Mental Health Link: the development and formative evaluation of a complex intervention to improve shared care for patients with long-term mental illness

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Abstract

Aims and objectives This study aims to develop an intervention and related conceptual framework for developing shared care for patients with long-term mental illness, and to provide a case study of the development of a complex intervention in primary care. Methods A pragmatic iterative design involved a literature review and focus groups followed by a formative evaluation including reflection, questionnaires and interviews. General practices and associated community mental health teams in Southeast London were involved. Participants included community mental health workers, psychiatrists, practice nurses, general practitioners, managers and local experts with an interest in primary mental health care. Results The model for shared care includes the core components of improved communication together with the development of a register and database with systems for review and recall. Local needs assessment, audit, training and guidelines are complimentary components. The intervention, Mental Health Link, is a facilitated quality improvement programme which aims to expedite the development of services by bringing the teams together to agree on a model of shared care suited to local needs, skills and interests, and by supporting the development of practice systems. Conclusions A model for shared care needs to take into account interdependencies of the components as well as the relationship with the context. The heterogeneity of primary and community care need to be reflected in the development of complex interventions designed to enhance shared care. It is possible to develop a generalizable complex intervention which is sensitive to local circumstances.

Introduction

The introduction of new medicines entails a prolonged and expensive phase of development, yet interventions aimed at improving the delivery of health care rarely benefit from either an effective development period or an evaluation. Shared care between primary care and specialist mental health services is an example of an interface which may benefit from a well-designed intervention. Patients with long-term mental illness (LTMI) suffer considerable disability, morbidity and mortality, and as a group representing a risk to themselves and others, they remain high on the policy agenda. They include those...
with chronic psychoses and enduring affective and neurotic disorders. Historically, care for this group of patients has not been recognized as core work for general practitioners (GPs) and there has been no consensus among GPs that this group of patients should be provided with proactive care (Kendrick et al. 1991; Burns et al. 2000). Yet up to 50% have no contact with specialist services and have comparable levels of unmet needs to those in contact (Barr 2000); and while 70–90% will have seen their GP in the preceding year, little structured care is available, most contact being for minor physical ailments, certification and repeat prescribing (Kendrick et al. 1994). Communication between GPs and psychiatrists has been shown to be poor, true shared care arrangements are rare and the roles of different professionals are rarely clarified (Kendrick et al. 1991). The ‘National Service Framework (NSF) for Mental Health’ (DOH 1999) now demands a strong role for primary care in the delivery of physical and psychological care for patients with mental illness. This paper uses the example of LTMI to argue that the components of shared care need to be considered as interdependent and influenced by the local context; this should be reflected in any associated intervention aiming to promote high-quality shared care.

Rationale for complexity

There are few evaluations of primary care based interventions for LTMI and they have shown limited improvements (Goldberg & Jackson 1992; Kendrick et al. 1995; Nazareth et al. 1996; Burns & Cohen 1998). In the absence of convincing evidence, recommendations for improved shared care have been made. These emphasize the definition of professional roles (Dowrick 1992), improved discharge summaries (Essex et al. 1991), training (Kerwick et al. 1997) and the use of the consultation–liaison model (Bower & Sibbald 2000). More comprehensive recommendations have included integrated training, disease registers, reviewing patients according to need, audit, locally agreed management protocols as well as defined responsibility for prescribing and the provision of information to patients and carers (RCGP 1993; Burns & Kendrick 1997; SCMH 1997).

Some of these recommendations have been endorsed in the NSF (DOH 1999). In the meantime, mental health services are becoming more specialized, are discharging patients with stable psychosis and are reducing services for non-psychotic groups. Dowrick (1992) points out that while some patients with severe and enduring problems will rarely need primary care services, and a few practices may be able to provide comprehensive care, the majority of patients will benefit from real co-ordination of their physical and mental health care. There is a pressing need for an evidence-based development of shared care for patients with LTMI.

