Using the ‘Realistic evaluation’ framework to make a retrospective qualitative evaluation of a practice level intervention to improve primary care for patients with long-term mental illness

Abstract

Aim
The aim of this project was to use the ‘Realistic Evaluation’ methodology to determine how and why improvements in care for long-term mental illness occurred during the trial of Mental Health Link (MHL), a complex intervention to improve primary and shared care. This paper describes the development of the design and uses examples of the results to discuss practical and theoretical issues arising from it.

Methods
Realistic Evaluation asserts that any outcome is caused by specific ‘mechanisms’ which occur at a psychological, individual or organisational level and that these are contingent on ‘context’. 12 practices from both arms of the trial who had achieved self reported improvements in systems of care were chosen as the cases and semi-structured interviews with practitioners involved in the development of services were held. These interviews aimed to clarify the specific ‘Context-Mechanism-Outcome’ configurations which were associated with expected, unexpected and failed outcomes.

Results
25 interviews are now completed, transcribed and analysed. Eleven case studies based on the important intermediate outcomes and associated CMOs have been created. Secondary analysis across cases has provided ‘middle range theories’ aimed at helping design other interventions develop care. Successful link working requires flexible and experienced practitioners able to respond to needs of individual practices and constraints of their team. Even those practices with commitment struggle to find the time and technical support to develop robust means of carrying out the recall and review required for proactive care; however successful examples of service development were found and described.

Conclusions
The complex and explicitly flexible intervention was capable of aiding the development of care in some but not all practices; outcomes being contingent on other local factors. ‘Realistic Evaluation’ proved a valuable theoretical framework for unpicking the mechanisms behind the complexity of both the intervention and normal service development.

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Introduction
Patients with long term mental illness suffer considerable disability and are now high on the policy agenda. Care within this group of patients is not highly developed within primary health care and there is also little evidence to support the development of care. In the UK primary care is based around multi-disciplanry general practices normally led by doctors. Specialist mental health services include hospitals and community mental health teams (CMHTs) who have caseloads of patients with long-
term mental illness. There are a number of recommendations for a range of developments in practice systems and for joint working between the two systems within the National health Service (NHS). The complexity does not lend itself to simple uni-dimensional interventions because components such as systems for recalling patients and placing link workers with practices are interdependent. An intervention, Mental Health Link (MHL), has been evaluated using an exploratory randomised controlled trial and a qualitative approach using Pawson and Tilley’s ‘Realistic evaluation’ (RE) framework. The objectives of this paper are to describe the development of the design for this ‘Realistic Evaluation’, provide some examples of results and discuss the practical and theoretical issues arising from the approach.

Background

The development of the mental health link intervention

An iterative development process was used. The MHL intervention is a facilitated model of quality improvement. Initially facilitators work with a small group of professionals from each general practice and associated CMHT. They look at local interests and needs and then work through a series of options for the configuration of shared care paying specific attention to the role of the link worker, methods of communication, documentation of responsibilities and planning the systems within the general practice to support shared care. The intervention explicitly avoids a universal model but recognises the differing needs, structures and interests of practices and CMHTs and allows for local implementation. The outcomes of improved physical and mental health remain shared goals. The facilitator is also available to support the practice in the development of systems. A shared care agreement is produced and the situation is reviewed after three months and one year.

The randomised controlled trial

Twenty three practices were recruited for entry into the trial which gave mixed results and no clear conclusions could be drawn about the effectiveness or cost-effectiveness of the intervention. While there were some significant improvements in service development these have not translated into improvements documented in the notes for physical and mental health care. On the other hand significant differences were seen in the relapse rates. This could be a chance finding or could be the result of mental health link working via the improvements in informal shared care developed through better link working. There was a mean cost per patient of £73 over the three-year period for the addition of Mental Health Link. In order to make sense of these findings it would be necessary to understand how the intervention was having its effect if any.

Choice of method for understanding the process behind the intervention

There were two related but distinct aims embedded in the need to understand the contents of the ‘black box’ of both the intervention and the process of normal service development. Firstly to derive a description of what happened and to understand how the salient variables relate to one another by creating an explanation of how and why certain things happened or did not happen. This first aim therefore goes beyond a mere description of what occurred, but includes an attempt to explain the causes of the phenomena. The second aim was to carry out a further analysis of these findings in order to provide some insight in the form of ‘middle range theories‘ which will provide guidance about interventions similar to mental health link.
The choice of method would need to be practicable, have a theoretical base in keeping with the philosophy behind the intervention and be acceptable to those who may use the findings. The choice and development of the methods were to some extent iterative with an interplay between assessing operational constraints on the research questions, the type of data available to be collected and epistemological stance.

