

## Technical Report

# Development of the Older People's Primary Care Mental Health Service (OPPCMHS)

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## Executive Summary

There is a critical need for innovation in the NHS both now and in the future. With an ageing and more demanding population, the current health service models will not be able to meet rising demand at an affordable cost. A broad outline for what changes are required in both health and social services is emerging. Nevertheless there is a need to make these changes happen. This will require a combination of leadership, staff commitment and execution capabilities. Much work remains to determine how best to manage innovation and improvement in the NHS.

The UK Government through the National Institute for Health Research (NIHR) has set up a number of collaborations between health service and academic organisations to help address the innovation challenge faced by the NHS. Prominent amongst these collaborations are the nine NIHR Collaborations for Leadership in Applied Health Research (CLAHRCs). The research reported in this report was conducted by the Cambridge Engineering Design Centre (EDC) a centre within the University of Cambridge and a partner organisation within the NIHR CLAHRC for Cambridgeshire and Peterborough (CLAHRC CP).

The EDC undertakes research to create knowledge, understanding, methods and tools that contribute to improving the design process, in this case the process involved in the design and development of new or improved healthcare services. We were particularly interested in understanding better how healthcare providers make decisions about the design of the new services that they develop.

Although we might think that decision making in organisations should, ideally, be a strictly rational process, a review of the academic literature informs us that decision making processes observed in practice are often less rigorous and more political than this. A number of distinct decision making modes have been identified by academics and which mode is used tends to depend on how uncertain decision makers are about the goals of the decision (goal uncertainty) and the means to be used to make the decision (procedural uncertainty). According to the theoretical framework used in this report, decision can be rational, political, structured or anarchic, depending on the combination of goal and procedural uncertainty attached to the decision being made.

Using this theoretical framework, the lead researcher investigated the development of an older people's primary care mental healthcare service (OPPCMHS) in Cambridgeshire by the Cambridgeshire and Peterborough NHS Foundation Trust (CPFT), which is the lead organisation in CLAHRC CP, its commissioners and its partner organisations. Data for the case study was gathered using a combination of interviews, document review and observation.

The development of the OPPCMHS service originated from the desire of the Cambridgeshire PCT – who commission mental health services from CPFT – for a primary care mental health service for older people that was similar to an existing service for adults of working age but addressed the unique needs of older people. Funding was secured in late 2008 to run a small-scale pilot of the new service at two GP surgeries in St Ives starting in January 2009. Further funding allowed it to be extended to the other four surgeries in St Ives and to run until July 2011. Based on the success of the pilot, the commissioners requested that CPFT prepare a business case for OPPCMHS be rolled out across the whole of Cambridgeshire. A period of planning in early 2011 led to a service model being developed based on both the learning from the pilot and the funding that would be available.

Recruitment of teams for Huntingdonshire and Fenland began in late 2011 and the new service was in the process of being rolled out to the GP surgeries in those districts at the time that the case study data was gathered in February/ March 2012.

The data gathered about the OPPCMHS development were analysed using a comparison against the four archetypal decision making modes – rational, political, structured and anarchic – identified in the review of the academic literature. Rational and political decision-making require the pre-existence of formalised decision-making routines, which was not the case, and therefore were immediately eliminated. A detailed analysis was then performed: first using the elements in Mintzberg *et al.*'s (1976) description of structured decision-making processes; and then using the elements in Cohen *et al.*'s (1972) garbage can model of decision making in organised anarchies. Aspects of both structured and anarchic decision making were identified in the analysis of the events involved in the OPPCMHS development.

The existence of both structured and anarchic aspects of decision-making in the OPPCMHS development was not unexpected. In the organisational behaviour literature, public sector organisations are the exemplar of organised anarchies. Similarly within the healthcare literature healthcare systems are described as complex adaptive systems (CAS) that are difficult to manage because they are not well suited to top-down, rational modes of managerial decision making. This insight has significant implications for innovation and improvement in the NHS because most of the improvement methods and tools were originally developed in industry to work within rational or structured decision making processes. A gap therefore exists between the context that characterises decision making in the development of healthcare services, such as OPPCMHS, and the context that many existing improvement methods and tools were designed for and are fit for purpose. Consequently it is unsurprising that healthcare practitioners have struggled to successfully use methods and tools that have proven so successful in industry and elsewhere.

These difficulties do not, however, reduce the need for innovation and radical improvement in the NHS. Ways are needed to close the gap between the needs of the users and the available methods and tools. This could be done by changing the context and practice of organisational decision-making, finding the methods and tools that do work, or a combination of both. Both are possible. There is institutional pressure on healthcare providers to introduce innovations more quickly and efficiently which is likely to lead to a move towards more controlled and rational decision-making. Despite the organisational complexity that characterises healthcare, organisations are social systems and steps can be taken to reduce both goal and procedural uncertainty. Much work is currently being done within the NHS to improve leadership and change organisational culture which together should help reduce conflicts about goals during service improvement. On the other hand, perhaps because of the very large number, and variety, of existing improvement methods and tools, less work is in evidence on reducing procedural uncertainty i.e. which are the most appropriate methods and tools for a healthcare organisation to use in any particular situation.

Academia can play a role here in both education and research. Firstly it can provide training about the current state of academic knowledge related to theories, methods and tools that can be used for health service innovation and improvement. Second they can work in collaboration with healthcare organisations to: understand their needs; identify and test which methods and tools work for them; under what circumstances; how they should be packaged for their users; and what is needed to

adapt them for use by other healthcare organisations for dissemination. This of course relies on healthcare and academic partners identifying suitable improvement projects to work on together and addressing any issues involved in joint working of this kind.

The authors are committed to undertaking research to create knowledge understanding, methods and tools that will contribute to improving the design process. This technical report was an important step in gathering information about the context and current practice within healthcare service innovation and improvement that will inform our subsequent research in this field either through CLAHRC CP or other healthcare research collaborations. This research is likely to involve descriptive research, to further investigating current practice, and participatory research to facilitate service innovation and improvement and identify appropriate methods and tools, as well as the barriers, to service change.

# 1 Introduction

## 1.1 Innovation in the NHS

There is a critical need for innovation in the NHS if it is going to continue to meet public expectations of the quantity and quality of care provided within the funding that is likely to be made available by the government now and in the future (Department of Health, 2011)

In the short term, £20bn of efficiency savings have to be found in England by the NHS between 2010 and 2015, while continuing to improve the quality of care. It will not be possible to do this by simply salami slicing budgets (Appleby *et al.*, 2010). Longer term, a number of factors suggest that service innovation will be the norm rather than the exception if total costs are to be controlled. The population is ageing. There are more old people and they spend more years in ill health at the end of life increasing the demand for both health and social services. The burden of disease has shifted from acute to chronic conditions, such as diabetes, heart disease, stroke and dementia. Multi-morbidity presents a major challenge to the current organisation by clinical specialism, most notably the split between physical and mental health care. The public and patients have higher expectations of what the health system should provide and how it should be provided. They increasingly expect the same levels of service and access to information they find elsewhere. Finally, medical advances allow more conditions to be treated and care to be provided in different settings (Ham *et al.*, 2012).

The current models of delivering care have not kept pace with the changing demands. Although the Health and Social Care Act 2012 is radically changing how NHS services are commissioned and regulated, it does not address how services are delivered. Nevertheless a broad outline for what future health and social care provision should look like is emerging. More care needs to be provided in the home or community rather than in hospitals or care homes. The divisions between different health and social providers need to be broken down and care integrated and centred around the patient. Integration will require team working and a higher proportion of generalist to specialist practitioners. Patients and service users will become part of the care team and health and social care services will need to be available 24/7. Enabling these changes will be more flexible professional roles that adapt to the needs of the patient and the increased use of information and communication technologies to allow patients to interact more easily with providers and access personal data about their health and care (ibid).

Leadership and the commitment of staff are going to be critical if these changes are going to be realised (Department of Health, 2011; Ham *et al.*, 2012). There is also a need to develop the execution capabilities needed to make organisational and service changes effectively and at pace. Although the processes of innovation and improvement in industry have been extensively studied there are various factors that mean that the methods and tools that have been effective there (Boaden *et al.*, 2008; Powell *et al.*, 2009) cannot necessarily be used wholesale in the healthcare environment (Nembhard *et al.*, 2009). The current structure of the NHS is not considered particularly amenable to top-down, command-and-control change initiatives. Consequently there is interest in participatory approaches that engage all stakeholders – managers, doctors, nurses and service users – in the process and guidance, such as the NHS Change Model (<http://www.changemodel.nhs.uk>) which has been developed for that purpose. Nevertheless much work remains to better understand how innovation and improvement can be managed and what approaches will work in practice,

especially given the relative shortage of specialist systems design and development skills available to healthcare providers compared with commercial organisations (The Lucian Leape Institute, 2012).

To address the innovation challenges it faces, the NHS is working in partnership with the National Institute for Health Research (NIHR) and developing stronger links with both academia and industry (Department of Health, 2011). The research reported here was funded by the NIHR as part of the authors' work for CLAHRC CP.

## 1.2 CLAHRC CP and the EDC

The NIHR CLAHRC for Cambridgeshire and Peterborough (CLAHRC CP) is one of nine Collaborations for Leadership in Applied Health Research and Care established in 2008 in England by the National Institute for Health Research (NIHR). The purpose of the CLAHRCs is to forge "mutually beneficial, forward-looking partnerships between academia and surrounding NHS organisations, which focus on improving patient outcomes through the conduct and application of applied health research.

"The CLAHRCs aim to improve patient outcomes across each of their geographic areas through three key interlinked functions:

- conducting high quality applied health research;
- implementing the findings from research in clinical practice;
- increasing the capacity of NHS organisations and public, private and third sector partners to engage with and apply research." (National Institute for Health Research, 2012:3)

CLAHRC CP is a collaboration between the Cambridgeshire and Peterborough NHS Foundation Trust (CPFT), the University of Cambridge and other Cambridgeshire and East Anglian health and social care providers.

CPFT, the lead organisation within CLAHRC CP, provides mental health and specialist learning disability services across Cambridgeshire and Peterborough, and children's community services in Peterborough. Its services include: children's services; adult mental health services; older people's mental health services; primary care and liaison psychiatry services; forensic and specialist mental health services; substance misuse services; and specialist learning disability services.

The Cambridge Engineering Design Centre (EDC) is a centre within the University of Cambridge's Department of Engineering. The EDC undertakes research to create knowledge, understanding, methods and tools that will contribute to improving the design process. It is one of the academic partners in CLAHRC CP (along with the Judge Business School and the Institute for Public Health) that is conducting research into how to build capacity to plan and implement evidence-based changes in care pathways for people with mental health needs.

## 1.3 Purpose of this Report

This technical report (TR) is a research output of the EDC's work for CLAHRC CP. It provides a description and analysis of the design and development of the primary care mental health service for older people led by the Older People's Mental Health (OPMH) division of the Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) between 2006 and March 2012. This research was conducted by the authors in order to increase the EDC's knowledge of how healthcare services are designed by CPFT. Gaining this knowledge was an important first step in being able to understand

what opportunities exist for changing how new services are designed and developed by healthcare providers such as CPFT and providing the basis for future research to develop methods and tools for health service innovation.

## 1.4 Report Contents

The remainder of this report is organised as follows;

- Section 2 reviews the academic literature concerning organisational decision making. Four distinct modes of organisational decision making are described. These are rational, political, structured and anarchic. A framework is then presented which links the preference for a particular decision making mode to the levels of goal and procedural uncertainty associated with the decision being made.
- Section 3 provides background information about the case study i.e. the development of the Older People's Primary Care Mental Health Service (OPPCMHS)
- Section 4 describes the research approach used to gather the data, analyse it and present the results of the analysis.
- Section 5 presents the chronology of the OPPCMHS development starting with the desire for the new service, through delivery of a pilot service to the surgeries in St Ives, to the planning for a full roll-out across Cambridgeshire up to the early days of the roll-out when the data gathering took place
- Section 6 analyses the events described in Section 5 using the analytical framework presented in Section 2. A full analysis is performed of the OPPCMHS development: first using the elements in Mintzberg *et al.*'s (1976) description of structured decision-making processes; and then using the elements in Cohen *et al.*'s (1972) garbage can model of decision making in organised anarchies. The findings of these two analyses are then compared and synthesised.
- Section 7 discusses the results of this analysis in the context of the current innovation agenda for the NHS and considers what the implications are for academic research into design methods and tools for healthcare service improvement.
- Section 8 concludes the report starting with a summary of what has come before. This summary is followed to an enumeration of what has been learnt and what the limitations of the work done are. Finally some indication is given to the future work the authors have planned as a consequence of this study.

## 2 Organisational Decision Making

### 2.1 Overview

The development of healthcare services requires that the people involved work together to make, and implement, a whole series of decisions over an extended period of time. The study of organisational decision making generally considers decision making to be a process involving both problem identification and problem solution stages (Daft, 1998). The approaches taken to these two stages are expected to vary depending on how certain collectively those involved are about: 1) what they want to achieve (goal uncertainty) and 2) how they are going to go about doing it (procedural uncertainty) (Choo, 2006). Some decisions are repetitive and address a clearly defined problem, in which case the resolution process can be programmed through means such as rules or operating procedures. Non-programmed decisions, on the other hand, arise where the problem is poorly defined and the organisation is unclear how to solve it, possibly because it has not had to deal with this problem before (Daft, 1998).

