many general practices need to invest some time in persuading members of the team of the role of audit and its importance to patients and practices, and CREATE is one approach towards achieving this.

Conclusions

The evaluation study identifies the pilot CREATE programme to be a useful and beneficial addition to primary care team development with a positive impact on knowledge, teamwork, morale and to some extent audit. The evidence is that the educational workshops are a valuable resource for enhancing primary care team members' knowledge within their own geographical locality and have

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led to improvements in ways of working. Providing an opportunity for all members of the GP practices to meet in protected time facilitates open communication and networking, in addition to providing opportunities for practice development and improved organizational infrastructures. A programme of education focused around the participants' needs improves the quality of services provided by primary care teams to patients. The CREATE programme has overcome some barriers to quality improvement within primary care through the delivery of appropriate education to teams within protected time and similar progress is probably achievable in other health care practices. A note of caution is that whilst CREATE makes positive improvements for practices, the practices that benefit most are those who are already reasonably or well developed in their teamworking. Practices which have poorly developed teamworking probably require external mediation or facilitation to obtain more benefit. The key elements of the CREATE programme are now being replicated amongst GP practices elsewhere in Scotland.

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