Firstly, certain structural constraints would influence the choice of method. The intervention operated at the level of the practice. More macro considerations, such as policy and specialist provider culture, as well as more micro phenomena, such as individual practitioners’ and even patients’ beliefs, were likely to affect the working of the intervention; but the intervention was primarily about systems within the practice and relationships between the practice and other organisations. Only 23 practices were studied in the RCT, twelve receiving the intervention. The RCT had used patient and practitioner level data to attempt to make inferences about the intervention, but in order to understand mechanisms behind the intervention analysis would have to be made at practice level. Policy makers and managers at a more macro level would have views about the intervention but were not, with the exception of some CMHT managers directly involved. The principal actors within the intervention were the practitioners within the practice unit and the associated CMHT.

Their thoughts and actions occurred over a considerable period of time and in many places. The intervention had an intense period of operation during the joint working groups (JWGs) and this was followed by more or less thought and activity for a period of up to two years occurring in a variety of settings at often unpredictable times. It was our intent to evaluate the effect of the intervention on outcomes, rather than provide a description of the process of the intervention. This therefore ruled out a direct observation of the JWGs and subsequent facilitator contacts as the primary focus of data collection. Written records would have been an alternative source of data. These like interview data are open to bias, but more practically are often unavailable in general practices where there is not a strong culture of documenting every discussion and decision. This need firstly to treat the practices as the main unit and my emphasis of understanding the origin of key intermediate outcomes led to an initial decision to carry out a multiple case study using the practitioners involved as the key sources of data.

The next task was to find a suitable epistemology and theoretical base to work from. From there the detailed methodology could be derived. The intervention itself was designed to be responsive to the variable needs of complex health care systems. In particular the needs could not be predicted for each practice-CMHT dyad. This does not fit easily with a positivist viewpoint because neither the intervention nor the services in which it operates can be reduced to easily describable entities and certainly not a set of numbers. On the other hand there was a concern for real services and real people rather than an emphasis on patients’ and practitioners’ feelings and perceptions of their interaction with the system. The intervention was based on a belief that the systems involved are complex, holistic – in the sense of involving layers of reality – and that these layers of interest are real if not actually tangible. Critical Realism as espoused by Harre7 and others was the philosophical stance which appealed most. Realism was not only the philosophy which best fitted with the complex intervention,
it also fitted with the need to find out how and why the intervention did or didn’t work.

A Realist examination would provide a description of how different layers of social reality interact; in this case individual thoughts and actions, team culture, inter agency working, financial incentives and policy are interrelated and have a part to play in the development or otherwise of improved systems of care. Realists espouse a ‘generative theory’ of causation and outcomes are brought about by specific mechanisms which are contingent on the context. Pawson and Tilley have used this theory of causation to develop a framework for describing change and causation in complex situations where the number of successionist theories that would be required to make up the whole story would be too many and too problematic to measure. Their ‘Realistic Evaluation’ model proposes that the ‘context’, the ‘mechanisms’ and the ‘outcomes’ should be the subject of enquiry and analysis in order to answer the question of ‘how and in what circumstances can the desired outcomes be achieved?’

Testing a hypothesis

The ‘Realistic Evaluation’ of MHL complements the randomised controlled trial by identifying how and under which conditions if any it exerts its effect. The MHL programme can be viewed as a set of cases (the general practice/community mental health team (CMHT) dyads); both control and intervention practices are waiting to be evaluated individually as well as in a group. Yin provides a framework for multiple case study evaluation, and like Pawson and Tilley places dependence on hypothesis building and testing, using analytic rather than statistical generalisation.

Following this iterative consideration regarding question and method the hypothesis under scrutiny became ‘The reasons for the success or otherwise of the intervention in achieving its objectives are to be found in the context in which it operates and in the mechanisms employed or not employed in the pursuit of improved care.’