Some commentators have noted that, with such variation of both skills in primary care and service provision in secondary care, there is a need for locally based agreements (Dowrick 1992; Burns & Kendrick 1997). This consideration of the local ‘context’ is in keeping with both a ‘realist’ view on programme development and complexity theory’s assertion that local conditions can exert a powerful emergent effect (Pawson & Tilley 1997; Plsek & Greenhalgh 2001). A number of components of shared care in the correct circumstances might together constitute effective shared care for patients with LTMI. Currently there is little evidence as to which components for either a model for shared care or the complex intervention should be included, and how much local variation in response to the context would be beneficial. To carry out trials for each component has two main disadvantages. First, this will take many years and considerable resources. Second, it is likely that the components will interact in some way. This interaction may result from synergy, dyssynergy or interdependency of the components (Grimshaw et al. 1995). The potential synergies (e.g. training GPs and creating a recall system) may create effects greater than either alone suggesting the need for conceptualizing shared care as a complex and dynamic phenomenon with a relationship to its context, rather than simply as its constituent parts.

As when advancing evidence-based practice, new services configurations also require effective strategies. It is necessary to identify implementation techniques from a variety of disciplines including management, psychology and education (Grol 1997). Those which identify and overcome barriers are more likely to succeed (Davis et al. 1995; Grol 1997). Educational outreach, computerized reminders and using combinations of strategies have been
shown to be effective in certain situations (Wensing & Grol 1994; Hunt et al. 1998). While a lack of resources and time are often cited by practitioners as barriers, using financial incentives alone for achieving standards may produce stagnation and short cuts rather than quality and innovation (Beer et al. 1990; Burns & Cohen 1998). It is likely then that the strategy for implementation of shared care will also be a complex affair (Oxman et al. 1995). This strategy or intervention is separate from the components of shared care which may occur during normal service development. This paper describes the formative development of a conceptual model for shared care and the intervention, Mental Health Link (MHL), to expedite it. Such a developmental stage, although advocated before proceeding to a more definitive evaluation, is rarely described. This work provides a case study for the development of a complex intervention in primary care which has since gone on to be evaluated in a cluster randomized controlled trial and using the Realistic Evaluation framework (Pawson & Tilley 1997).

**Methodology**

A steering group involving senior mental health services and commissioning managers, as well as academics and clinicians, oversaw the research. A multi-method iterative design, similar to that described by Grol (1997), was used to define the model of shared care and a complex quality improvement intervention. Emphasis was placed on understanding prevailing attitudes and on identifying and overcoming obstacles to change. We started by collecting ideas from a search of the grey and referenced literature using Medline and BIDS/Embase databases and by contacting leaders in the field. These were synthesized with the collection of primary data from focus groups involving practising clinicians and managers and also from lessons learnt based on reflection about the development of systems of shared care in the author’s (R.B.) practice. This was followed by an iterative process for the development and formative evaluation. Changes were made to the intervention based on the primary data as long as it was not discordant with the medical and management literature. The method is summarized in Fig. 1.

In order to recruit a manageable number of practices a letter was sent to a quarter of the 51 practices in Lewisham, Southeast London, offering the possibility of joining in the project. At this stage no financial incentives were offered. In addition, the principal investigator’s practice, also in Lewisham, was involved in order to give the research team first-hand knowledge of involvement. Three practices and associated community mental health teams (CMHTs) agreed to attend the focus groups and to pilot the intervention. The practices had two, three and four partners.

Each team was asked to select a manager, a GP or psychiatrist and a practice or community psychiatric nurse (CPN) to participate. The focus groups discussed how care could be improved. Five doctors, six nurses and five managers attended. The group discussions were audio-taped and the data transcribed and analysed to identify their ideas about current problems, potential solutions and barriers to improving care. A proposed conceptual framework for shared care and toolkit were then developed by integrating the data from the focus groups with the literature and ideas from practical experience. Financial, theoretical and practical criteria were all used to inform the inclusion and exclusion of each potential component.

