The development and implementation of an educational intervention on first episode psychosis for primary care

Helen Lester,¹ Lynda Tait,¹ Amrit Khera,¹ Max Birchwood,² Nick Freemantle¹ & Paul Patterson²

¹ Department of Primary Care, University of Birmingham, Birmingham, UK
² School of Psychology, University of Birmingham, Birmingham, UK

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INTRODUCTION  This paper describes the development and implementation of an educational intervention to help general practitioners (GPs) recognise young people with first episode psychosis.

METHOD  The Medical Research Council complex interventions framework was used to guide the development of the intervention. The theoretical phase included a literature review of previous educational interventions in primary care and consideration of the literature on attitude formation and change, and the relationship between attitudes and behaviour. The modelling phase included focus groups with GPs and service users, and a training needs analysis questionnaire administered to GPs. The 2-stage intervention consisted of a video featuring role-plays of primary care consultations. GP-led discussion and discussion with early intervention service users. The acceptability and utility of the educational programme was evaluated using a 5-point Likert scale questionnaire administered at the end of each session.

RESULTS  General practitioners from each of the 39 intervention practices participated in the initial session and from 27 practices in the booster session. Information about symptoms and signs of first episode psychosis was the most valued aspect of the initial session. The booster session was also well received, with GPs valuing the opportunity to gain insight into first episode psychosis from users.

CONCLUSIONS  This paper adds a pragmatic description to the literature on the development of educational interventions in primary care. The Medical Research Council framework helped to identify and clarify component parts of the intervention and how the active components may relate to the expected outcome of behaviour change.
KEYWORDS family practice/*education/standards; clinical competence/*standards; psychotic disorders/*diagnosis; attitude to health; public opinion; Great Britain.

INTRODUCTION

This paper describes the background, development and implementation of an educational programme in primary care to help general practitioners (GPs) recognise and act appropriately when they see a young person with a first episode of psychosis (FEP). The educational intervention is complex in that it comprises a number of interconnected components that are likely to interact with one another. The programme was developed as the intervention in the REDIRECT study, a cluster randomised controlled trial involving patients with FEP in 78 practices in Birmingham. The REDIRECT study hypothesis is that GPs in the 39 intervention practices which received the educational intervention will refer young people with FEP to the early intervention services (EIS) more frequently and at an earlier stage than those in the 39 control practices which did not participate in the educational intervention.
The clinical context

In the UK, 4 per 1000 adults aged between 16 and 64 years of age, or approximately 190,000 people, have a functional psychosis. The term ‘psychosis’ covers a range of mental illnesses, the most common of which is schizophrenia. The mean age of onset of psychotic symptoms is 22 years for women and 19 years for men, with 80% of first episodes occurring between the ages of 16 and 30 years.

The policy context of early intervention

Early intervention in psychosis is a relatively new concept in mental health. It describes the health service and wider policy response to the increasing evidence of an unacceptably long duration of untreated psychosis (i.e. the time interval between the onset of psychotic symptoms and the start of antipsychotic treatment), and the benefits of early diagnosis and treatment for young people experiencing a FEP. Studies across the world on FEP have...
consistently found an average duration of untreated psychosis (DUP) of 1-2 years. Although still disputed, it is highly likely that an association exists between DUP and outcome in FEP, particularly functional and symptomatic outcomes at 12 months, and symptom reduction once treatment begins. Long-term follow-up studies have also demonstrated that outcome at 2 years strongly predicts outcomes 15 years later.

The UK government first announced the intention to develop EIS for young people in 1998. The National Plan for the National Health Service (NHS) in 2000 further stated: ‘Fifty early intervention teams will be established by 2004 so that... all young people who experience a first episode of psychosis, such as schizophrenia, will receive the early and intensive support they need.’ (p 119).

First episode psychosis and the role of primary care

Most GPs see 1 or 2 new people with FEP each year. Although recent national guidance on schizophrenia and the mental health indicators in the new GP contract may have some impact on the roles and responsibilities of primary care mental health in the UK, at the time of writing (spring 2005) there is evidence to suggest that many GPs believe they have little to contribute to the care of people with serious mental illness and that GPs feel the incidence of FEP is too low to warrant more active involvement. However, GPs are frequently consulted at some point during a developing FEP and are the most common final referral agent to EIS in the patient pathway. While FEP is therefore rare from an individual GP’s perspective, it is a life-changing event for the person experiencing it and their family, all of whom often require longitudinal support and guidance. Primary care therefore has a potentially pivotal role in reducing DUP and influencing the course and outcome of FEP.
METHODS

In developing the REDIRECT randomised controlled trial (RCT) and educational intervention, the study team adhered closely to the Medical Research Council (MRC) complex intervention framework,\(^9\) which provides guidance on using a stepped approach to the development and evaluation of complex interventions. This phased approach separates the different questions being asked and helps researchers establish the probable active components of the intervention.