Case studies have been much discussed and there is little agreement about what they can achieve. There is perhaps most agreement that case studies can be used to illustrate theories. The detailed descriptions of single people, communities or historical events studied as entities can help illuminate theories. There is also a limited agreement that they can be used to help build theories in the early stage of conjecture. We wanted to use the case study to create generalisations which would have a good chance of being right and therefore be of use to practitioners and policy makers. There was no need to be certain but there was a need to provide generalisable insights, which would add to that of an experienced manager or policymaker. Merely explaining why the intervention and service development had occurred was not enough – we needed to help predict how things might work out in a different or similar contexts elsewhere or in the future. Case studies would be used but Znaniecki’s analytic induction with its deterministic implications would not be the basis of inference; instead, although notice will be taken of when contexts and mechanisms appear to be important, the postulated relationships would not be seen as deterministic but as ‘likely to be of importance’.

Method

The enquiry is based on the search for CMO configurations which explain the development of shared care and the effect of MHL. We have chosen to use both the positive and failed outcomes as the starting point for the search. Unlike in Pawson and
Tilley’s work, where social programmes aiming to reduce problems such as burglary are being evaluated, we are also investigating the CMOs which embody the development of an organisation, the NHS. This may include systems, capacity and relationships within and between the practices and CMHTs concerned. Some outcomes are related more directly to patient care and the CMOs concerned therefore more likely to be similar to those proposed by Pawson and Tilley. The emphasis on the development of organisations as an outcome still requires us to look at both the micro and macro mechanisms but there is likely to be less emphasis on reasoning and more on actions and resources or capabilities. The specific objective of the Realistic Evaluation was to determine the contexts in which specific mechanisms, attributable in some way to the MHL programme, contribute to service development and improved patient outcomes. Of secondary interest is an understanding of the contexts which prevent MHL attributable mechanisms from contributing to outcomes. Achieving an understanding of which actual components of the complex intervention were in themselves ineffective or implemented inadequately was also of interest. Inevitably achieving these objectives also requires an understanding of which contexts allow non-MHL related mechanisms to bring about change; this will also be useful for the recipient practitioner but will not be the focus of the results and discussion within the thesis. Further more the delineation of potential CMOs based on postulated mechanisms, although of interest to those developing services will not be the primary concern here.

This evaluation involves the research team, the facilitators and the subjects (or team members). The research team consists of the lead investigator, an interviewer and supervisors providing guidance regarding method, data collection and analysis. The lead investigator was also responsible for the conception of the project and acted as a facilitator to many of the intervention practices and as a supervisor to the other two facilitators. As the lead investigator, facilitator and facilitator’s supervisor I had the most wide-ranging experience of the intervention, and this experience had led to formulation of primitive conjectured CMO hypotheses. It was important that this experience and the reflections on it were captured in a systematic way. I was therefore appropriate for me to be part of the data generation and involved in the majority of the interviews in order to ensure that this unique knowledge was fully utilised in the inquiry into causation. This was in keeping with Pawson and Tilley’s recommendations within ‘Realistic Evaluation’

The first stage of the enquiry generated ideas about which contextual factors were likely to be important, considered potential mechanisms and decided which intermediate outcomes should be the focus of the research. These were derived from the literature and from discussions between the facilitators and the research team. The intermediate outcomes relevant to each practice would consist of two overlapping groups:

- Those achieved and not achieved according to the Service Development Questionnaire completed by each practice for the main trial
- Those the CMHT and practice had aimed for in the first meeting and laid down in the shared care agreement

The outcomes included broad areas such as the presence of a disease register or improved informal communication. The former is an example of a more concrete outcome which itself has a series of possible discrete stages depending on the type of
register. The latter type each has a range of indicators which are derived from the
enquiry as well as generated by the team and from the literature.

The outcomes were listed for each case study and used as the basis for enquiry in the
second stage.

**The second stage** aimed to identify how and why these outcomes or indicators were
achieved or not in each case or practice-CMHT dyad by constructing CMOs around
each outcome and sometimes the indicators. This involved group and single
interviews with the ‘subjects’ (ie the GPs, CMHT members, nurses, managers etc) of
the programme and where possible with the facilitators (‘practitioners’ in Pawson and
Tilley’s hierarchy of expertise).

The aim was use the knowledge and experience of these two groups of ‘experts’ to
start to generate CMO configurations within the interviews. Thus through a system of
inquiry which explicitly used the knowledge of the researchers and facilitators to
build conjectured CMO configurations, a picture was built up of the reasons for
success or otherwise of service development for LTMI and therefore also for the
MHL intervention for that case.