The second stage focus groups provided a critique of the toolkit and included a group of 10 mixed professionals from the original groups and a group of six local experts in primary mental health; these included a practice-based CPN, a psychiatrist, two GPs, a mental health services researcher and a commissioning manager.

Following revision of the toolkit, the members from the three practices and associated CMHTs formed joint working groups (JWGs) to develop shared care agreements which included definition of roles, responsibilities and communication, and plans for development of care. The teams were asked to identify two local patients or user representatives to join this JWG but they either felt it was inappropriate or failed to identify a suitable person. The same practitioners were asked to complete a brief questionnaire with fixed and free text responses to evaluate their perceptions of the different components of the intervention; six were then interviewed to complete the formative evaluation. The conceptual framework
and intervention were further modified in light of this and the reflections of the research team.

Results

The initial focus groups attended by each professional group highlighted a number of issues pertinent to the development of the intervention and conceptualization of shared care; examples are described in Table 1.

The proposed intervention included a series of meetings between selected members of the primary health care team and CMHT and was combined with a toolkit to guide this working group towards a shared care agreement (Table 2).

Each further stage of the process allowed the components of the shared care model and intervention to be refined and further details to be added. For example, the second round of focus groups highlighted the need for a visual representation of the intervention within the toolkit. The interviews with participants of the pilots indicated a need for the research team to take full control of the organization of the intervention rather than trying to simulate...
reality by involving already overburdened practice managers.

Figure 2 outlines the conceptual framework for shared care as a series of theoretical pathways leading towards improved health care for patients with LTMI. Improved formal and informal communication coupled with the development of a register of patients, an associated clinical database (computerized or on a chronic disease card) and systems for review and recall are the core components. It is a dynamic process in two senses. First, for the patient, a number of processes and systems within the practice might ensure that improved health care and ultimately health are achieved. For example, agreement about Read codes and diagnoses between the teams ensure that a patient appears on a computerized register. Information from the CMHT will allow the practice to know whether certain aspects of care, such as lithium monitoring, have been carried out. This will allow the practice to provide a targeted recall or flag up the notes so that opportunistic care can be enhanced.

In another sense the conceptual framework can be seen as a dynamic process of service development. The development of shared care requires agreement between local teams; the face-to-face contact required between the teams is of additional intrinsic value. In order to lead to better care, it must be followed by development of the essential pathways involving a register and recall or enhanced opportunistic care. Certain aspects of the conceptual model are of secondary importance; for example, if the recall system is working well and staff have a good background in mental illness then needs assessment,

Table 1 Examples of new issues identified in the focus groups

<table>
<thead>
<tr>
<th>Current advantages of general practice care</th>
<th>Visions for a better system</th>
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<tbody>
<tr>
<td>PHCT members provide an excellent ‘trigger’ to ensure appropriate care is received</td>
<td>Provision in general practice of social care in the form of benefits advice, complementary therapy and a place to meet</td>
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<tr>
<td>The knowledge of families and individuals accrued over time</td>
<td>A shared electronic record and video conferencing links</td>
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<tr>
<td>Those attending for depot injections use the other PHCT services better</td>
<td>Patients going to the GPs surgery for management of mental health problems in the same way as they would with their physical problems</td>
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<tr>
<th>Imperatives for change</th>
<th>Practical ideas to help change</th>
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<tr>
<td>A need for staff support and training for some doctors and most receptionists and nurses in dealing with patients</td>
<td>Inclusion of relevant summaries located at the beginning of letters</td>
</tr>
<tr>
<td>Training for practice nurses ‘to be reassured we are doing the right thing’</td>
<td>Improved access to practices by CMHTs by providing bypass telephone numbers</td>
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<tr>
<td>Timely feedback on patients referred for urgent assessments</td>
<td>Practice managers should be involved in ensuring systems are developed</td>
</tr>
<tr>
<td>CMHWs linking with primary care – ‘rather like district nurses do’</td>
<td>CMHWs being able to call practice nurses to say ‘so and so needs some contraception can I bring them round’</td>
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<tr>
<th>Barriers and dilemmas to developing shared care</th>
<th>Guidance to an initial assessment</th>
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<tbody>
<tr>
<td>Actually getting those who normally do not attend to come into primary care</td>
<td>Setting up a joint working group</td>
</tr>
<tr>
<td>Administrative barriers preventing acceptance of referrals or discharges</td>
<td>Assessing epidemiological needs</td>
</tr>
<tr>
<td>Should patients be recalled or offered opportunistic care</td>
<td>Obtaining patients’ views on needs</td>
</tr>
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<td></td>
<td>Sharing visions for change</td>
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Table 2 Contents of the toolkit for developing shared care for long-term mental illness (LTMI)