**Theoretical or pre-clinical phase**

This phase involves identifying the evidence that the intervention might have the desired effect. In the context of this study, this included a formal literature review of the format, content and effectiveness of previous educational programmes in primary care and consideration of the psychological literature on attitude formation and change and the relationship between attitudes and behaviour.

The study team understood a literature search of papers published in English on educational interventions in primary care between January 1990 and September 2003 using CINAHL, MEDLINE, BIDS, EMBASE and the Cochrane Database. Keywords were education or training or intervention or training material or training pack or assess or evaluate or validation and general practice or primary care. A total of 1755 abstracts were found and reviewed by 2 members of the study team (AK, LT). Fifty were felt to be directly relevant to this study and texts were obtained in full.
Previous studies have shown considerable variation in the reported effectiveness of educational interventions in changing primary care clinical practice. Two systematic reviews report that multifaceted interventions, using a combination of strategies to deliver the education, produce the most positive results,\textsuperscript{10,11} a finding in line with the MRC guidance on the development of complex interventions. Active interventions are also more effective,\textsuperscript{12} as are those with high quality facilities and resources and motivated teachers and students.\textsuperscript{13} The education also appears to be more effective if it is personalised and delivered in a way that makes sense and has relevance to those receiving it.\textsuperscript{14}

**Attitudes and behaviour**

Despite public campaigns such as *Changing Minds* (http://www.rcpsych.ac.uk/campaigns/cminds/), individuals with a psychotic illness are often perceived by the general public as dangerous, responsible for their own illness and as having a poor chance of recovery.\textsuperscript{15} These negative attitudes are not, however, unique to lay people. In primary care, questionnaire studies have found that individuals with a mental illness are seen as time-consuming, difficult to communicate with and as increasing a GP’s workload,\textsuperscript{16} with people with schizophrenia attracting the most negative attitudes.\textsuperscript{17}

Attitude change is a complex multifactorial process. The most influential theory of attitude change is Allport’s ‘contact hypothesis’, which suggests that social contact between majority and minority group members can, in certain circumstances, lead to favourable changes in attitudes.\textsuperscript{18} Change is greatest when the contact gives participants equal status and a mutual goal and has social and institutional support. Subsequent research has suggested that participants should also have an opportunity to get to know each other personally,\textsuperscript{19} co-
operate with each other, and interact in a structured and guided manner. If people learn too much about an individual in an unguided manner, they may compartmentalise the interaction or view the other person as an atypical member of the ‘outgroup’, so no change in attitude occurs for the group as a whole. By contrast, a structured interaction ensures that they view the person as not only similar to the typical member but also ‘better’. Weber and Crocker also found that people’s negative attitudes are changed most effectively when they are presented with counter-stereotypical information about typical representative group members.

The relationship between attitudes and behaviour is also complex and disputed. Recent work suggests the relationship is influenced by a number of different factors. Ajzen and Fishbein’s theory of reasoned action, for example, describes the variables that can improve the prediction of behaviour from attitudes. It highlights the importance of intention to engage in a behaviour, which in turn is a function of both one’s evaluation of personally engaging in the behaviour and one’s belief that significant other people think one ought to engage in the behaviour (subjective norms). It is now generally accepted that general attitudes are good predictors of general behaviours, and that specific attitudes are good predictors of specific behaviours.

**Phase 1 or modelling**

The second step in evaluating a complex intervention (although steps are not always sequential and may be iterative) is to develop an understanding of the intervention by delineating the component parts and how the active components of the package may relate to the final outcomes. In this study, phase 1 included qualitative and quantitative evaluations.
through focus groups and a training needs analysis (TNA) questionnaire to identify GPs’ attitudes and behaviours towards people with FEP, and organisational factors that might help tailor the educational intervention to the primary care setting.

Two focus groups were held, 1 with GPs from undergraduate teaching practices in Birmingham and 1 with current and recent users of EIS, to identify the specific barriers to early recognition of FEP in primary care. Both GPs and users were purposefully sampled to represent different ages, genders and ethnic backgrounds. The users’ focus group highlighted the damaging effect of some GPs’ negative attitudes towards people with FEP on self-image and use of services, the importance of GPs seeking information about FEP and the need for GPs to be better informed about available secondary care mental health services. The GP focus group highlighted stereotypes of irrationality and unpredictability held by some GPs towards people with serious mental illness, identified knowledge uncertainties around how to diagnose FEP and worries about how to phrase questions about hallucinations, thought disorder and suicide. This group suggested that the educational intervention should be flexible in terms of times and location and include video-based training.