**Constructing a sample**

A purposive sample frame of the dyads was constructed, with the object of conceptual
power rather than population representativeness, in order to select the cases for study.
The intervention practices involved were divided into groups of high and low
involvement in MHL intervention according to the practice questionnaire results.
Control practices were divided into low and high involvement in LTMI service
development, also according to the questionnaire. The six with significant
involvement and half of the six with low MHL involvement were selected to be cases.
These three were selected at random. The three reporting any significant LTMI
development were selected to be cases.

**Selecting interviewees**

For each case participants who had direct experience of mental health service
development were approached for interviews. A mixture of nurses, doctors and
managers were interviewed from each of the 12 practices. This ensured the
participants were information-rich and thereby maximised the potential for identifying
issues pertinent to the operation and effects of the MHL programme. Where practical
interviews were carried out in groups except when it was known or suspected from
the facilitators notes that that there were strong differences of opinion or interpersonal
difficulties. When it became clear following the initial interviews that others who had
been less involved would be valuable to interview they were also contacted.

**The interviews**

Written information including the explicit aims of the study were sent one week prior
to interviews to give subjects time to consider and formulate nascent CMOs.
Interviews were where possible held in groups be about 60-90 minutes long and tape
recorded. At the start each participant agreed to part of the study and to be
interviewed. The interviewer followed an interview guide which was adapted after the
first three interviews.
Following an orientation in time to the period when the MHL programme was starting in the practice, the first part of the interview interviewees were encouraged to talk openly about their practice or CMHT and the mental health link intervention. In order to give them ‘permission’ to discuss failures and problems as well as successes they were told that many practices had not achieved any significant changes in outcomes and that the research team had already identified problems with the intervention. They were explicitly told that the results would be used to inform other practitioners about service development for LTMI and that anything they said would not be attributable to them or their team. The RE framework, described in the letter was reiterated in order to enhance their ability to provide information of relevance to the evaluation.

The first substantial part of the interview was taken up agreeing successful, failed and unexpected outcomes. Interviewees were asked to outline their own ideas before the outcomes listed from the first stage were shared. Discussion then focused on developing CMO configurations for each of the outcomes in turn. This dialogue concentrated on the interviewees perception of what actually happened in terms of the RE framework introduced by the interviewer. It included closer questioning by the interviewer when a context or mechanism appears unlikely or needs further explanation. Further more the interviewer at times took on a dual role and also provided information from the case in question, introduced to the other respondents for affirmation or as a stimulus for adding to the CMO emerging in the discussion. Information from other cases were also at times be introduced to test out whether such CMOs or individual contexts and mechanisms were relevant to the case in question.

**Analysis**

Field notes were made immediately after each interview. These described the context of the interview, the dynamic between interviewer and interviewee(s) and any other impressions the researcher had about the interview and situation. Tapes were transcribed professionally and then checked by the interviewer.

The transcribed interviews were then entered in the Atlas-ti software. Descriptive codes were assigned to each relevant piece of interview data, allowing for indexing and retrieval. These codes were based on the CMO notation. This enabled the data to be categorised consistently. A sample of the coding was checked by the supervisors to ensure that the mode of inquiry is as balanced as possible; at the same time the coding will be checked and challenged. Memos were written throughout the coding process to record emerging conceptual links and other observations about the data. As new contexts, outcomes and in mechanisms are identified, these were added to specific inquiry in subsequent interviews and cases.

The primitive CMO configurations derived during the interview were refined according to the data from all the interviews for each case. These were drawn as diagrams in the network function of the soft ware and a brief commentary written explaining the diagrams. This case study is presented in written form to the practice and CMHT to check for validity.

**In the third stage** these refined CMO configurations are compared across cases in order to determine conjectured generalisable CMO configurations. For each broad outcome specific mechanisms or groups of mechanisms were studied in order to build up a picture of the contexts which are important for each mechanism to result in a
positive outcome. Many contexts from individual cases were ill defined or have been defined subjectively by the participants. Similarly the outcomes are also either subjectively dichotomised or delineated by indicators which were also subjectively defined. Also some cases include CMOs at both a micro level relating to indicators of broad outcomes as well as CMOs looking at all the contexts and mechanisms involved.