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<tr>
<th>Guidance to an initial assessment</th>
<th>Developing a shared care agreement</th>
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<tbody>
<tr>
<td>Setting up a joint working group</td>
<td>The model for shared care</td>
</tr>
<tr>
<td>Assessing epidemiological needs</td>
<td>The role of any link workers</td>
</tr>
<tr>
<td>Obtaining patients’ views on needs</td>
<td>Communication guidelines</td>
</tr>
<tr>
<td>Sharing visions for change</td>
<td>Detailing responsibilities</td>
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Guides for developing and understanding systems

- Constructing a disease register for LTMI
- Setting up paper or electronic databases for patients’ clinical details
- Mental health assessment
- The Care Programme Approach demystified
- Training needs assessment,
- Auditing care

| PHCT, primary health care team; GP, general practitioner; CMHT, community mental health team; CMHW, community mental health worker. |
training, guidelines and audit may be less important. The detailed arrangements will depend on local contextual factors.

The MHL intervention is shown in Fig. 3. It is designed to enhance and speed up the natural process of this shared care development, which might occur alone within a favourable local and national context. It is described in detail in Developing primary care for patients for long term mental illness – your guide to improving services (Byng & Single 1999).

A trained facilitator working with a JWG drawn from both teams is essential to the MHL intervention. This process starts with a brief needs assessment and development of a shared understanding about priorities for development. The facilitator takes the JWG through a series of three meetings and decisions about the structure of shared care are made. At this stage the facilitator must bring about an understanding of shared care and also have the ability to bring about compromise between the various parties. The facilitator produces a detailed written shared care agreement which is sensitive to the local context of the general practice and CMHT. For example, the MHL toolkit lays out the possible roles of a link worker which include providing training, facilitating communication and seeing patients from the practice.

Our recommended model of shared care, as embodied by the role of the linked community mental health worker (CMHW), is a hybrid of the two commonly described models for CMHWs – the practice-based CPN and the ‘link worker’ who might provide advice and be a conduit for information. This ‘hybrid’ (or aligned caseload) model advocates the CMHWs being based in a community team to ensure they have professional support and protected workload, but with significant time in the practice to allow face-to-face contact. Having a significant proportion of their caseload from the linked practice will ensure that a meaningful relationship is built around the real sharing of care.

Some link workers may be confident to provide basic training for a practice where this is required. In
Another practice a system of targeted recall may be the main activity for shared care, once the register and associated database are set up. A link worker might meet with individual GPs and a practice nurse to rapidly review patients with LTMI making decisions for targeting follow-up for mental or physical health.

Once the agreement has been reached the facilitator is then required to provide advice about setting up registers and databases as well as working to a number of specific objectives to achieve the shared care model which has been chosen. In addition to the toolkit, the facilitators are able to help practices set up the computer ‘template’ designed as a database for essential information as well as a prompt for suggested enquiry and recommended care (Hunt et al. 1998).

While these face-to-face meetings enhanced informal communication and possibly started to change attitudes, the JWGs were not able to influence the content and quality of communication from hospitals or CMHTs. This aspect is best addressed at a CMHT or trust-wide level and the important issues and details of diagnostic coding, content, timing and means of communication are described in the toolkit. The implications of the change to electronic means of information exchange are also addressed.