Issues raised in the focus groups were further tested in a short TNA e-mailed to the senior partners of each of the 94 practices in 2 primary care trusts (PCTs) in Birmingham. A total of 49 (52%) replies were received after 2 reminder emails (Table 1). The TNA suggested knowledge gaps, as only 29 (59%) of the GPs who responded were confident about diagnosing FEP, compared to 48 (98%) who were confident about diagnosing hypertension. Most of the respondents were aware that prodromal FEP could present as vague non-specific changes in behaviour and that early symptoms could be physical as well as psychological in nature.
Although 42 (85%) of the respondents were aware of how to access EIS and of guidelines about FEP, only 34 (69%) stated they would always refer someone with FEP to a mental health team, a behaviour considered to be best practice.\textsuperscript{6} Thirty respondents (61%) said that their first choice educational format would be video-based training.

**TABLE 1 ABOUT HERE**

**The educational intervention**

*Initial session*

The outcome of the theoretical and modelling work suggested that the educational intervention needed to impart knowledge about important symptoms and signs evident in FEP, teach core questioning skills and encourage more positive attitudes towards young people with FEP. The REDIRECT study team therefore helped to develop a 17-minute video/CD-ROM with professional actors that included 4 vignettes showing how young people may present with FEP in a primary care setting. The scenarios showed young people from different family backgrounds, some in education and others in work, confused and often frightened by their symptoms. The video also contained short discussion segments between an acknowledged international expert on FEP and a GP on issues such as symptoms and signs to be alert for in FEP, suggestions for how to phrase questions, and the importance of referring all people with suspected FEP for specialist mental health assessment.

As aides-memoirs and reinforcing information increase the effectiveness of an educational intervention,\textsuperscript{10} a short booklet, reflecting the information given in the video, and an A4
laminated checklist of key symptoms and questions, to which GPs can refer easily in a consultation, were also produced.

The video was used in a small group setting and issues raised were discussed immediately afterwards in a 30-minute session facilitated by authors HL or LT. The format and content of the educational intervention was designed to be easily transferable to other primary care settings and to be led by primary care practitioners rather than secondary care EI experts.

**Booster session**

The booster session, held 6 months after the initial educational session, aimed to reinforce knowledge and skills gained in the initial educational session and to further encourage more positive attitudes towards young people with FEP. To help facilitate attitude change, SR and AH, 2 EIS users, were invited to give a short talk describing their personal experiences of FEP. AH, a secondary school teacher, used a short video she had made describing her experiences and then gave an update on her recovery. AH and SR both gave GPs an insight into how profoundly the illness had affected their and their families’ lives, how the psychosis had emerged, the role of primary care, and their subsequent recovery. The video and talk were followed by an opportunity for the GPs to ask SR and AH questions and discuss any issues raised by the session.

The booster session was developed in line with aspects of the contact hypothesis. Each small group was facilitated by HL or LT, who provided a structured and guided environment where the GPs, AH and SR could interact as equals. AH’s background as a secondary school teacher, and her subsequent recovery to the point of now working as a paid member of an EIS, also
provided information that helped to disconfirm negative stereotypes of young people with FEP.

RESULTS

Evaluation of the educational programme

In all, 62 of a possible 93 GPs from the 39 intervention practices participated in the initial educational session between November 2003 and January 2004. Eighteen (46%) of the practices were shown the video on their own premises and 21 practices (54%) attended 1 of 2 group sessions held within the main participating PCT’s bi-monthly ‘learning time’ educational programme. The excellent attendance suggests that the programme was feasible and acceptable within the confines of a GP’s pressurised working week. A total of 43 GPs from 27 (69%) practices participated in the booster educational sessions in June and July 2004.

Each GP was asked to complete a short questionnaire using a 1-5-point Likert scale at the end of the initial and booster sessions. The questionnaire asked about the utility of each session in terms of impart6ing knowledge, teaching skills and changing attitudes. The GPs were also asked to comment on the most and least useful aspects of the video in the initial training session (Table 2).