This uncertainty and subjectivity add to the complexity of the data in the case studies from the first stage of analysis which are available for the secondary analysis. This secondary analysis aims to generalise from the specifics of individual cases to the ‘middle range theory’. It will use a systematic approach to determine likely and conjectured CMO configurations of use to practitioners and policymakers. The systematic comparison of cases is in some ways similar to that used in the method of analytic induction. In that cases which appear to refute a conjectured CMO will be used as evidence either for rejecting or adjusting it. It is of course different from analytic induction in that the aim is to be probabilistic rather than deterministic in the presentation of each CMO in its final form within this study. Further more some of the CMOs emerging from the third stage is based on best guesses in about what might work or have worked in different contexts within the individual case studies.

**A sample of results**

A small sample of the results to date will be presented. A truncated sample from case study 2 is presented as an example of the results from the first stage of the study.

**Case 2 Background**

Case 2 includes a medium sized practice in an inner city setting with a high prevalence of mental illness. It has six partners and a clear relationship with one community mental health team (CMHT) which was split between continuing care and assessment and brief treatment functions. The team had recently reorganised to cluster around practices and merge with social services. One psychiatrist managed the medical care. The facilitator had difficulties engaging the team initially and handed the role over to RB one year into the project.

The case study is based on a joint interview with the GP who had led on the project and the practice manager who had not been involved. A second interview was held with the Link worker.

**Figure 1. Integration of the link worker**

The placement and integration of the link worker into the team (Fig.1) was stimulated by the MHL project. It occurred in the context of good relationships with the CMHT and practice, a high prevalence of LTMI, prioritising mental health, but also having a GP with experience of working as a psychiatrist. The additional mechanisms of welcoming the linked CPN and providing protected time ensure that the outcome of integration was achieved. This was indicated by the regular attendance at PHCT meetings, and the liaison role played between the link worker and both the ward and
the CMHT. It was even felt that primary care could influence decisions about management. The only aspect of integration not achieved was with respect to the development of a relationship with practice nurses who 'may not even have known about the link worker'. This was in the context of the nurses not attending the PHCT meetings and the absence of a systematic review of aims by the MHL project and of mechanisms put in place to ensure they met. (see figure 2)
Improving the review of patients with LTMI

The pre-existing mechanisms (review via memory, practice nurse led depots, and repeat prescribing reviews) in context of a single practitioner seeing most patients with LTMI were enhanced by the link worker discussing cases with other team members and linking back to the ‘continuing care team’ (of which she was not a member) to discuss concerns. Interestingly she noted that an additional mechanism would be for her to attend some ‘continuing care team’ meetings to encourage their concerns about the practices’ patients to be aired and shared earlier with the PHCT.1

There was no proactive system using a register of patients with long-term mental illness but best practice may have been enhanced by the computerised database acting as a prompt for best practice, at least for main GP using it.

Effectively there were several mechanisms operating which could perhaps better be drawn as 3 CMOs. Each CMO would then have a single mechanism and the specific context in which it is effective. The perspective of the CMO operating in a whole system is to some extent lost unless both micro and macro CMOs are drawn up.2

Improving physical health

Although there was scepticism about the value of physical care being promoted the lead GP for mental health volunteered that it was the MHL meetings and emphasis on

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1 This is an example of the interview process discovering ‘what might be’ as a first stage in building up mid level postulated ‘potential’ CMOs
2 This is an example of how CMOs may need to be micro to really achieve a realist approach
physical health that lead him to change practice and increase the extent of his opportunistic reviews.

Secondary level analysis

The above summarised example shows how the RE framework has been used to depict various changes in service provision for an individual practice and associated CMHT. The issues arising from this first stage of analysis will be discussed later. The second stage analysis, which is not yet complete, aims to generalise across cases to look at how the important outcomes may be achieved and the role played by the MHL intervention. The following are some examples of these ‘middle range theories’ or conjectured CMOs. This process drew on the detailed case studies of what was thought to have happened as well as the potential outcomes which interviewees thought might have happened if certain contexts had been different or additional mechanisms had been in place.

Link working

There was a clear association between the development of meaningful link working relationships and the context of having a link worker with a flexible way of working and the mechanism of the MHL intervention in the form of joint working group meetings acting to bring teams together and stimulating the appointment of link workers. In all case studies with a link worker working successful in primary care, the personal way of working was described as flexible. In two practices where link working did not succeed, the worker had been described as inflexible; they were also described as being too concerned with the Trusts’ agenda of reducing costs. There were examples of link working being successful in practices without the MHL intervention but across the 23 practices in the main trial these were less likely to have occurred than in those with the MHL intervention. It is therefore postulated that the
MHL did have an effect in bringing about meaningful link working but that it was neither necessary nor sufficient.