The different approaches to organisational decision making identified in the academic literature are reviewed in this section and are used later (in Section 6) to inform the analysis of how the primary care mental health service for older people was designed and developed. The primary sources for this review are Daft (1998) and Choo (2006). Both authors divide their descriptions of organisational decision-making into four types and that is the approach used here. Modifying Choo's (ibid) classification slightly, the four decision making modes are:

- Rational;
- Political;
- Structured<sup>1</sup>; and
- Anarchic.

Having described each of these four modes in turn, this review will then consider the relationship between them, before summarising the key points for the reader to bear in mind for the remainder of this technical report.

### 2.2 Rational Mode

Rationality is generally considered – or at least espoused – to be the ideal for organisational activities and their management. Rational organisations are expected to act in a manner that is consistent with their goals, that makes use of all available information, and that leads to optimal outcomes. This aspiration has led to the development of normative approaches to organisational decision making that aim to be strictly rational in their conduct. Nevertheless, rational approaches are often pursued that recognise that in practice there are limits to organisational rationality. These two rational approaches – normative and bounded – are considered below.

#### 2.2.1 Normative Rationality

Normative approaches to decision making emphasise the need for a step-by-step process that involves a systematic analysis of the problem to be solved followed by choice from amongst all the

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<sup>1</sup> In Choo's (2006) classification this is the "process" mode, however this nomenclature could be confusing as decision making processes and process models exist in the other modes. The seminal work on this mode is Mintzberg *et al.* (1976) who described decision-making using the word "structured".

available alternatives and then implementation of the best solution (Daft, 1998; Choo, 2006). Archer's process is illustrative of the steps prescribed as necessary for effective decision-making. His nine sequential phases for making a business decision are as follows:

1. *Monitor* the decision environment.
2. *Define* the decision problem or situation.
3. *Specify* the decision objective.
4. *Diagnose* the problem or situation.
5. *Develop* alternative solutions of action.
6. *Establish* the methodology or criteria for appraising alternatives.
7. *Appraise* alternative solutions or courses of action.
8. *Choose* the best alternative solution or course of action.
9. *Implement* the best alternative solution or course of action." (Archer, 1980: 55)

Each of these phases is mandatory and needs to be followed in sequence.

Normative approaches originated from the management science techniques that were originally developed to solve military problems during World War II and have subsequently had a profound influence on management education and practice (Daft, 1998). They are considered to be the "right thing" to do in an "ideal world" and are supported by an extensive set of tools and techniques to perform activities such as systems modelling, statistical analysis and optimisation.

### 2.2.2 Bounded Rationality

In many cases, the information seeking and information processing demands of pure rationality are daunting i.e. ideally there is so much information that should be gathered and so many analyses that should be done (Choo, 2006). Moreover, Simon (1997) suggests that human beings can only ever be "boundedly rational" because our rationality is further limited in at least three ways:

1. We cannot anticipate every single consequence of any choice;
2. Given that these consequences lie in the future, we cannot accurately value now what their value will be to us then;
3. We cannot choose between all the possible alternative choices because only a few of these alternatives ever come to mind.

Consequently, individual decision-making is driven by the search for alternatives that are good enough, rather than the best possible. March and Simon (1993) call this behaviour "satisficing".

Organisations may also have to "satisfice". The time and effort that can be spent on decision making is limited and this affects the level of participation of individuals in the process, as well as the quality of information that can be brought to bear. When both the goals and the alternatives are clear, organisations can simplify decision processes on behalf of individual decision makers by programming them into rules, routines, policies and procedures (Choo, 2006).

Cyert and March's (1992) model, shown in Figure 1 below, provides an explanation of how organisations use and update their decision making rules based on four theoretical concepts (expand on these):

1. *Uncertainty avoidance*: Organisations focus on the short term and attempt to control their environment.
2. *Quasi-resolution of conflict*: Various strategies are used allow the organisation to continue operate despite disagreement over goals.
3. *Problemistic search*: Organisations look around in the immediate environment for a “good enough” solution to quickly solve a problem.
4. *Organisational learning*: Goals and the rules for scanning the environment for problems and searching for solutions are updated based on previous performance.

The relationship between these four concepts is shown in Figure 1 below. According to Cyert and March’s model, rules and procedures are the memory of the organisation that provides stability and direction for the execution of recurring activities and decisions (Choo, 2006).

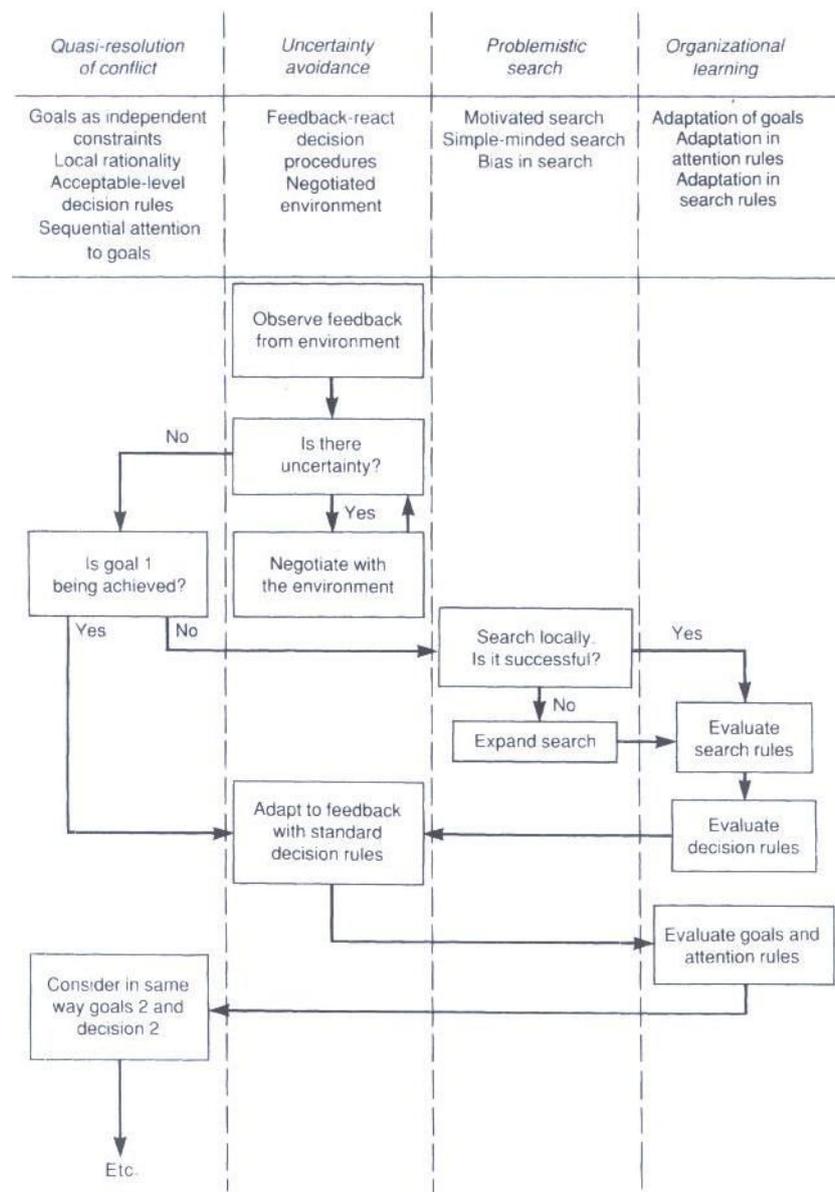


Figure 1. Organisational decision process in abstract form (Cyert and March, 1992: 175)

### 2.2.3 Limitations of the Rational Mode

The rational mode of organisational decision making is applicable when the goals of, and the process for, making the decision are known and agreed by the decision-makers. Cyert and March's (1992) work highlights the lengths that organisations will go to use rational decision-making if possible. Nevertheless, there are circumstances where the decision goals and/or the process are uncertain or contested and then other modes of decision making are observed.

## 2.3 Political Mode

Many organisational decisions cannot be made by a single manager because they lack sufficient resources and/or the expertise to make the decision themselves. The need to involve multiple parties – other groups or even other organisations – in decision making can lead to disagreement about what the outcomes of the decision should be (goal uncertainty), even though each party individually knows what they want to achieve and how to achieve it (procedural certainty). Conflict over goals is a particular issue in the problem identification stage of decision making (Daft, 1998). It is more likely to arise when there are high levels of: uncertainty originating from outside the organisation; dependency on external resources; and interdependency between internal groups. Organisations may deal with this goal conflict in two generic ways: coalitions and procedural rationality (Choo, 2006).

Cyert and March (1992) identify the importance of coalitions in organisational decision making as part of their model of decision-making described above. Groups with common interests form alliances to promote their mutual goals. A particular coalition may only last for the duration of a specific issue or may be longer standing. There may be a *dominant coalition*, which is a small, but active, group that can largely decide on the goals of the entire organisation through internal bargaining (ibid).

Procedural rationality is an alternative to goal rationality. To recap, goal rationality involves constructing goals that include and satisfy the objective and interests of all the stakeholders and which, as already discussed, may be too costly for those involved to do. Procedural rationality, on the other hand, involves creating procedures and forums that are perceived as fair and allow stakeholders to present their case, alternatives to be discussed, bargaining take place and mutually acceptable solutions found (Choo, 2006).

## 2.4 Structured Mode

In the rational and political modes discussed above procedural uncertainty was low: even if the goals were contested, the processes for problem solution were clear. We now turn to the situation where the goals are agreed but the means to achieve these goals are not. Under these circumstances, decision-making maybe a protracted process that involves a significant amount of time searching for options, or developing new ones, and evaluating them (Choo, 2006). One of the best-known models describing this process is Mintzberg *et al.*'s (1976) structured decision-making model. Their original research was into strategic decision processes, but their model is equally applicable to many organisational decisions characterised by low goal uncertainty but high procedural uncertainty.

Mintzberg *et al.*'s (ibid) model places less emphasis on the political and social factors described in the, but tells us more about the underlying structure that exists in complex, and apparently unstructured, decision making processes. Based on their analysis of 25 strategic decisions, most of

which took place over a year or more, they identified the phases and activities (routines) within these phases that could be involved in a decision-making process, the underlying support routines and the dynamic factors that can affect the speed with which decisions are made.

According to Mintzberg *et al.*, decision making involves three phases: (problem or opportunity) identification, (solution) development and (solution) selection. These three phases are further decomposed into a number of decision routines: identification into recognition and diagnosis routines; development into search and design; and selection into screen, evaluation-choice and authorisation routines. Evaluation-choice can be by judgement (one individual makes the choice), bargaining (a group decision) or analysis (against a set of criteria). The decision routines used within each of the three phases will depend on the specifics of the decision being made. Underpinning these decision routines are the three decision support routines relating to decision control, decision communication and organisational politics.

Any decision will start with the identification phase and ultimately end with selection but, in all but the simplest case, there may be multiple cycles of (solution) development and evaluation in-between. In this way major organisational decisions may be broken down into a series of small choices that combine to make the big decisions i.e. many decisions involve “a series of nibbles rather than a big bite” (Daft, 1998:416). At the same time, the speed with which decisions are made is affected by what Mintzberg *et al.* call dynamic factors, which delay, speed up, stop and restart the process. These dynamic factors are made up of: interrupts, scheduling delays, feedback delays, timing delays and speed ups, comprehension cycles and failure cycles.

Mintzberg *et al.*'s model is summarised in Figure 2 below. This figure shows the phases, decision routines, possibly paths through the process, delays and interrupts. The supporting routines and other dynamic factors are not shown.

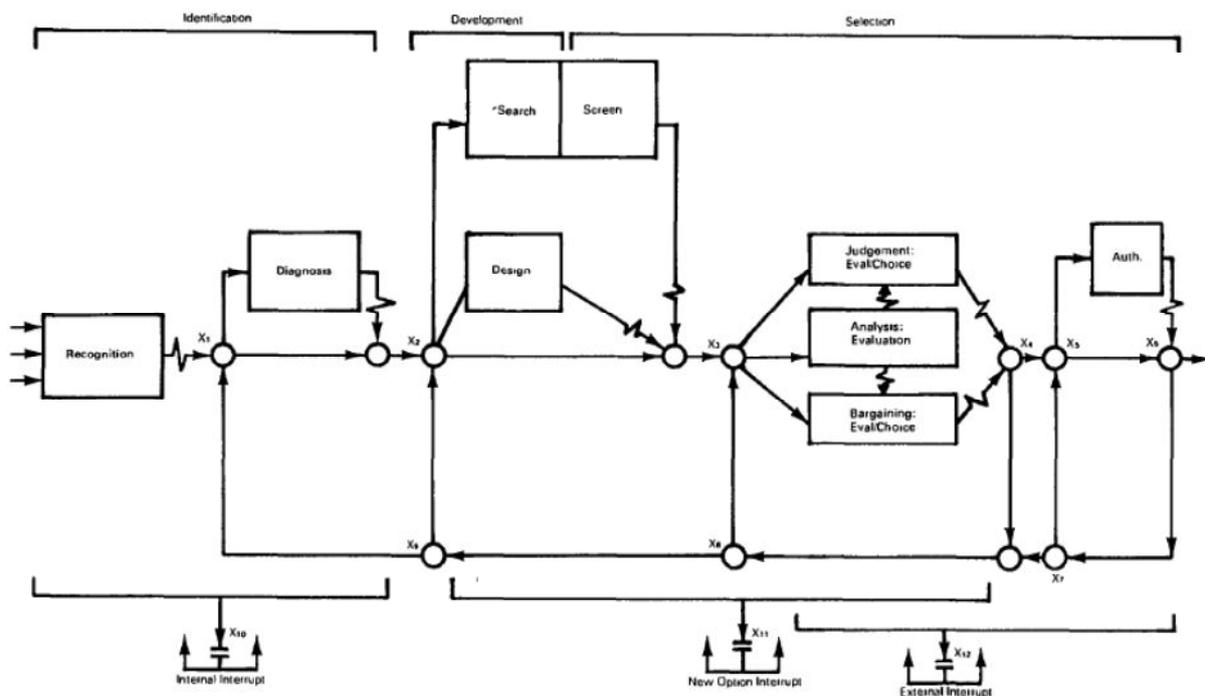


Figure 2. A general model of the strategic decision process (Mintzberg *et al.*, 1976:266)

## 2.5 Anarchic Mode

Finally, some decisions have to be made under conditions of both goal and procedural uncertainty. This might happen, for example, when the decision situation is highly ambiguous and unfamiliar to the organisation (Choo, 2006) or alternatively if the organisation itself is highly unstructured (Daft, 1998).