TABLE 2 ABOUT HERE

The most valued aspect of the initial video training was information on the symptoms and signs of FEP. Most GPs made no negative comments about the video although there was some criticism that it did not address aspects of the referral pathway into EIS. This, however,
reflected the team’s desire for the video to be transferrable to other areas where referral systems might differ. The booster session was also well received, with most GPs agreeing that it was effective in reinforcing their awareness and knowledge of FEP. Many GPs also commented positively on the unique opportunity it provided to gain an insight about FEP and recovery from a user perspective (Table 3).

TABLE 3 ABOUT HERE

DISCUSSION

This paper adds a pragmatic description to the relatively sparse literature on the development of educational programmes in primary care mental health. It supports the literature that suggests videos can be successful in helping to improve GP mental health consultation skills, used as a tool to disseminate information and can help enhance skills in the recognition of mental illness. In terms of the MRC complex intervention framework, the development of the REDIRECT educational intervention followed the suggested pathway, with a pre-clinical and modelling phase (Fig. 1). The development process also helped to ensure that the final educational intervention of a video and accompanying booklet (since used in a number of sites across England).

FIGURE 1 ABOUT HERE

GP-led discussion and user testimony was feasible within the complex and pressurised environment of primary care and transferrable to other primary care settings. The 100% practice attendance at the initial session and 69% attendance at the booster session also suggest that the intervention was seen as relevant and helpful to frontline clinicians.
There are, however, a number of features of this study that may limit the generalisability of findings. The 52% response rate to the TNA was below the generally accepted threshold for generalisability of 70% and it is possible that it was completed by the GP with the greatest interest in mental health rather than the senior partner in each practice. It has also not been possible to test the educational intervention in real-time surgery conditions because of the low prevalence of FEP. Although we administered validated pre- and post-training questionnaires at the booster session and simultaneously to the control practice GPs to estimate the size and duration of the training effect, protocol restrictions mean we are not able to analyse these results until the REDIRECT study data collection is complete. This means that the evaluation reported here reflects only Kirkpatrick levels 1 and 2 of reactions and learning.\textsuperscript{29}

Data collection on GP behaviour in terms of practice referrals of young people with FEP to EIS began in March 2004. REDIRECT will report its primary outcome of the number of referrals to EIS in 2006. If an effect is found, this will have significant implications for the role of primary care in the care of young people with FEP.

\textbf{Contributors:} HL, PP and MB designed the study and participated in the making of the video. HL, LT and AK were responsible for delivering the educational intervention. AK undertook the literature searches. LT and NF analysed the feedback data from the sessions. All authors contributed to the writing and critical revision of the paper. HL is the guarantor of the paper.

\textbf{Acknowledgements:} the REDIRECT study team would like to thank the GPs and service users who participated in the focus groups and the TNA; the staff in the 39 intervention practices in the study; Janssen Cilag for their non-promotional financial help with funding the making
of the video; the Heart of Birmingham PCT, which actively supported the educational programme through the PCT learning time initiative, and, in particular, AH and SR, who led the booster educational session.

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Conflicts of interest: None.

Ethical approval: ethical approval for the REDIRECT study was granted by the West Birmingham Ethics Committee.

REFERENCES


Table 1 Results of the training needs analysis

Are you confident about:  \( n = 49 \) Yes (%) 
(a) Diagnosing hypertension?  48 (98)
(b) Asking patients about their libido?  47 (96)
(c) Asking patients about suicidal ideas?  47 (96)
(d) Asking patients about hearing voices?  45 (92)
(e) Diagnosing a first episode of psychosis?  29 (59)

Are you aware of:  \( n = 49 \) Yes (%) 
(a) How to access early intervention services?  42 (85)
(b) Published guidelines on first episode psychosis?  33 (67)

Would you always refer someone with FEP to the mental health team?  \( n = 49 \) Yes (%)  34 (69)

Do you feel a home visit is indicated if a mother is concerned about her teenage son’s isolation?  \( n = 49 \) Yes (%)  22 (45)

Which are early symptoms of a first episode psychosis?  \( n = 49 \) n (%) 
(a) Irritability  49 (100)
(b) Headaches  49 (100)
(c) Losing concentration  49 (100)
(d) Depression  49 (100)
(e) Anxiety  49 (100)
(f) Withdrawal from friends  46 (94)
(g) Feeling ‘uneasy’  42 (86)
(h) Rudeness  42 (86)
(i) Suspiciousness  37 (76)
(j) Constant tiredness  33 (67)

Which training method would you find most effective?  \( n = 49 \) n (%) 
(a) 30-minute video with a mixture of didactic material and role plays  30 (61)
(b) Interactive CD-ROM for individual use  11 (23)
(c) Self-directed learning workbook  7 (15)
(d) 30-minute didactic lecture from local expert  1 (2)
### Table 2 Feedback from the initial education session (higher scores indicate greater agreement with the questions)