Review of Physical health
Results from the main trial found that more intervention practices claimed to have reviewed physical health but that processes of physical care were not improved in these practices. A number of potential CMOs were created for the practices studied. There were a number of mechanisms for review which had been shown to work in different contexts. These included the review of notes by link worker or practice based CPN with the patients’ normal GP and/or practice nurse. This worked only in the context of having a register and having patients assigned to a normal GP. Actually ensuring the patient attended required a number of tactics for follow up. In one of the intervention practices the CMHT had changed their practice of approaching GPs about forthcoming patient reviews and had started asking directly for information on mental health from GPs. In the context of CMHT members with a commitment to physical health, improved care was achieved through this improved communication. An alternative mechanism was to invite patients from the register to the practice. It was clear that in the three intervention practices who sent a letter to patients in the absence of a copy to the CMHT that there was very little advantage gained as most patients did not attend. None of the practices interviewed had sent out copies of letters but in the interviews with one CMHTs they stated that it had become normal and routine practice for some of their local GPs to send out letters and gain a good response. This result was also contingent on there being a culture in the CMHT of responding to the letters by discussing physical health with clients and facilitating them to attend primary care.

Discussion about Realistic Evaluation methodology
The two preceding paragraphs provide examples of how the lessons from individual case studies have been brought together to create ‘middle range theory’ in the form of conjuctured CMOs which might be applied in other situations. The next stage in the search for generalisable theories could be to look at other examples of service development, with or without explicit interventions to see whether the evidence provides further evidence for or refuted the CMOs. Alternatively an intervention adapted according to the findings could be implemented and evaluated.

That is for the future; meanwhile I would like to look critically at the method we used to discuss its apparent strengths and weaknesses. I will consider practical and theoretical issues, looking at the analysis for individual cases and the efforts at generation of middle range theory.

While carrying out the interviews it became immediately obvious that for any outcome being studied there were many potential CMOs. This was very different from the diagrams illustrating the theory where single mechanisms and contexts were brought together. A number of different patterns emerged: sometimes the broad or ‘big picture’ was depicted by multiple ‘Cs’ and ‘Ms’ – this gave a useful holistic picture – but they could be separated into more specific simpler CMOs where the mechanism(s) were more specifically contingent on each of the contexts depicted. This seemed to be a truer use of RE as a theory and yet the more holistic picture was also of value. This was true when there was a potential for positive interaction
between two or more mechanisms. The most important interactions identified were those which caused a positive or negative feedback. For example when a practitioner struggled alone in a practice to introduce more pro-active care (M), without enrolling the support of her colleagues (C), a failed attempt at introducing change (O) led her to be more reluctant to both try again in a different way or to even mention the project, with its negative associations, to colleagues. It had started to become a heart sink project. The importance from a change management perspective is to identify such negative feedback loops which will act as dampners for change.

Positive feedback loops were also identified. For example the active involvement in case discussions at primary care team meetings (M) of a linked mental health worker (C) resulted in integration into the primary care team (O), this increased integration with increased trust resulted in a perpetuation of the meetings (M) and also other more informal communication was enhanced (O), both further increasing integration (O).

The infectiousness of success and power of increased confidence have been described in the psychological literature, and here the same phenomena could be described and identified using the RE methodology. The importance of capturing these potential interactions, which had been one of the principals underlying the development of the intervention is further emphasised when considering the links with complexity science where local interactions account for important and at time unexpected outcomes. While the CMO is of course a local interaction in itself RE does not explicitly describe these interactions between mechanisms or feedback loops.

Another pattern was that of a CMO within a CMO. Both contexts and mechanisms are social phenomena and have often occurred as a result of a mechanism acting in a specific context. For example the practice based register of patients with long-term mental illness was an outcome of interest and them became a context in which various mechanisms could act to bring about improved review of care. Thus complex causal networks started to emerge within some of the case studies with O(i) becoming C(ii).

In a more extreme analysis of the CMO within a CMO it could be argued that each Mechanism involving human action and thought was made up of umpteen CMOs when the psychological processes are considered. While we had wanted to look at the specific CMOs in detail it was not possible due to the time lag and would not perhaps even have been valuable to look at these ‘micro psychological processes’. There was then a continual tension between the micro and macro when constructing the case level CMOs within and after the interviews. When looking at ‘middle range conjectured CMOs’ it was at times more relevant to be specific or micro and other times better to be macro or more holistic.