Given that goal uncertainty is relevant in the problem identification stage of decision making and procedural uncertainty in the problem solution stage, theoretically organisations could combine the political and process modes previously described. In which case, we would expect them to use coalition forming and uncertainty reduction (Cyert and March, 1992) to start with and then, once goals have been agreed, follow an incremental process along the lines of Mintzberg *et al.*'s (1976) model to find or develop a solution (Daft, 1998).

Instead Cohen *et al.* (1972) propose the “garbage can” model to explain how decisions are made under conditions of goal and procedural uncertainty, which they label as *organised anarchy*<sup>2</sup>. Note that their garbage can model is not directly comparable with, say, Cyert and March's (op cit) or Mintzberg *et al.*'s (op cit) models, because it considers the flow and interactions between multiple decisions within an organisation, rather than a single decision by itself (Daft, 1998). According to them, organisations behave as organised anarchies when they are characterised by:

- *Problematic preferences*. The preferences used to make decisions are inconsistent and ill-defined. They could be best described as a loose collection of ideas which may be discovered through action rather than being known beforehand.
- *Unclear technology*. The organisation's processes and procedures are not well-understood by its members and it operates largely based on trial-and-error, remembered past experience, and pragmatism.
- *Fluid participation*. People vary in the amount of time and effort they give, and will devote in the future, to different activities. Participation in any kind of decision can change capriciously. (Cohen *et al.*, 1972: 1)

No organisation will have these features all the time but they could be present in any organisation for at least part of the time and Cohen *et al.* suggest that they are often seen in public sector organisations.

Unlike other models of organisational decision-making, Cohen *et al.*'s garbage can model does not conceptualise the decision process as a sequence of events that begins with identification of a problem and ends with its solution (Daft, 1998:421). Instead the model considers problems, potential solutions, participants and choice opportunities (i.e. the times when an organisation usually makes a decision) as independent from one another. These four streams may come together to make decisions and these decisions may, but often not, lead to the resolution of one or more problems. The organisation is like a large melting pot where these four streams are being mixed together. Problems may arise and not be solved. Potential solutions may be identified and not used.

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<sup>2</sup> Cohen *et al.* (1972) deliberately use pejorative language to describe these circumstances. Less judgementally we might say that the organisation is extremely organic and decision-making occurs in a “melting pot”.

In Cohen *et al.*'s original work, a computer programme is used to simulate the mechanisms of garbage can decision-making, although in subsequent work by both the authors (e.g. Cohen and March, 1986; March and Olsen, 1976) and others (e.g. Levitt and Nass, 1989; Pinfield, 1986) the model is extended to qualitative organisational analysis. The computer simulation predicts, as a result of the modelling assumptions, that organisations decisions will be made in three ways:

1. By resolution – the standard mode according to rational principles.
2. By oversight – a choice is made quickly while problems are attached to other choice opportunities and consequently does not solve any problems.
3. By flight – the problems fly away to other choice opportunities allowing the choice to be made but resolving no problems itself.

Moreover, decision by flight is the most common, with problems and participants moving between choice opportunities without the problems actually being solved. In Cohen *et al.*'s own words:

“Measured against a conventional normative model of rational choice, the garbage can process does appear pathological, but such standards are not really appropriate. The process occurs precisely when the preconditions of more rational models are not met.

“It is clear that the garbage can model does not resolve problems well. But it does enable choices to be made and problems resolved, even when the organisation is plagued with goal ambiguity and conflict, with poorly understood problems that wander in and out of the system, with a variable environment, and with decision makers who may have other things on their minds.” (Cohen *et al.*, 1972:16)

We will return to the garbage can model when the case study data is analysed.

## 2.6 Contingency Framework

		GOAL UNCERTAINTY	
		Low	High
PROCEDURAL UNCERTAINTY	Low	<b>Rational mode</b> <ul style="list-style-type: none"> <li>• Goal directed</li> <li>• Rules, routines and performance programmes (Cyert and March, 1992)</li> </ul>	<b>Political mode</b> <ul style="list-style-type: none"> <li>• Conflicting goals and interests</li> <li>• Coalition formation (Cyert and March, 1992)</li> </ul>
	High	<b>Structured mode</b> <ul style="list-style-type: none"> <li>• Goal directed</li> <li>• Multiple options and alternative solutions (Mintzberg <i>et al.</i>, 1976)</li> </ul>	<b>Anarchic mode</b> <ul style="list-style-type: none"> <li>• Ambiguous goals and unclear processes</li> <li>• Garbage can model (Cohen <i>et al.</i>, 1972)</li> </ul>

Figure 3. Four models of organisational decision making (adapted from Choo, 2006:211)

The literature proposes that there are potentially four distinct modes of organisational decision making and that the choice of mode will be contingent on a combination of goal uncertainty and procedural uncertainty as shown in Figure 3 above. “*Goal uncertainty* tends to be high when goals are ambiguous; when they are non-specific and difficult to translate into concrete criteria for evaluating options; and when there is disagreement about the substance or interpretation of goals. *Procedural uncertainty* tends to be high when the problem is complex, comprising many sub-problems with unclear interactions; when the problem is novel, so there is no prior experience about alternatives or even where to search for alternatives; and when the situation imposes pressures or constraints such as the need to act quickly in a crisis situation or a lack of options in a highly regulated environment (Choo, 2006: 211).”

It was worth making a number of points about this framework and the preceding review. First, three canonical works from the organisational behaviour literature (Cohen *et al.*, 1972; Cyert and March, 1992; Mintzberg *et al.*, 1976) have been used to illustrate the majority of points made in this section. There are of course many other academic contributions to our understanding of organisational decision making and the process, methods and tools that this involves. There are also a number of different representations of this framework by various authors. Perhaps the best known of these in the public sector is the Stacey Diagram (see Appendix A).

Second, the grid above is an imperfect attempt to portray a broad spectrum of different levels of decision uncertainty across the two dimensions and to classify the different organisational responses to this. For example Nutt (1984) analysed 78 case studies involving goal directed decision making and suggests that managers choose, consciously or not, between five archetypal decision making processes and their variants. His analysis could be considered a hybrid between the (boundedly) rational and structured modes described above in that he suggests there is more *a priori* structure to goal directed decision making than Mintzberg *et al.*'s (1976) model requires while recognising the underlying uncertainty involved. The same thing can be found in engineering design where there will be an overall design process but the specific design activities actually performed, and when they are performed, depends on which problems need to be solved as the design develops over time (Clarkson and Hamilton, 2000; Lévardy and Browning, 2009; Wynn and Clarkson, 2005)

Third, different levels of uncertainty and hence different modes will be more common in different organisational contexts. For example goal directed decision-making is particularly common in manufacturing and engineering industries and has led to significant investment in methodologies and attempts to decrease procedural uncertainty, for example through process modelling and simulation (Browning and Ramasesh, 2007; Smith and Morrow, 1999). On the other hand, in other environments such as the public sector there could be significant goal and procedural uncertainty (Cohen *et al.*, 1972).

Finally, decisions change their character over time as the decision making process unfolds (Choo, 2006) because, as Daft (1998) points out, goal uncertainty is more salient in the problem identification stage of decision making and procedural uncertainty for the problem solution stage.

## 2.7 Summary

In this section we have reviewed the academic literature related to organisational decision making. The purpose this review was to provide an overview of the different decision making modes that

may be employed when developing a new healthcare service. Probably the most important point is that despite normative ideals about the desirability of purely rational decision making, many organisational decisions are not made in a logical, rational way (Daft, 1998). Moreover, in practice decision making is a social process and organisations tend to solve problems through a series of small steps rather than make a single big decision (ibid).

The remainder of this report will consider the specific case of the development of the new primary care service by the Older People's Mental Health division of CPFT. Having described the events of the case study, the analysis of these events will make use of the modes and models presented in this section. This will then lead to a discussion of the project in the context of the academic literature and what that tells us.

### 3 Case Background

This report describes and analyses the design, development and implementation of a primary care service by the Older People’s Mental Health (OPMH) division of the Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) in collaboration with its commissioners, the Alzheimer’s Society, patients and carers. The report considers the period between mid-2006 and March 2012 for which data was gathered. Since then CPFT has reorganised its care provision and as of January 2013 older people’s mental health services will no longer be provided by a separate OPMH division.

Prior to this reorganisation, the Older People’s Mental Health service (OPMH) provided a range of community- and in-patient services, primarily to people over the age of 65 years old who suffer from cognitive (mainly dementia) or functional (e.g. depression and/or anxiety) mental health problems. The Primary Care service was developed by OPMH to improve access for older people to psychological interventions and provide therapies for those with mild or moderate mental health needs who would not previously have been considered for secondary care interventions (see Figure 4 below). This required the service to be developed in a way that makes it accessible to older adults and meets their unique needs. The service is intended to work seamlessly with the other CPFT services, particularly the community teams providing secondary care to older people, as well as GPs, community services, social care and voluntary organisations. Its focus is on early diagnosis, intervention and support and signposting for patients and carers in the community.

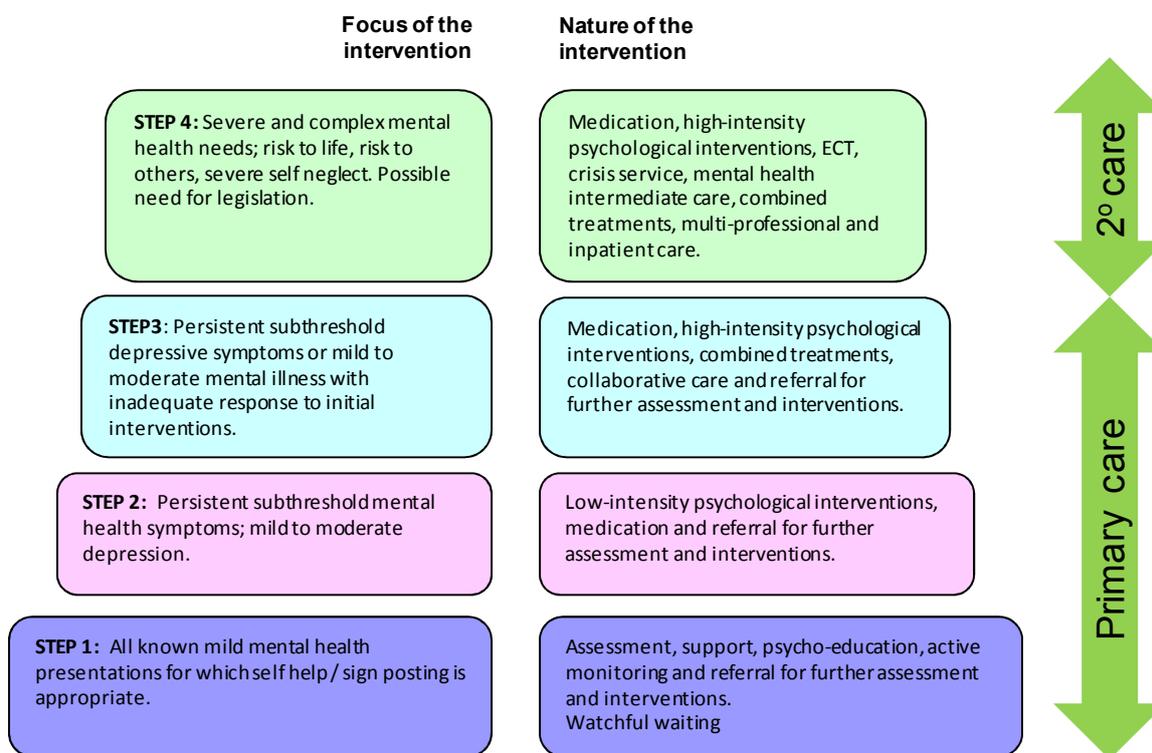


Figure 4. NICE stepped care model showing distinction between primary and secondary care

## 4 Research Method

### 4.1 Research Objective and Questions

The objective of this research was to better understand the practice of mental health service design and development in CPFT. Through our research work with OPMH, we had the opportunity in 2011 and early 2012 to study how they were developing their new primary care service. In mid-2011 a pilot of this service with six GP surgeries in St Ives was coming to an end and preparations for a full roll-out across Cambridgeshire were well advanced. We were particularly interested in understanding in detail:

“How is a new mental healthcare service designed and developed by CPFT?”

“Why is it designed and developed in this way?”