<table>
<thead>
<tr>
<th>Item (range 1-5 each item*)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The educational intervention helped identify key information to assist me in consultations</td>
<td>4.0 (0.92)</td>
</tr>
<tr>
<td>The educational intervention highlighted useful questions to ask patients</td>
<td>3.79 (0.86)</td>
</tr>
<tr>
<td>The educational intervention improved my confidence in my ability to detect first episode psychosis in young people</td>
<td>3.55 (0.89)</td>
</tr>
</tbody>
</table>

**What did you find most useful about the video?**

<table>
<thead>
<tr>
<th>Item</th>
<th>n = 53 n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The information about symptoms and signs in early psychosis</td>
<td>13 (24.5)</td>
</tr>
<tr>
<td>The video gave examples of questions to ask in a consultation</td>
<td>7 (13.2)</td>
</tr>
<tr>
<td>The scenarios in the video were realistic</td>
<td>6 (11.3)</td>
</tr>
<tr>
<td>The GP consultations in the video</td>
<td>5 (9.4)</td>
</tr>
<tr>
<td>The discussion, generated by the video, between GPs</td>
<td>4 (7.5)</td>
</tr>
<tr>
<td>The simple approach taken to this clinical topic</td>
<td>3 (5.7)</td>
</tr>
<tr>
<td>The information about drug-induced psychosis</td>
<td>3 (5.7)</td>
</tr>
<tr>
<td>The video heightened my awareness of a first episode of psychosis</td>
<td>2 (3.8)</td>
</tr>
<tr>
<td>The summary of points to remember about a first episode of psychosis</td>
<td>2 (3.8)</td>
</tr>
<tr>
<td>The illustration of social withdrawal associated with a FEP</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>No comment</td>
<td>7 (13.2)</td>
</tr>
</tbody>
</table>

**What did you find least useful about the video?**

<table>
<thead>
<tr>
<th>Item</th>
<th>n = 53 n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The video did not give information on which services to refer patients to</td>
<td>5 (9.4)</td>
</tr>
<tr>
<td>The video was too short</td>
<td>3 (5.7)</td>
</tr>
<tr>
<td>The patients in the video were not representative of the patients seen in my surgery</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The video trivialised the clinical problem</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>It was difficult to read the white writing on the light blue background</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The video was a little vague</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The second consultation in the video was not useful</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The video did not go far enough in identifying discriminating features of psychosis</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The GP in the video did not exclude any physical causes or the patient’s symptoms</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The video did not illustrate when we should intervene</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>The GP doing a home visit on a difficult teenager</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>No comment</td>
<td>32 (60.4)</td>
</tr>
<tr>
<td>Writing illegible on feedback form</td>
<td>4 (7.5)</td>
</tr>
</tbody>
</table>

* Strongly agree = 5; agree = 4; not sure = 3; disagree = 2; strongly disagree = 1.
Table 3 Feedback from the booster education session (higher scores indicate greater agreement with the questions)

<table>
<thead>
<tr>
<th>Item (range 1-5 each item*)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The case discussion was helpful in raising awareness of FEP</td>
<td>4.06 (1.06)</td>
</tr>
<tr>
<td>The content of this training was relevant to my professional needs as a GP</td>
<td>4.16 (1.03)</td>
</tr>
<tr>
<td>Overall, I was satisfied with the quality of the training</td>
<td>4.06 (0.99)</td>
</tr>
<tr>
<td>The 2 personal testimonies were helpful in raising my awareness of the experience of FEP</td>
<td>4.00 (1.23)</td>
</tr>
<tr>
<td>I enjoyed the training</td>
<td>4.03 (0.94)</td>
</tr>
<tr>
<td>The training will have a positive effect on my attitudes towards people with FEP</td>
<td>4.06 (0.96)</td>
</tr>
<tr>
<td>The training will have a positive effect on my knowledge about FEP</td>
<td>4.00 (1.00)</td>
</tr>
<tr>
<td>The video raised my awareness about the experience of FEP</td>
<td>4.12 (0.92)</td>
</tr>
<tr>
<td>Overall, the training was informative</td>
<td>3.96 (1.13)</td>
</tr>
<tr>
<td>Total score (range 11-50)</td>
<td>40.54 (9.43)</td>
</tr>
</tbody>
</table>

* Strongly agree = 5; agree = 4; not sure = 3; disagree = 2; strongly disagree = 1.
Figure 1  Causal pathway.