Discussion

This paper has described the elements of a complex intervention and the conceptualization of shared care for LTMI as a dynamic process. The develop-
ment of both is based on a prior understanding, derived from the literature, of the necessary components as well as on the reflections of ‘coal face’ practitioners. We stress the importance of adapting to the context in which the shared care development or intervention occurs. This need to consider the complexity of organizations and take account of internal and external environments has been emphasized by Garside (1998). Bradley et al. (1999) also stress context and theory in their framework for describing complex interventions. Complexity theory further supports the need to promote creative local solutions by appealing to individual preferences and providing frameworks to adapt to the context (Plsek & Greenhalgh 2001). For LTMI in general practice the context includes national policy as well as local factors such as the current state of development of primary care and CMHTs. Another important contextual component is time. The local and national policies and structures of the late 1990s, when this programme was developed, have changed, with implications for dissemination and generalizability. We believe that the responsibility of the primary care trusts for clinical governance and implementation of the NSFs make this form of quality improvement programme, delivered at both practice and trust level, more relevant.

Previous literature has not provided a description of shared care for LTMI other than as a list of core components. This paper describes shared care as a dynamic process both for the individual and for the practice and associated CMHTs. The components described in Fig. 2 are those that might be expected to occur in any locality within the UK and possibly beyond; the local context will determine the detail. It also describes how an intervention relates to this conceptual model for normal service development. The proposed intervention as described in Fig. 3 can therefore be seen as the mechanism of a social programme embedded in a context of time, place and policy (Pawson & Tilley 1997). In keeping with the continuously adaptive systems described by complexity theory, the proactive development of the systems for shared care is explicitly flexible, whereas the improved health of individuals is a common anticipated outcome.

The methods used could be criticized in a number of ways: the focus groups and piloting could both have been more extensive; users could have been involved in the steering group and focus groups, and the formative evaluation could have continued longer in order to understand the contexts and mechanisms which promote the fullest implementation. The Medical Research Council has produced guidance on the development and evaluation of complex interventions stressing the importance of the developmental phases and the use of multiple methods to ensure that the intervention is ready to be subjected to a clinical trial (Campbell et al. 2000). The ‘theoretical’ and ‘modelling’ phases should include a review of the literature from a variety of relevant disciplines, and if necessary the collection of primary data, often of a qualitative nature to provide answers to the most important questions unanswered by the literature. This guidance advocates producing diagrammatic models of the intervention describing the relationship between the components. Although it suggests modelling the control or ‘practice as normal’ situation, it does not recommend, as we have done here, disentangling the complexity of service development from the complexity of the intervention. We would argue that the intervention is an addition to ambient factors affecting service development and that the service development will occur in line with the conceptual framework as we have developed it, with or without the intervention. Otherwise in so far as this guidance provides a gold standard for judging the design of the development of complex interventions, the methods used in this study are in keeping with current opinion.

The NSF for mental health promotes many of the components of shared care in the conceptual model we have outlined (DOH 1999). It does not, however, give a detailed description of how this should be implemented. The new proposals for how mental health services are to be configured aim to promote integration with primary care; however, with increasing subspecialization of CMHT functions it is not clear how community services will all link with primary care teams. Link working is becoming more prevalent and CPNs and other CMHWs are being lined up to be involved in the development of primary mental health care (Badger & Nolan 1999) and it seems likely that they, rather than psychiatrists, will fulfil the consultation–liaison role (Bower
The ‘hybrid’ or ‘aligned caseload’ link working model described above involves not only advice and liaison but also care co-ordination and hands-on care for patients in the linked practice. The link workers, who may work from new ‘primary care liaison teams’ or redesigned CMHTs, are likely to require training and excellent interpersonal skills to make a variety of links with different practices.

This paper has outlined the development of the intervention which has been the subject of a randomized controlled trial; the practices have been paid over £2000 to be involved but the CMHTs had no financial incentives. The direct costs per patient for developing shared care in this way are modest but have yet to be earmarked by policy makers. Meanwhile, the frameworks for understanding the complexities of shared care and for delivering an intervention to develop services provide a resource for those charged with this difficult task.

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