### 4.2 Research Protocol

Given the stage of the service development and “how” and “why” nature of the research questions, this suggested that a case study approach would be most appropriate (Yin, 2003). A case study investigates a contemporary phenomenon in its real-life context. This contrasts with, for example, an experiment, which investigates a phenomenon outside of its real context, or a history, which considers non-contemporary events (ibid:13).

At a very high-level, any empirical research study involves:

- Gathering data;
- Analysing that data;
- Validating the analysis;
- Presenting the results of that analysis, typically through a written report or paper.

#### 4.2.1 Data Gathering

Data was gathered by the lead researcher (Warren) in three main ways:

- Interviews;
- Document review;
- Participant observation.

*Table 1 Schedule of data gathering interviews*

Date	Role	Pseudonym	Interview Topic
15/02/2102	Manager of the community teams in Peterborough and the North of Cambridgeshire	Manager B	Roll-out
23/02/2012	Current professional lead for older people’s psychology	Psychologist C	Roll-out
07/03/2012	Service development manager for OPMH	Manager A	Roll-out
14/03/2012	Former professional lead for older people’s psychology (predecessor to Psychologist A)	Psychologist A	Pilot
22/03/2012	Gateway Worker for the St Ives Pilot	Gateway Worker	Pilot
27/03/2012	Team psychologist in the St Ives Pilot	Psychologist B	Pilot and Roll-out

As shown in Table 1 above, six key participants in the development of the Primary Care service were interviewed in February and March 2012. These interviews were semi-structured (i.e. the researcher had some pre-prepared questions but let the conversation flow) and lasted between 30 minutes and an hour. All but the first one, with Manager B, were audio recorded and later transcribed. In Manager B's case, notes were made at the time and then written up immediately afterwards.

The second source of data was project documentation for both the St Ives Pilot and the project to prepare for the full roll-out across Cambridgeshire.

Finally, between January 2011 and February 2012, the lead researcher observed the following team meetings:

- St Ives Pilot quarterly meeting (7 Jan 11) and team meetings for the roll-out project (14 Feb, 3 Mar, 28 Mar, 9 Sep, 21 Oct 11), all chaired by Manager A.
- Skills mix working group meeting (15 Mar 11), chaired by the OPMH general manager.
- Meeting of North Cambridgeshire Primary Care teams (15 Feb 12), chaired by Manager B.

He was also involved in Psychologist C's performance and outcomes working group with Louise Lafortune, Institute of Public Health, between January 2011 and April 2011. This involved some meetings and desk work. This work was then picked up by the Quality and Outcomes working group, chaired by the OPMH GP Lead for NHS Cambridgeshire (hereafter referred to as the GP Lead), and the researcher attended the four meetings of this group (30 Sep, 4 Nov, 9 Dec 2011 and 13 Jan 2012). For all of these meetings – team meetings and the two performance and outcomes working groups – the lead researcher took notes during the meetings and wrote up his observations in a research diary.

#### 4.2.2 Data Analysis

The approach used to analyse the case study data gathered was to start with the transcripts of the six interviews. The content of these interviews was coded by breaking what was said into meaningful fragments and allocating descriptive labels (e.g. visit to SLAM<sup>3</sup>) to these fragments. The coded text was then:

1. Ordered into a chronological sequence of events, along with the interviewees' description/explanation of those events.
2. Grouped thematically into higher level categories (e.g. information gathering)

The original coding, identification of higher-level categories and, later, theorising about the links between these categories was approached in the first instance by pattern matching (Yin, 2003) to the process stages and steps suggested by Nutt (1984) in his framework for classifying organisational decision processes (see Appendix B for more details). For other data, not falling into his framework, codes were generated as needed (so called "open coding") and then categories were developed inductively to organise the data into higher-level categories (Glaser and Strauss, 1967). The idea behind pattern matching (a form of deductive analysis) is to validate whether an existing theory provides a good explanation of the phenomenon being studied and, if so, then that theory can be used to predict future behaviour. Inductive analysis on the other hand generates its own theoretical explanation for the phenomenon studied, which then should be compared against existing theories.

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<sup>3</sup> South London and Maudsley NHS Foundation Trust

Given that organisational decision making is well-theorised, a deductive approach was favoured for this study. The need to “fill in the gaps” around the Nutt (1984) model originally used suggests a somewhat poor initial choice of appropriate theory by the researchers for the first cut of the data analysis.

Once the first cut analysis of the interview data was completed then the data set was supplemented with data from documentation and the researchers’ observations from the various meetings he had attended. The analysis was then refined by:

1. Writing a single narrative description of the case study events that aimed to reconcile the information obtained from the various sources (see Section 5).
2. Further refining the thematic categories and hypothesising the relationships between them in order to create an interpretative explanation of what happened and, if possible, why (see Section 6).

#### **4.2.3 Validation and Refinement of the Analysis**

A first draft of this report was issued in late April 2012 to the six interviewees for them to check the accuracy and reasonableness of its content based on the information that they had provided. Their review comments were incorporated and the second draft was issued in May 2012 to a wider group of stakeholders including OPMH management, the GP Lead and the commissioners of the service in NHS Cambridgeshire. This second review highlighted shortcomings in the data gathering and analysis. Consequently the GP Lead was interviewed (16 June 2012) to get the commissioners’ perspective and the analysis was redone to take in a wider theoretical perspective of organisational decision making, substituting Nutt’s (1984) framework with the wider contingency perspective described in Section 2 and, in particular, matching the gathered data to both Mintzberg et al’s (1976) structured and Cohen et al’s (1972) garbage can models of organisational decision making. Analysing case study data twice using two different theoretical models and comparing the outcomes is a fairly common approach for deductive studies. Pinfield’s (1986) study of decision making by the Canadian government is a good example that draws on the same theory as this study and helped shape our thinking about the appropriate, revised analysis approach.

#### **4.2.4 Presentation of Results**

This technical report is the latest version of the case study analysis. It is expected that the material presented here will be subsequently used as part of other works for external dissemination e.g. conference presentations or journal publications.

## 5 Development of the OPPCMHS Service

### 5.1 Overview

The development of the Older People’s Primary Care Mental Health Service (OPPCMHS) can be considered to consist broadly of four phases of activity:

1. Project initiation
2. A pilot in St Ives, Cambridgeshire
3. Planning and recruitment for roll-out of the full service across Cambridgeshire
4. Roll-out of the full service, which had started but was not complete at the time of the data gathering (April 2012)

The timings of these four phases, and who within OPMH was primarily responsible for each of them, are shown in Table 2 below.

*Table 2 Phases in the development of the OPPCMHS service*

Phase	Dates	Person Responsible
Project Initiation	2006 – Sep 2008	Psychologist A
St Ives Pilot	Oct 2008 – July 2011 <sup>4</sup>	Psychologist A and then Manager A
Roll-out Planning and Recruitment	Jan 2011 – Nov 2011	Manager A
Roll-out across Cambridgeshire	Dec 2011 onwards	Manager B

The events that occurred in each of these phases are described in the remainder of this section. In Section 6 these events will be analysed in relation to the modes of decision-making described in Section 2.

### 5.2 Project Initiation (2006 – Sep 2008)

The idea of developing an older people’s primary care mental health service for came from the NHS Cambridgeshire (NHS C) Mental Health Commissioning Team as part of a decision to redesign OPMH services. CPFT had already piloted a primary care service for working age adults in Huntingdon and, with the advent of the UK Government’s programme of Increasing Access to Psychological Therapies (IAPT), this adult service was rolled-out across Cambridgeshire, which became a pathfinder site for IAPT nationally. The NHSC MH commissioning team were keen to develop a similar primary care mental health service model for older people and discussions started between OPMH management and NHS C in 2006 to enable this. The Professional Lead for Older Peoples Psychology (Psychologist A) took on the project management role. One of the aims was to influence national guidance around the development of an IAPT/Primary Care MH service for Older People.

The purpose of the new primary care service is to provide therapies for those older people with mild or moderate mental health needs who would not previously have been considered for secondary care interventions. This would not just be a standalone psychological therapies service based on Adult IAPT. Instead it would be seamlessly integrated with secondary care and work closely with community services, social care and voluntary organisations. Moreover, although the adult primary care model would provide the starting point, there would need to be differences in the service to

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<sup>4</sup> Officially the end, although the team continued to function and was merged into the full roll-out in 3Q2011

make it accessible to older adults and address their unique needs. Psychologist A explored these differences with the various OPMH service managers, the commissioners, local GPs and the people running the Adult IAPT service in CPFT. She also gathered information on the evidence base and national good practice using her contacts in other trusts and through her involvement in national healthcare bodies. Based on this research and her 30 years of experience as a clinician she was able to propose a model<sup>5</sup> for how the new service would work.

Towards the end of 2008 the commissioners identified a possible £50,000 to fund a small pilot project for a year. Psychologist A put together a business case document to support the request for funding. This was approved in October 2008.

### **5.3 St Ives Pilot (Oct 2008 – July 2011)**

#### **5.3.1 Purpose of the Pilot**

The Pilot had two main purposes:

1. To refine what the service model would look like. For example to look at the therapies that were provided, to who, by whom and in what way i.e. the mix of offering group therapy, individual therapy, psychiatrist advice and access to psychology.
2. To provide evidence of the therapeutic and financial benefits of a primary care service. In addition to being workable, the service model developed would need to be cost effective and financially sustainable in the future.

The commissioners were expecting that the Pilot would show a reduction in referrals to secondary care and, particularly, in admissions to acute care, where the big savings arise, so that they could make a business case for roll-out by OPMH of a full service across the whole of Cambridgeshire. Full roll-out, if funded and approved, would probably take 18 months to 2 years from the end of the pilot i.e. the full service could be up and running by the end of 2012.

#### **5.3.2 Recruiting the Team (late 2009)**

With the £50,000 of funding, Psychologist A was able to agree with the team manager for Huntingdonshire<sup>6</sup> that together they would run a very small pilot in St. Ives. St. Ives was chosen because it was a small market town with a definable population and a high proportion of older people. To start with, they decided to work with two (Cromwell and Spinney) out of the six GP surgeries in the town.

Three roles were identified for the primary care team:

- A full-time graduate (psychologist) mental health worker (GMHW). The GMHW's role was to be involved fairly heavily in data collection (needed because this was a pilot), to create a local directory of activities available to older people, to ensure the smooth running of group sessions and to work with individuals on behavioural interventions e.g. to encourage them to get out to social groups, to go to church, go to the gym etc.

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<sup>5</sup> The "service model" is the design definition of how the service should be delivered

<sup>6</sup> Huntingdonshire is one of the five districts within Cambridgeshire. Geographically OPMH services in Cambridgeshire are divided between North, which includes Huntingdonshire and Fenland, and South, which comprises City (of Cambridge), South Cambridgeshire and East Cambridgeshire.

- A part-time community psychiatric nurse (CPN) to work as the gateway worker (GWW) (originally 1.5 days per week). The GWW's role was originally specified as visiting/liaison with the GPs, screening referrals and signposting patients to most appropriate services/activities. However when the GWW was in position and the Pilot running, the role was increased to include: work with carers and carer support in addition to the patients; attending meetings with the district nurses and social care to identify possible patients for OPPCMHS and to promote a closer working relationship with them; and working with the community pharmacists, GPs and patients to improve their medications management. The potential cost savings from better medications management were subsequently included in the business case for the full service roll-out.
- A part-time psychologist (Psychologist B, also 1.5 days per week at the start). The psychologist's role was to accept referrals from the GWW, determine what the best intervention would be, to supervise the GMHW, to co-run groups with them until they were confident about running groups by themselves and to see a select number of people for individual "high intensity" therapy for anything between 8 and 20 weekly, hour-long sessions.

Recruitment was completed by November 2009. Both the GWW and Psychologist B were already working in the Huntingdonshire community mental health team (CMHT) and thereafter split their time between the Pilot and their existing secondary care jobs.

### 5.3.3 Planning and Preparing the Pilot (Nov-Dec 2008)

Before launching the Pilot service, the new team spent a couple of months preparing. This preparation included:

- Planning the interventions that they would offer in more detail;
- Visiting the two surgeries, giving a number of talks and holding an event with the GPs in St Ives to prepare them for the launch in January 2009.

Although the therapies that would be offered were reasonably clear there were a number of differences compared with the adult primary care model:

- Patients would be seen in their GP's surgery, or as near to their point of contact as they could be.
- In addition to the possibility of individual sessions, patients would be offered group sessions. This would allow more patients to be seen in parallel and would benefit the patients because loneliness is one of the common problems for older people and it is known that they benefit from sharing their experiences and coping skills.
- There would be sessions for people with mild memory problems<sup>7</sup>.

Psychologist B and the GWW took much of the responsibility for gathering further information, thinking through the details involved ahead of time and planning how the team would do its day to day work once the Pilot began.

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<sup>7</sup> Dementia would be dealt with by existing OPMH services

### 5.3.4 Pilot at Two Surgeries (Jan 2009 – July 2009)

The Pilot team started to work with the two Pilot surgeries in January 2009.

After the start of the Pilot, the team continued to gather information (both locally and nationally) that would be of use to them in developing the service. For example the team visited two trusts – Salford and SLAM<sup>8</sup> – which had already set up primary care services for older people and they ended up collaborating with SLAM on choosing outcomes measures (HADS<sup>9</sup>), the results of which have been published in conjunction with Steve Boddington (SLAM).