These were both practical and theoretical issues. Similarly, it was at times hard to decide whether something was a mechanism or a context. For example was a ‘Link worker reviewing a register of patients to determine those who needed follow up’ a mechanism to ensure follow up was organised or a context which together with the mechanism of a patients’ key worker bringing them to primary care ensure they were...
seen for physical review? Or was it a CMO in itself with the contexts being ‘having an active link worker’ and ‘having a workable register’, the mechanism being the series of actions required to actually go through and check the notes of those on the register and the consequent outcome being the identification of those needing review. We came to the conclusion that it was all three depending on which stage of the process it was being viewed from. It caused problems when attempting to depict the CMO firstly because the information in the interviews was in many ways insufficient and secondly because of the issue discussed above about whether to focus on the micro or the macro. So although at first it appeared that this ambiguity about whether it was a C or an M was a problem with the theory it was actually a problem of the application of the RE framework to our retrospective interview design. What was important was that the search for CMOs within and after the interviews improved our capacity to work out what had caused what.

The initial research question implied the need to look for reasons as to why the intervention had at times failed. In the context of the RE framework this meant looking at what we have termed ‘negative outcomes’. These included those which were planned or hoped for but had not been achieved – failed outcomes – and those where unexpected negative outcomes or worsening of the situation had occurred. For the latter we were investigating what had happened and in the former CMOs emerged which either looked at the negative mechanisms and contexts which had prevented outcomes or, in keeping with the aim of looking for ‘what may be or what could be’, postulated potential mechanisms and associated contexts which might have brought about the hoped for outcomes. Participants in the interviews and the analysis were therefore aiming to determine potential solutions for the near future or other contexts and therefore increasing generalisability.

These practical and theoretical issues regarding the development of past and potential, micro and macro, and middle range theoretical CMOs were of relevance to both the evaluation of the intervention and for the ‘development of services as normal’. Although the lessons learnt regarding this normal service development were important, actually determining when an effect was due to the MHL intervention had been the initial focus for the inquiry and is also the aim of the RE approach. Practical barriers to achieving this aim included: the innate reluctance of the interviewers who were associated with the project to suggest either the successes or failures of the MHL programme; the reluctance of interviewees to discuss the programmes shortcomings; the lack of clarity about whether various occurrences were part of the programme (either because guidance or ideas could have come from other sources or because the mechanism leading to an important outcome, was a product of other causal pathways which may have involved MHL earlier in the pathway). These problems were partly overcome by explicitly stating that there had been both successes and failures and that we wanted the good and the bad so we could improve our approach at tackling this difficult problem. In the most part interviewees were reassured by anonymity and appeared to enter into an honest dialogue involving their perceptions of what had happened. The retrospective nature of the interviews however did mean that we were never sure how much these memories of the past had been remodelled over time. Where possible we would use triangulation but often there was only one person sufficiently involved to recall detail. In particular an interviewee might clearly recall a change in practice systems but was not clear about the role of the intervention in bringing it about. There may have been a general recognition that changes would not
have occurred without the MHL intervention but insufficient recall as to the specific mechanism of the intervention and the associated contexts on which the mechanism was contingent.

On the other hand this was certainly not always the case and there were many examples of how the MHL intervention had and had not been successful in achieving the outcomes of interest. As well identifying the ways in which MHL had contributed to the outcomes of interest as described in the secondary or middle range theory analysis, we also identified several types of role that the intervention played in the development of services. It was at times a catalyst or stimulus for change and also acted as a performance management process, it provided prompts for action and skills to achieve action, it provided training and raised awareness, it negotiated solutions to disagreement and provided clear directions for change. Thus the MHL intervention had facets that fitted with our conceptual framework of how services for LTMI develop and also had facets or roles that mirrored the original framework for the complex intervention. The identification of these different roles from the interviews provided evidence that elements of the intervention had been implemented as planned; however there was also evidence that at times the roles had been absent when required or implemented and been found unacceptable. The reliance on facilitators who did not have the range of skills and knowledge sometimes required of them for delivering such a complex intervention was clearly one of the reasons for the failure to achieve outcomes. On the other hand contextual issues meant that in some of the cases studied an intervention was never likely to succeed. So while not providing all the answers the use of the RE theoretical framework did allow us to increase our understanding both of how services develop as normal and of the role the intervention played.

Reference List