They learnt some things from these collaborations, but perhaps not as much as they had hoped due to the very different contexts of these two services compared with primary mental healthcare in Cambridgeshire. Only through actual engagement with the patients did things become clearer. For example: the mix of referrals did not match what the team thought it would be; assessing the patients' needs was more demanding; and the GHMW was able to do less than had been originally planned. These issues, amongst others meant that the team had to do a lot of problem solving as they went along and the service developed over time.

*“Not the therapies so much as [Psychologist A] was a very experienced clinician and had a clear vision of what a primary care service for older people was to look like. But my role was more around initial receiving of referrals and the assessment process. That bit was slightly less clear. There was a lot to be figured out” (GWW, 22/3/12).*

### 5.3.5 Extension of the Pilot to Six Surgeries (August 2009 – July 2011)

The pilot had initially been funded with £50k and was expected to last a year (until the end of 2009). The initial work with the two surgeries was positively received and HUNTSCOM<sup>10</sup> was able to find another £75k to cover the remaining four surgeries in St Ives and extend the pilot for 18 months until July 2011.

For the extension of the Pilot a number of changes were made to the team structure.

- The need for administrative support was recognised and a part-time administrator was appointed.
- The GWW and Psychologist B's time were both increased from 1.5 to 2.5 days/week.
- The original GHMW left allowing a more experienced GMHW with experience of applying psychological therapy to be appointed.

NHS C also found additional funding for the Alzheimer's Society to provide a dementia support worker from 2010 onwards to work with the people who had mild memory problems and to run a memory group and provide carer support.

The addition of four more surgeries resulted in further changes to the service model. The original idea was that the pilot team would be embedded within the GP practices. They would have a presence in each surgery, see patients there and use the surgeries' patient record systems to input therapy notes, contacts, etc. In practice this did not work: with six surgeries to cover it was difficult

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<sup>8</sup> South London and Maudsley

<sup>9</sup> Hospital/ Hamilton Anxiety and Depression Scale

<sup>10</sup> A group of GP surgeries in Huntingdonshire

to find time to visit each; room space was not available in all surgeries and each surgery had different computer systems to learn and use. This led to a more arms length relationship and an email referral system being developed to deal with the difficulties and delays involved in the GWW visiting each surgery to pick up referrals from in-trays.

On the other hand, it was extremely advantageous for stepping up and down referrals within OPMH that the GWW and Psychologist B both had roles in the Pilot and the Huntingdonshire CMHT, as this allowed them to facilitate and speed up this process without needing the GPs' involvement. To facilitate this even further, they decided to try and make their paperwork similar to the CMHT's e.g. to use CPFT's computer systems, as far as possible, for recording interventions; and follow the CPA<sup>11</sup> format needed for assessments and reports, so that when stepping clients up the CMHT staff and patients did not have to duplicate work already done and GPs didn't have to generate new referrals to CMHT. Finally an important link was made between the GWW and the old age psychiatrists, which further enabled a smooth transition between primary and secondary care services and assisted with ongoing clinical decision making. In these ways, a gap between the primary and secondary care teams was avoided and an integrated and seamless service provided.

### **5.3.6 Outcomes and Closure of the Pilot**

Although the activity data gathered from the Pilot did not unequivocally demonstrate the financial benefits of a primary care service for older people's mental health across the whole of Cambridgeshire, the Pilot was considered a great success by those involved i.e. OPMH, the commissioners, GPs, patients, carers etc. The clinical outcomes were good and there was lots of very positive, qualitative feedback from the patients and GPs<sup>12</sup> about the service. Moreover the commissioners had enjoyed the experience of a very positive, close collaborative working relationship with the Pilot team. Consequently the commissioners decided in late 2010 that they would like OPMH to prepare a business case and plan for a full roll-out of OPPCMHS to the whole of Cambridgeshire. In the meantime the Pilot team continued to provide the primary mental health service to the six GP surgeries in St Ives throughout 2011. They were eventually subsumed into the full roll-out when that took place in November 2011.

## **5.4 Roll-out Planning and Recruitment (Jan-Nov 2011)**

### **5.4.1 Mobilisation**

In January 2011, the service development manager for OPMH (Manager A) formed a project group and instigated regular meetings to design and plan the roll-out of the primary care service to the rest of Cambridgeshire. The plan at this stage was to present a proposal to NHS C on 1 April and, assuming that this was agreed, to start the roll-out on 1 August 2011.

### **5.4.2 Design of the New Service Model**

The service model for fully rolled-out primary care service was presented by Manager A in a five page document outlining which patients would be treated, how and by whom. Many of the elements of the Pilot design were retained

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<sup>11</sup> Care Programme Approach. Note that CPAs were not needed for all patients referred to the primary care service

<sup>12</sup> There was a formal survey of the GPs

*“The pilot was extremely valuable in informing the treatment component. It worked out what types of therapies worked for this client group and that was very valuable.” (GWW, 22/3/12)*

However two major changes had to be made. Firstly in the Pilot referrals from GPs into the OPPCMHS were via the Gateway Worker (GWW). This was a unique arrangement for the Pilot and in future all referrals to any OPMH service, including OPPCMHS, were to come via the central Single Point of Access for Referrals (SPAR). The GWW position would be abolished and liaison with GPs would be distributed amongst the members of the wider community mental health teams by having a named “OPMH link worker” for each GP practice.

Secondly the staffing and skills mix for the new service had to be consistent with the funding that NHS C could make available from the closure of in-patient wards already planned for 2011. This level of funding would not allow the Pilot staffing of 2.5 whole time equivalents (wtes) for the 6 surgeries in St Ives to be simply scaled up to all 77 GP surgeries in Cambridgeshire. With the exception of a smaller team in East Cambridgeshire, each team would cover roughly three times the number of GP surgeries as the Pilot but with only twice the number of slightly less clinically experienced (lower banded) people. The full split is shown in Table 3 below.

*Table 3 Staffing and Skills Mix by Team*

Teams	Nos of GP surgeries	Nos of over 65's	Overall % of over 65s	Band 7	Band 5	Team Support Worker Band 3	Alz Soc memory support worker	Admin band 3
City	17	17,820	18.30%	1.00	1.00	2.00		0.50
South Cambs	17	19,418	19.93%	1.00	1.00	2.00		0.50
East Cambs	7	11,770	12.08%	0.50	0.50	1.00		0.50
Fenland	13	23,222	23.84%	1.00	1.00	2.00		0.50
Hunts	23	25,167	25.8%	1.00	2.00	1.00		0.80
<b>Total staff needed</b>				<b>4.50</b>	<b>5.50</b>	<b>8.00</b>	<b>Funding for 2.00 wte agreed</b>	<b>2.80</b>

### 5.4.3 Roll-out Preparation

In parallel to developing the service model above, Manager A prepared a to-do list of activities, assigned responsibilities and determined due dates by which they would have to be completed before the service could commence. These activities covered communication with GPs, recruitment

of staff, accommodation, service information leaflets, outcome measures and skills sharing between existing and new staff. The expectation was that these activities would be picked up once the funding had been agreed.

#### **5.4.4 Hiatus (Apr-Aug 2011)**

The proposal for the new primary care service was presented to NHS C on 1 April. Although the proposal was accepted, there was an issue with the release of funds and Manager A put the Roll-out preparation on hold while waiting for this to be resolved. During this hiatus, she started to report progress to the new project board that had been set up in July 2011 by the OPMH General Manager to oversee service improvement projects in his division.

#### **5.4.5 Recruitment (Aug-Nov 2011)**

In August 2011, NHS C obtained the funding needed, job descriptions were written by the manager of the community teams in Peterborough and the North of Cambridgeshire (Manager B) and the professional lead for older people's psychology (Psychologist C), the line and clinical management structure was agreed and recruitment started for the roll-outs in Huntingdonshire and Fenland. The roll-out in the rest of Cambridgeshire would take place later once the staff consultations related to the closure of the in-patient wards were completed.

### **5.5 Roll-out (Dec 2011 onwards)**

In September 2011 two significant events occurred:

- CPFT appointed a new chief executive;
- At almost exactly the same time the Care and Quality Commission (CQC) issued a formal warning to CPFT after inspecting the in-patient wards in Cambridgeshire.

Consequently, over the next couple of months, CPFT's new chief executive reviewed and reprioritised service improvement activities across the Trust. As a consequence of these changes, in December 2011, Manager A passed formal responsibility for the Roll-out to Manager B as part of her day to day team management responsibilities. The Pilot, which had been running since January 2009, and now<sup>13</sup> had a caseload of 80 patients across the six GP surgeries in St Ives, was absorbed into the Huntingdonshire community mental health team.

At the time of a team meeting on 15 February 2012 involving Manager B and the Huntingdonshire and Fenland primary care staff a number of things were still being worked through:

- Some post were still be recruited and some of the people who had been recruited were still to start.
- The clinical reporting lines and communication mechanisms between the Huntingdonshire and Fenland teams were still being resolved.
- Some of the accommodation for the interventions and group therapies needed to be sorted out.
- The service information leaflets used in the Pilot needed to be reformatted to use the standard templates for OPMH services (resolved the next day, 16 Feb)

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<sup>13</sup> 27 March 2012, when Psychologist B was interviewed

Plans were in place for the roll-out of the primary care service to different GP surgeries. The plan was to slowly roll-out the service by geography (a cluster of GPs at a time) and by intervention in order to allow for the posts still to be filled and the new hires, when they joined, time to grow into their roles. All surgeries in Huntingdonshire and Fenland were expected to have been offered primary mental healthcare interventions by the end of May. The need for a slow roll-out was a team decision that drew on Psychologist B's experience from the Pilot and pragmatic considerations, emphasised by Manager B, about the time needed to visit and establish contact with all the GP surgeries in both districts.

Longer term issues to be resolved were:

- The working relationships between the primary and the secondary care teams in each of the CMHTs. When interviewed, Manager B was keen to ensure that the people who have been recruited to the primary care team were integrated within, and not separate from, the existing members of her CMHTs in Huntingdonshire and Fenland. This would involve developing a feel within the secondary care teams of what primary care is and when to refer service users to that care pathway.
- Consistency of policies and procedures between the five primary care teams (one for each district) when the service was fully rolled out in both North and South Cambridgeshire.
- Unknown demand for the new service and its effect on secondary care referrals, which could lead to capacity problems. Given that the full roll-out would not be as generously staffed as the Pilot and the size of the secondary care teams might decrease due to required cost savings across the whole of CPFT, there were some concerns about whether the CMHTS would be able to cope with the new demand, although strategies had been identified to manage this.
- Informatics. Many issues remained related to outcome and performance measures and the computer systems used to capture the data and report on it. These issues will be discussed at more length as part of the case study analysis in the next section.

## 6 Analysis of the Events

The description of the development of the primary care service in the previous section provides a chronology of the key events that occurred between 2006 and April 2012. In this section these events are analysed through the lens of the decision making modes described in Section 2.

In Section 2, four broad modes of organisational decision making were described: rational, political, process and anarchic. These four modes were distinguished (conceptually) based on their contingency with goal and procedural uncertainty as shown in Figure 1, repeated below.

		GOAL UNCERTAINTY	
		Low	High
PROCEDURAL UNCERTAINTY	Low	<p><b>Rational mode</b></p> <ul style="list-style-type: none"> <li>• Goal directed</li> <li>• Rules, routines and performance programmes (Cyert and March, 1992)</li> </ul>	<p><b>Political mode</b></p> <ul style="list-style-type: none"> <li>• Conflicting goals and interests</li> <li>• Coalition formation (Cyert and March, 1992)</li> </ul>
	High	<p><b>Structured mode</b></p> <ul style="list-style-type: none"> <li>• Goal directed</li> <li>• Multiple options and alternative solutions (Mintzberg <i>et al.</i>, 1976)</li> </ul>	<p><b>Anarchic mode</b></p> <ul style="list-style-type: none"> <li>• Ambiguous goals and unclear processes</li> <li>• Garbage can model (Cohen <i>et al.</i>, 1972)</li> </ul>

Figure 1. Four models of organisational decision making (adapted from Choo, 2006:211)

As Choo (2006) makes clear, all of these decision making modes may be observable in an organisation and the mode used for a particular decision-making process may change over time. Nevertheless, there was no evidence in the data gathered of overt rational or political decision-making during the OPPCMHS development. A condition of these two modes is the existence of explicit rules and procedures for decision making (Cyert and March, 1992), which leads to low procedural uncertainty. No predefined decision making procedures were either described by interviewees or observed by the lead researcher during his participation in project meetings. This is not surprising: OPMH had not developed a primary mental healthcare service before and, therefore, there was no predefined process for the people developing it to follow. Given that explicit procedures are a prerequisite of the rational and political modes, and there is no evidence of these, these two modes can be eliminated from further analysis. On the other hand, for reasons that will be explored further below, the development of the OPPCMHS service exhibited features of both the structured mode described by Mintzberg *et al.* (1976) and the anarchic mode described by Cohen *et al.*'s (1972) garbage can model.

The analysis in the remainder of this section will start by analysing the data gathered using first Mintzberg *et al.*'s and then Cohen *et al.*'s models. The section will conclude by comparing what these two models can tell us about the activities that were performed and what they cannot. Section 7 will then consider what the implications of this are for future research work.

## 6.1 Decision Making as a Structured Process

The first analysis is to consider what structure was there in the decision-making processes involved in developing the new service. Mintzberg *et al.* (1976) suggest three areas to consider:

1. The phases and routines that can be used to describe and classify the sequence of decision-making activities.
2. The supporting routines involved in the management of this process.
3. The dynamic factors that speed up or slow down decision-making.

### 6.1.1 Process Classification

Mintzberg *et al.* (ibid) suggest that decision making processes have up to three phases, comprised of one or more of a number of decision-making routines. These phases and the possible routines within these phases are:

- Identification, which can include decision recognition and/or diagnosis.
- Development, which involves either the search for or design of a solution
- Selection, which involves one or more of screen, evaluation-choice and authorisation.

#### 6.1.1.1 Identification

There was clearly an identification phase in the OPPCMHS development. The stimulus for developing the new service was the *recognition* of an opportunity to extend the benefits of primary care to older adults as part of the wider redesign of OPMH services. Separate problem *diagnosis* was not needed as this was an opportunity rather than a problem or crisis.

#### 6.1.1.2 Development and Selection

Once the desire to develop the service had been identified, the remainder of the decision-making process involved multiple cycles of solution development and selection in order to develop the OPPCMHS service model and prepare for its implementation. Mintzberg *et al.* allow some leeway for interpreting what constitutes a cycle, however at least seven development/selection cycles occurred in the OPPCMHS development over the period included in this study. These were:

1. The development of the initial proposal for a small pilot study which led to the funding for the two surgery pilot in St Ives.
2. The planning and preparation by the newly recruited pilot team prior to launching the pilot service at the two surgeries in St Ives.
3. The two surgery pilot. In parallel to delivering the service, the service model was developed and a new proposal for further funding was prepared. This development/selection cycle culminated in further funding being secured to supplement the team and extend the pilot to more surgeries.
4. The extension of the pilot to all six surgeries in St Ives. The service model continued to be developed.

5. The development of the service model and business case for the full roll-out across Cambridgeshire. This proposal approved by the commissioners drew heavily on the experience from the pilot while reflecting the available funding and the need for referrals into the fully rolled-out service to come via OPMH's single point of access for referrals (SPAR).
6. The planning and preparation for the full roll-out which was led first by Manager A and then by Manager B.
7. The actual roll-out which was in progress when the study data was gathered and continues to develop the primary care service model.

Each of these cycles involved a design routine followed by an evaluation-choice routine. *Design* in all cases was by modification of existing service models. The initial proposal for the pilot (cycle 1 above) was largely based on CPFT's adult primary care service. Thereafter each design built upon the service model from the previous cycle incorporating the team's experience of delivering primary care as well as information from external sources, particularly in the earlier cycles. *Evaluation-choice* of proposed changes to the service model was, again in all cases, by *bargaining* i.e. group consensus based on individual judgement of the various stakeholders who were consulted with and kept informed throughout. Finally, in roughly half the cycles (1, 3 and 5) the proposed service model required formal *authorisation* by the commissioners in order to secure funding for implementation. In the other cases (cycles 2, 4, 6 and 7) although formal authorisation was not required to proceed the commissioners were closely involved in evaluation-choice of the service model to take forward. In this way the design of the service model that was built up iteratively over time.

### 6.1.2 Supporting Routines

In addition to the routine that make up the decision-making process described above, Mintzberg *et al.* (ibid) identify three types of supporting routine:

- Decision control routines;
- Decision communication routines;
- Political routines.

#### 6.1.2.1 Control

Decision control routines are used to manage the decision-making process. Mintzberg *et al.* assume that there will be a single decision-maker in charge of the process. "Not only does the decision maker execute the steps leading to the solution, but he also plans his approach and allocates organisational resources to get there" (p260). The OPPCMHS development differed from this model in a number of respects.

Firstly overall management responsibility changed hands a number of times: from Psychologist A to Manager A and then from Manager A to Manager B. This was partially a consequence of the timescales involved – Psychologist A retired in early 2010 – and partially due to higher-level organisational changes i.e. the transfer of responsibility from Manager A to Manager B at the end of 2011 due to project reprioritisations by the new chief executive.

Secondly, Mintzberg *et al.*'s description of the "decision maker" suggests a directive management style (Stace and Dunphy, 1994) i.e. the manager decides what the team does. In healthcare, in general, the nature of the clinical work does not lend itself to autocratic management styles and

therefore the decision-making culture in CPFT is often consultative or collaborative – characterised by large meetings when important decisions are being made to seek the advice and get agreement from all the stakeholders involved – rather than directive or coercive (ibid). In the OPPCMHS development no one single management style was evident and each manager (Psychologist A, Manager A and Manager B) managed the work in their own way. The common mechanisms for planning and control were to do lists of completed and outstanding tasks and team meetings.

### 6.1.2.2 Communication

Decision communication routines are involved in gathering information – either passively (exploration) or actively (investigation) – and disseminating information.

Information gathering from external sources was particularly intensive prior to the launch of the Pilot and when it was being run at the first two surgeries in St Ives. Information was gathered about national guidance on IAPT, from the CPFT adult primary care service and from the older people’s primary care services in Salford and SLAM. Thereafter successive development and selection cycles made increasing use of what had been learned in previous cycles and less on additional information from external sources. For example, for the roll-out planning the staffing levels were based on demographic information from the commissioners<sup>14</sup> while much of the rest of the service model was based on the Pilot service model. This would seem to be consistent with the bounded rationality, satisficing behaviour and problemistic search predicted by Cyert and March (1992) i.e. information from local sources is used if it is “good enough” because acquiring information from external sources takes more time and effort to search for, obtain and make use of it. Figure 5 below summarises the main information flows in the OPPCMHS development.

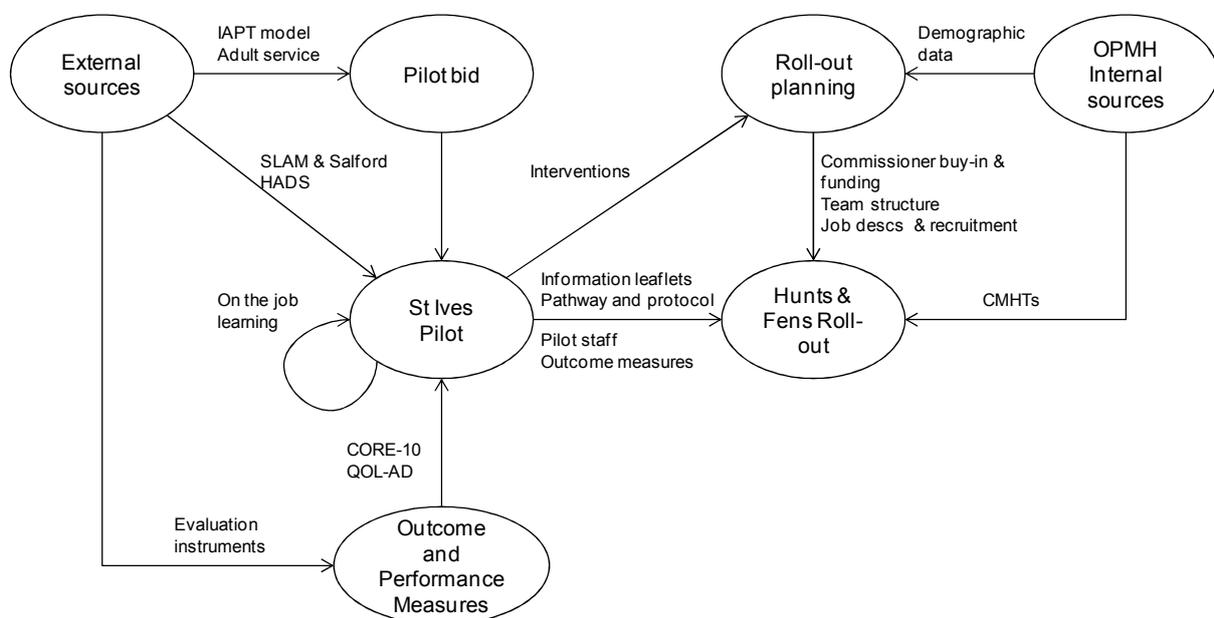


Figure 5. Information flows in the development of the OPPCMHS service

<sup>14</sup> From the Joint Strategic Needs Assessment (JSNA)

The information flows described above were supported by a combination of formal and informal information dissemination mechanisms.

The primary mechanism for disseminating information was team meetings, which occurred regularly throughout the OPPCMHS development. These meetings were minuted and the minutes and supporting documentation, for example notes written up from flipcharts/ whiteboards used in working sessions, were circulated to attendees and other stakeholders as appropriate.

For the Pilot the commissioners insisted on quarterly steering group meetings and a quarterly status report. The quarterly report was prepared by Psychologist A, using data largely gathered by the GMHW, and contained information about activity and outcomes. The commissioners required activity data, such as the number of referrals to the secondary care service and the number of hospital admissions, for the business case for the full roll-out. When Psychologist A retired she continued to produce the quarterly status report while Manager A took over chairing the quarterly meeting. This meeting and reporting was unique to the Pilot and stopped once the business case for the full roll-out was approved.

The service model was documented in the various requests for funding, the final version being the one included in the business case for the full roll-out produced by Manager A and presented to the commissioners on 1 April 2011. The documented service model provided a high-level description of the service but much of the detail was elaborated through later planning or actual delivery of the service, both in the Pilot or for the full roll-out. Some of this learning is captured in other documents or has been communicated informally either verbally or through observation and practice. On the ground, the Huntingdonshire and Fenland primary care teams inherited all the documentation developed for the Pilot. Roll-out in Huntingdonshire benefited from having the St Ives Pilot within their area and two of the Pilot team continuing to work with them.

The reliance on informal communication mechanisms in the service model development has highlighted a couple of potential management issues:

1. Organisational memory loss due to staff turnover. This was exacerbated by the small size of the Pilot team and the long time horizon (roughly three years from initial funding in October 2008 to incorporation into the Hunts roll-out in 3Q2011). As people came in, they did not have the background of what had happened and may have made decisions without knowing what had already been decided previously and why.
2. Barriers to communication due to interpersonal issues. The working relationships between individuals have varied significantly. Some working relationships have been very productive and others have been difficult, resulting in less information being shared than perhaps would be hoped.

*"I'd be interested to know how much the pilot has informed the roll-out...If things developed in the Pilot are excluded, I'd wonder, what was it all about? ... That's the litmus test really. Did it make a difference? Was our learning taken on board? Have the Fenland team, for example, felt that they've needed to start from scratch? If they have, then that would be a huge shame."*  
(GWW, 22/3/12)

### 6.1.3 Dynamic Factors

The final elements of Mintzberg *et al.*'s (ibid) model are the dynamic factors that affect the speed with which decisions are made. They list a number of these which can either speed up or, more often, slow down the decision-making process. Two of these are evident in the example of the OPPCMHS development:

- Interrupts;
- Comprehension cycles.

The process was interrupted at least twice by external factors. The most significant being the four month hiatus between April and August 2011 caused by issues related to agreeing the source of funding. The second was the delay in the roll-out in the south of Cambridgeshire due to the staff consultations related to in-patient ward closures being temporarily postponed by the new CPFT chief executive when he took over. These needed to be completed before staff could be recruited to the new primary care teams.

*“Standard problem in the NHS is trying to implement change in the context of bigger change. It would be good to do projects in a phase of consistency of team and managers so that you are not constantly re-explaining what is happening, or having different priorities thrown at you.” (Psychologist A)*

Comprehension cycles are another way of considering the repeated development and selection phases already described above. “By cycling within one routine, or between two routines, the decision maker [sic] gradually comes to comprehend a complex issue” (Mintzberg *et al.*, 1976:265). In the case of OPPCMHS, knowledge had to be developed collectively over time about what the service model would be. This knowledge generation required initial planning, an extended Pilot with first two and then six surgeries, further planning for the full roll-out and then even more development of the service model as the service was actually rolled out across Cambridgeshire.

### 6.1.4 Summary and Critique

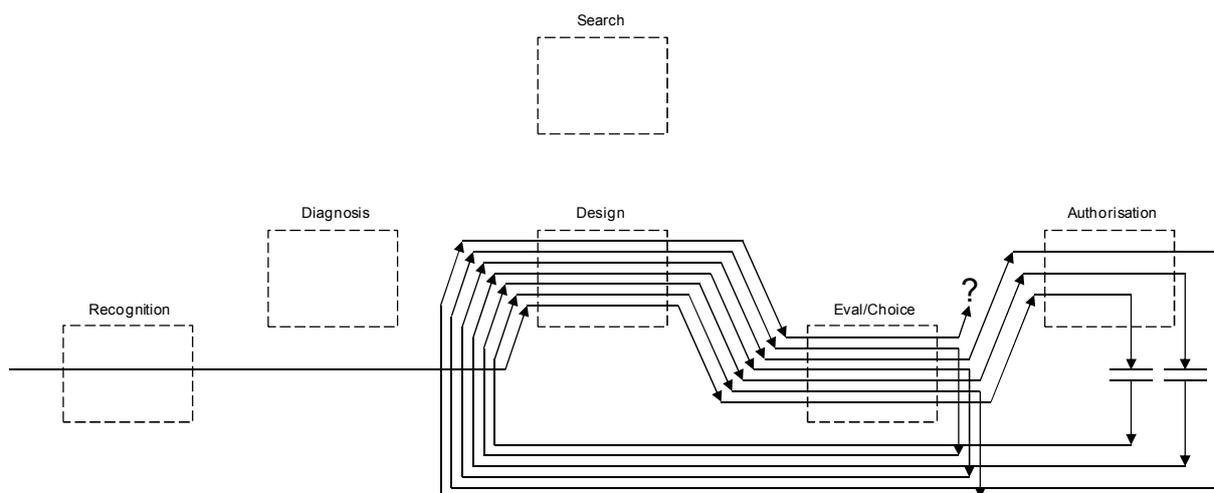


Figure 6. OPPCMHS decision process

Figure 6 above summarises the preceding analysis graphically as a process flow diagram following the template in Mintzberg *et al.*'s original paper. It shows the seven cycles and the two interrupts

(the breaks in the flow after the authorisation routine). The process was still ongoing at the time of the study, represented by the question mark after the last evaluation-choice routine. This decision making structure was the most common one found in Mintzberg *et al.*'s original study (eight out of 25 cases). These processes "involved extensive design activity, which typically led to complex and innovative custom-made solutions. There is little evidence of interrupts... or of political activity. All processes were evoked by opportunities or relatively mild problems, and all were of relatively short duration [unlike this case] (p271)".

Mintzberg *et al.*'s view of decision making allows us to identify an underlying structure in the decision making structure, but it is an abstraction that eliminates much of the "messiness" that occurred in reality and chooses to ignore a number of potentially relevant factors, in particular, who was actually doing the work. In the next sub-section a different view of the process will be taken using the garbage can model (Cohen *et al.*, 1972) as the theoretical basis of the analysis.

## 6.2 Decision Making as Organised Anarchy

The garbage can model (Cohen *et al.*, 1972) suggests that in organisations there exist streams of choice opportunities for decision making to which problems, participants and solutions can attach themselves. This may or may not lead to the resolution of the problems. The ability of an organisation to make decisions and solve problems is dependent on the available choice opportunities, the difficulty of the problems, the effort participants can devote to problem solving and the ability of participants to find or create suitable solutions. The model assumes that problems and participants attach themselves to a choice opportunity that is accessible to them and is most likely to solve one or more problems.

The original model is a computer simulation. Consequently it is abstract and conceptual and does not try to model decision-making with high fidelity. It therefore needs some interpretation to apply it to the detailed analysis of a specific, real world case. That said, both the original authors (Cohen and March, 1986; March and Olsen, 1976) and others (Levitt and Nass, 1989; Pinfield, 1986) have used it for qualitative analysis using its key concepts. These are:

- What are the *choice opportunities*?
- Who are the *participants*?
- Which *problems* are they aiming to address?
- What *solutions* are available?
- Finally, what is the organisation's *performance* at solving problems?

### 6.2.1 Choice Opportunities

"To understand processes within organizations, one can view a choice opportunity as a garbage can into which various kinds of problems and solutions are dumped by participants as they are generated. The mix of garbage in a single can depends on the mix of cans available, on the labels attached to the alternative cans, on what garbage is currently being produced, and on the speed with which garbage is collected and removed from the scene." (Cohen *et al.*, 1972:2).

The definition of a choice opportunity provide by Cohen *et al.* is not very precise. For the purposes of this analysis a choice opportunity could be any working group or one-off meeting that was expected by its participants to make decisions to contribute to the development of the OPPCMHS. By this definition the main choice opportunities in the development of the new service were:

- The preparation of the initial proposal to run the pilot study;
- The pilot study in St Ives;
- The project run by Manager A that created the business case and prepared for the full roll-out across Cambridgeshire;
- The roll-out in Huntingdonshire and Fenland.

These four choice opportunities are the organisational structures that largely performed the decision routines identified in the previous analysis using Mintzberg *et al.*'s (1976) model. However these were not the only choice opportunities where decisions affecting the service model were either made or could have been made. Other choice opportunities relevant to the OPPCMHS development include:

- Two meetings (one in 2010 and one in 2011) to look into the redesign of all of OPMH's services. These meetings considered primary care, acute care, intermediate care and nursing and care homes. The output from these two meetings was the "Joint Commissioning Strategy for Older Peoples Mental Health Services in Cambridgeshire 2011-2014".
- The project board that was set up, and chaired by, the OPMH General Manager in 2011 to coordinate work across OPMH's service development projects including OPPCMHS. It was set up in June/July 2011 and there were three meetings in August, September and October before it was closed down due to the new chief executive's turnaround programme.
- Three workshops in November 2011 looking at redesigning community mental healthcare services, of which OPPCMHS would be part.
- The working group set up by Psychologist C in parallel with the roll-out planning in 2011 to identify a suitable set of outcome and performance measures for the fully rolled-out service.
- Another working group set up by the Lead GP which met between November 2011 and January 2012 to determine quality and outcome measures for the whole OPMH. The Lead GP expected the new primary care to pilot the selected measures first and then to roll them out to the other OPMH services.
- A specific meeting chaired by the OPMH General Manager on 15 March 2011 to determine the staffing levels for the fully rolled out primary service (the results of this meeting are shown in Table 3 in Section 5 above).

Consequently there were many forums for decision making available over time, and sometimes at the same time, to progress the development of primary care service. These forums were convened by a variety of people over time as they saw the need to work on the resolution of a particular problem or problems.

### 6.2.2 Participants

The majority of the work of developing the OPPCMHS was done by a core team of the commissioners, the three OPMH managers (Psychologist A, Manager A and Manager B) and the people recruited to staff the Pilot and then the full roll-out. The Pilot was staffed by experienced, high calibre staff and this was seen as a major contributory factor to its success. On the other hand, participation in the overall OPPCMHS development was fluid and the energy that key people, particularly OPMH managers, could devote to it was limited. During the two and half years that the Pilot officially ran for, no post was filled by the same person for the whole time. At the same time the available pool of skilled staff is small and most of the key roles in the Pilot were part-time. The

difficulties of trying to combine roles in innovation and service delivery are well-known (e.g. Govindarajan and Trimble, 2010) and in this case required the people involved to have part of their existing roles backfilled and then juggle their existing responsibilities with developing the new service. The limited amount of time participants could devote to problem solving partly explains why the OPPCMHS was built up incrementally and over the period that it was.

Besides the core development team, other stakeholders and partner organisations were involved such as CPFT central functions, staff from other OPMH teams, the Alzheimer's Society, the county council, representatives of CLAHRC CP etc. Access to most meetings was not restricted and these stakeholders were welcome to attend as they wanted. New participants could voluntarily join and bring solutions with them that might or might not help solve problems. However, much of the decision making took place "on the ground" as specific problems with the service model were resolved as they arose. If managers wanted to influence the design of the service then they had to actively participate in the design process as the design was evolving. This need for a "hands on" approach was a direct consequence of few formal mechanisms (meetings and documents) for communicating the details of the design and controlling its development over time (e.g. requirements with associated metrics, change-controlled specifications, etc.). Managers therefore had to take the initiative and stay abreast of what was going on (the so called "heroic leadership" model) if they wanted to control the design. On the other hand, if they did this then they had significant power to develop the design to their own preferences. Consequently those managers and participants who were, and remained, closely involved in the development and delivery of the service had most influence over how it was designed. That said, there were a number of problems that could not be solved by the core team and the other active participants, notably Psychologist C, by themselves. Non-participation by certain key parties was a serious issue for the resolution of a number of problems e.g. the development of the reporting systems for performance and outcome measures (see section 6.2.5 below).

### 6.2.3 Problems

These choice opportunities provided the forum for the participants to resolve various problems related to the service model and its implementation. These included: the interventions offered, staffing levels, referrals management, measures and their reporting, venues where intervention would be delivered, communication about the new service to GPs and service users, staff training, working with other OPMH teams, working with districts nurses and social services, etc. As predicted by Cohen *et al.* (1972) not all problems that attached themselves to the choice opportunities in the OPPCMHS development were directly related to the service model and its implementation. An example of this was the inclusion of medications management in the Pilot.

Medication management is a concern for OPMH because many older people are on several medications, including psychotropics, and frequently report clinically that they do not understand what they are taking or why. This, combined with normal body changes caused by ageing, increases the risks of unwanted, and possibly harmful, drug interactions occurring. Given the GWW's experience as a CPN, he was able to work with the community pharmacists to look at medication management. He set up a number of sessions, including a group session with the community pharmacist, where people could come along and ask for advice. Conversely, where he had concerns about the medication he would instigate a medications review with the GP. Better medicines management was a potential cost saving in the business case for the full service, however when the

GWW left the team it was not continued as it was not an essential part of OPPCMHS and no-one was available to work out how it could be taken forward.

Like medications management, most of the problems to be addressed during the OPPCMHS development were known, at least at a high level, from the outset. Some problems were completely resolved (e.g. staffing levels for roll-out), others required different solutions over time (e.g. liaison with GPs) and, finally, some longstanding problems had still not been resolved at the time of the study (e.g. reporting of outcome measures). Although any of the problems could have been worked at any time – access to choice opportunities was not explicitly restricted – problem solving seems to have been prioritised based on the urgency of the need for a decision. For example, the staffing and skills mix for the full roll out were resolved within a matter of weeks in March 2011 as they were a key element in the business case that was to be presented to commissioners on 1 April 2011. Conversely, the seamless integration of the new primary care service with existing OPMH services was a requirement that was discussed at length but the practicalities were not addressed in detail until Manager B, who managed both the primary and secondary care services in Huntingdonshire and Fenland, took control of the roll-out.

#### 6.2.4 Solutions

Solutions to problems – full, partial or modifiable – came from a variety of sources. Some solutions came from external sources e.g. funding; the existing primary care models from the adult service, Salford and SLAM that were used to inform the Pilot; and the review of tools for assessing clinical mental health outcomes and patient well-being performed by Louise Lafortune through CLAHRC CP. Other solutions were mandated by CPFT for its divisions such as the use of: central IT systems for patient records; approved providers to transport patients; and divisional branding and logos for the printed materials. Many of the solutions were provided or generated by the team themselves. For example, the commissioners played an important role in promoting the Pilot to GPs and securing the various rounds of funding; Psychologist B and the GWW took the initiative in working through the detail of how they would perform their roles prior to launching the Pilot at first two surgeries in St Ives.

*“I remember there being a lot of ideas but putting those ideas into practice took a lot more working out than maybe we had pre-thought” (Psychologist B, 27/3/11).*

Many solutions from previous choice options were used as the basis of solutions for problems attached to later choice options. In particular the Pilot formed the basis of the service model for the full roll-out.

However, as predicted by Cohen *et al.* (1972) not all solutions that were brought by participants ended up being used. An example of this was a mapping exercise that one of the CPFT project managers did with the Pilot Team towards the end of 2009. With her help, the team looked at their processes and determined which activities were value adding and which were not. Although the participants found the exercise interesting most of the problems identified were outside their power to change, particularly those related to informatics, and therefore nothing was done.

#### 6.2.5 Performance

Having reviewed the choice opportunities (garbage cans) that were available, the decision makers who participated, the problems they were trying to solve and the source of the solutions they had at

their disposal, we turn our attention to how effectively choice opportunities were used and problems were resolved. Cohen *et al.* considered a number of measures which could be used to evaluate problem solving performance. Foremost amongst these is *decision style* i.e. what happens at choice opportunities. In their model there are three distinct decision styles:

1. By resolution i.e. a problem is actually solved by a choice opportunity. Cohen *et al.*'s simulation predicts that this is rare!
2. By oversight i.e. a new choice/decision is made without any existing problems being considered or solved by it.
3. By flight i.e. a problem is attached to one choice and moves to another choice opportunity which is considered more likely to solve it.

Unlike the simulation, in the OPPCMHS development many problems were resolved by choice opportunities. This was essential to allow the development of the new service to progress and for funding to be released by commissioners.

No examples of choice opportunities being closed without solving problems were observed. There were, however, examples of decision by flight i.e. the problem moved to another choice activity. This could be because a specific choice opportunity was set up to resolve a particular problem as was the case with the working group set up in March 2011 to determine the staffing levels and skills mix for the roll-out. It could also be that the solution was only provisional – e.g. the GP liaison – or not pressing at that time – e.g. the integration between primary and secondary care services – and the problem stayed open to be resolved in the next phase of the service development. Some problems, such as medications management, were not resolved at all by the choice opportunities provided by the OPPCMHS development and presumably attached themselves to other choice opportunities within OPMH and/ or CPFT. An interesting example of a problem that existed for the whole period considered in this case study and moved between choice opportunities without being resolved was the measurement and reporting of clinical outcome measures.

The primary care service was expected to report clinical outcomes using two of CPFT's existing systems. The HoNOS65+ scores, which are mandatory for all mental health service users over the age of 65, were recorded using an electronic form in the Clinical Document Library (CDL). In addition the primary care interventions were to use the same system, PCMIS, and capture the same data as Adult IAPT. There were problems with both of these. In the first case the OPMH psychologists thought that better instruments than HoNOS65+ should be used across the whole of OPMH to measure clinical outcomes and well-being. In the second case PCMIS proved unusable because some mandatory data entries (e.g. about trying to get back to work) were not applicable to older adults. These problems passed from the Pilot to the Roll-out Planning to a separate working group set up by Psychologist C to another working group set up by the GP Lead and were still open at the time when the data for this report was gathered.

The problem with PCMIS was quickly identified by the team when the Pilot started in early 2009 however given that the IAPT measures are part of the National Minimum Dataset they had to use PCMIS to record the referral and then get a local agreement to use an MS-Excel spreadsheet as a stop gap to record information about the episodes of care and the HADS scores identified with SLAM as being appropriate for measuring outcomes. The Excel spreadsheet was meant to be an interim solution but was still being used in January 2011 when planning for the roll-out started. Psychologist

C decided to take responsibility for solving problems related to performance and outcome measurement and decided to tackle the HoNOS65+ problem as well for the whole of OPMH. He set up a separate working group and, with some help from CLAHRC CP, selected CORE-10 for clinical outcomes and QOL-AD for quality of life to supplement the mandatory HoNOS65+ reporting. When the Lead GP set up another working group to specifically look at the outcome measures that the commissioners wanted OPMH to report he continued this work in that forum. Once agreement had been obtained from the commissioners and the other OPMH psychologists, the two new instruments were then incorporated by Psychologist B, alongside HADS, into the Pilot service with the six St Ives surgeries in order to pilot them there. The scores for all three instruments are recorded in the Excel spreadsheet still being used to record the details of each care episode. Despite the progress made:

- OPMH still did not have agreement from the DH that it could use other instruments in place of the IAPT measures in PCMIS.
- For the two new instruments there were copyright issues related to their electronic use (CORE 10) or issues around their name (QOL-AD, where AD = Alzheimer's Disease, which may cause confusion/ upset to service users)
- The Excel spreadsheet was only suitable for use in a pilot. For the full roll-out the scores for the various instruments would need to be recorded in central CPFT information systems (IS). However no changes were possible to CPFT's main care records system (CRS) because it was no longer supported by its vendors and was in the process of being replaced. The new system would also replace the CDL so OPMH's reporting requirements were being included in the functional requirements for this new system, which was expected to be implemented in late 2012.

Despite the best efforts of the people involved in the OPPCMHS development, developing its reporting systems required the active involvement of the informatics team. The informatics team prioritised other choice opportunities that existed in CPFT, for example the selection and purchase of a new patient records system, and therefore these problems could not be fully resolved and moved from choice opportunity to choice opportunity in search of a solution and participants who could make the required decisions.

#### **6.2.6 Match between Case and Theoretical Predictions**

Like all good models, the garbage can model simulation predicted eight major properties of garbage can decision processes. Table 4 below compares these eight properties against the case study findings.

Table 4 Comparison of the OPPCMHS development against the eight properties of garbage can decision processes

Property of a garbage can decision process	OPPCMHS development
1. Problem resolution is not the most common decision style; more often decisions are made without solving problems or problems move between decision-making situations without being solved.	Problems were solved but there were also examples of problems being worked on but not resolved (e.g. medications management) or moving from choice opportunity to choice opportunity (e.g. performance measurement and reporting).
2. The more problems there are the less quickly they are solved.	This seems intuitively correct i.e. when there are many problems then it is difficult to focus on resolving any of them. However, a single case study does not allow the comparisons to be made in order to test this.
3. The same decision makers and problems keep coming together in different contexts but mostly without results.	This was true in the case of performance measurement and reporting.
4. The speed with which individual problems are resolved, the time between identifying a problem and working on it, and the time span of choice opportunities are correlated i.e. they increase or decrease together.	The rate of problem solving and the prioritisation of particular problems for resolution was driven by the overall timescales and deadlines for the project
5. Decision making behaviour and performance depends on the organisational structures that determine which problems can be worked on and by whom.	Some problems could only be worked on and solved by certain people. However, a single case study does not allow the effect of this to be investigated.
6. Important problems are more likely to be solved than unimportant ones; ones that are identified early than those that are identified later.	Again this seems intuitively correct but data about the importance of problems was not explicitly captured during data gathering.
7. Problems are less likely to be solved the more senior the decision makers have to be. Therefore problems are solved at a level appropriate to the decision being made.	More important problems, such as staffing and the therapies provided, were decided between the OPMH managers and the commissioners. Many of the details of service delivery were worked out by the team members.
8. It is rare that no decision is made (i.e. a choice opportunity stays open) even if it doesn't solve any problems. Decisions that are not made are either the most or least important ones.	There was no example in the OPPCMHS development of a choice opportunity just staying open with nothing happening.

As indicated in Table 4, the single case study method used in this research study, did not allow some of the predicted properties of a garbage can process to be tested. Nevertheless, this comparison does indicate that OPMH and the OPPCMHS development exhibited, or probably exhibited, a number of the characteristics of a garbage can decision process, and hence of an organised anarchy.

## 6.3 Synthesis of the Two Analyses

### 6.3.1 Why both models were useful

In the previous two sub-sections, the OPPCMHS development was analysed using Mintzberg *et al.*'s (1976) and Cohen *et al.*'s (1972) models of organisational decision-making. Both models seem to provide useful insights. Why is this?

The literature reviewed in Section 2 suggests that the decision-making mode employed by an organisation will reflect both procedural and goal uncertainty. Procedural uncertainty was clearly high as this was a novel project for OPMH, but the fact that we were able to find evidence of both structured and anarchic decision making processes reflects the different levels of goals uncertainty for certain aspects of the service model and at different times in its development. At one end of the spectrum there was little uncertainty amongst the stakeholders about the types of intervention that the service would provide nor that staffing and recruitment would be determined by the funding available. At the other end of the spectrum, there was great uncertainty about what outcome data should be gathered and how they should be used. In between were various aspects of the service for which the goals, and the broad ideas about how to meet these goals needed to be, and were, made more concrete over time.

*“The thing that was most difficult for me was that I didn’t feel we had a sense of what those commissioning the [Pilot] service expected of us. What we were expected to deliver and in what time frame we were expected to deliver... I would have liked some better info about where this has come from, why it’s come about in the way that it has, what we are expected to achieve in certain periods of time. That became clearer as things went along.” (GWW, 22/3/11).*

This picture seems to be consistent with other OPMH service developments. As Psychologist C put it:

*“There’s a recruitment plan, we know broadly when we want to start, we know roughly what we want to do, go on, off you go and do it.” (Psychologist C, 23/2/11)*

The two models are therefore partially complementary (Pinfield, 1986) and provided different lenses (Morgan, 1997) with which to analyse the events and identify that OPMH/CPFT and the OPPCMHS development exhibited many of the characteristics of an organised anarchy but where greater goal clarity occurred – because of the importance of the problem being solved and the will and skill of the decision-makers – then a structured process occurred.

Pinfield (1986) argues that a synthesis of the two models could be useful both at the level of the individual decision (here Mintzberg *et al.* is stronger) and at the organisation level (where Cohen *et al.* is stronger for an organised anarchy). In the absence of a formal synthesis, we propose that it is sufficient to see the two models as complementary views on the same problem and informally use them together recognising that each has strengths and weaknesses.

## 6.3.2 Strengths and Weaknesses

### 6.3.2.1 Mintzberg *et al* (1976)

Mintzberg *et al.*'s model encouraged us to look for the structure in apparently unstructured processes. It allowed sequences of activities to be interpreted in terms of their functional contribution to problem resolution i.e. whether they involved problem identification, solution development or solution selection (Pinfield, 1986). Moreover their model drew our attention to how the process was managed (the supporting routines) and the dynamic factors affecting the speed of progress.

On the other hand, Mintzberg *et al.*'s model suggests that decision processes have clear beginnings and clear endings (Pinfield, 1986). In the case of OPPCMHS it took a number of years for the idea of creating a primary care service for older people to develop to the point where the proposal for the St. Ives pilot was prepared. This "fuzzy front end" is a common feature of engineering design projects, particularly where the need for a new product/ service is driven by an opportunity rather than a specific customer need (Smith and Reinertsen, 1991). Similarly where does the development process end? The OPPCMHS development was still in progress at the time of the study with roll-out underway in two out of the five districts in Cambridgeshire. The service model (the design of the service) will continue to develop for a while. Again the same is true of engineering design projects where the design of the product will be almost certainly be modified after the first release to the market in light of problems that occur in-service. Any start or end point for the description of a structured decision making process may seem somewhat arbitrary.

Second Mintzberg *et al.*'s model encouraged us to look for a single thread of decision making – albeit potentially a highly iterative one – where in fact there were multiple concurrent streams of activity going on at any time. In our case, most notably: 1) the Pilot running in parallel with the Roll-out Planning and 2) all the work ongoing related to information systems and performance measurement.

Third this model does not clearly link the decision making process with its supporting routines. For example it does not link communication to decision-making i.e. which information is needed for which decisions nor how this information (the design of the solution) builds up/develops over time.

Finally it does not formally consider who is actually doing the work and what the impact on the process is of this. Big changes to personnel and environment could be considered interrupts but this underplays the importance of individual's contributions to the project's success.

### 6.3.2.2 Cohen *et al.* (1972)

Turning to Cohen *et al.*'s model, while Mintzberg *et al.*'s model focuses on the sequence of activities performed and is not concerned with who is actually performing these activities nor what the specific problems that they are addressing are, Cohen *et al.*'s model ignores the sequence and relationship between activities (if any), and instead focuses on the opportunities to solve problems, the problems to be solved and the people solving these problems. Their model also takes a much wider organisational view and, therefore, its scope is not directly comparable with Mintzberg *et al.*'s (Daft, 1998; Pinfield, 1986). This is not necessarily a bad thing as it encourages you to broaden out the analysis and look for all the possible streams that affect the decision making of interest.

Cohen *et al.*'s model is good for recognising the wider context that affects organisational decision-making by drawing our attention to all the choice opportunities that actually exist (both within and "outside" projects). It was also good at drawing our attention to the churn of people, problems and solutions in the OPPCMHS development. On the other hand Cohen *et al.*'s garbage can model has a number of potential weaknesses for organisational analysis:

- The constructs – choice opportunity, problem, participant and solution – are broadly defined and, therefore, poorly operationalised for the purposes of qualitative research.
- No relationships are assumed between instances of these four constructs. In reality there will be linkages between the different choice opportunities, the different problems etc. Along the same lines, there is also no hierarchy. In reality large choices may be made up of smaller choices and a big problem can be broken down into smaller ones.
- The model assumes very little structure for the participants other than restricting their access to choice opportunities. In most organisations, including OPMH, participation in decision processes is not randomly fluid but is channelled by structural features of hierarchy and functional specialization (Pinfield, 1986).
- Similarly, as we saw in the case study choice opportunities are created by the participants. "Control can be exercised over the formation of choice opportunities and the access of participants to different stages of evolving decision processes" (Pinfield, 1986:386)
- The model does not consider how solutions are obtained or generated by participants and how complex solutions are built up over time. e.g. how the service model from the Pilot informed the service model for the full roll-out.
- It pays little attention to what skills and experience individuals in the decision-making process have and what they learn. A major concern amongst the people involved in the Pilot was how little their expertise and advice had been sought by the people planning the full roll-out

### 6.3.2.3 Limitations of Both Models

Despite offering two perspectives on the same organisational situation there are a number of things that these two models do not consider (which other decision making modes do).

First, both models do not consider the quality of the decisions made i.e. were the decisions efficacious and/or effective. Mintzberg *et al.*'s model is purely descriptive and does not include any evaluation of the process or outcomes at all. Cohen *et al.*'s looks at activity measures (process efficiency) but not at the quality of outcomes (process effectiveness).

Second, they do not consider how information and knowledge develop over time i.e. what contribution previous decisions make to the solution of subsequent decisions. This is in contrast to engineering design process models which largely take an information processing view (Browning *et al.*, 2002; Browning and Eppinger, 2002). All the interviewees involved in the Pilot agreed that the most important element in developing the Pilot service was learning on the job and that in future a slow roll-out across Cambridgeshire would be critical to allow enough time to train junior members of staff and for team members to repeat their learning.

*“The key formative experiences in developing my knowledge were... the day-to-day having things to work out. When I get a referral, what do I do with that? I don’t know where to put that data, etc.” (Psychologist B, 27/3/11)*

Similarly, seeing how the Pilot operated allowed Manager B to develop a “feel” for how the new primary care service would operate alongside the secondary care teams, what step up/ step down means, how it works and what the pitfalls might be.

## 7 Discussion

The conclusion of the analysis in the previous section is that decision making during the OPPCMHS development could be considered a mix of the structured and anarchic modes identified in Section 2 and that OPMH exhibited many of the characteristics of an organised anarchy (Cohen *et al.*, 1972). This is not an unexpected finding. The healthcare improvement literature typically describes healthcare systems and organisations as highly organic, complex adaptive systems (CAS) (e.g. Plsek and Greenhalgh, 2001). Conversely this suggests that insights from this single case study may be relevant to other healthcare organisations. Certainly our experience with other mental healthcare organisations in Cambridgeshire (e.g. Hempe, 2011) is that their approaches to decision making are similar to what was seen in this case study.

The NHS in England faces the unprecedented challenge of having to find £20bn of efficiency savings between 2010 and 2015, while continuing to improve the quality of care. The OPPCHMS development is one example of the service innovations that are currently taking place to meet that challenge. The rationale for this research study was to understand current practice in health service innovation and improvement and use this understanding to identify possible opportunities to improve how service improvement projects are conducted. This section explores the implications of the case study findings for research into innovation and improvement in the NHS. This starts with an explanation of the rational approach to managing innovation and improvement, which the dominant approach in improvement science and the preferred approach in engineering design. The desirability of a rational approach to decision making is then tempered by recognising that the specific approach taken to innovation and improvement by any organisation will/should be contingent on its circumstances. This then raises the question that if healthcare organisations need to change their approach to innovation and improvement based on the challenges that they now face, then how, in principle, can they go about doing this. And finally, how can academics working in the field of improvement science, such as the Cambridge EDC and other partners within CLAHRC CP, help them to make these changes?

### 7.1 The Rational View on Innovation and Improvement

The majority of the improvement literature (originating from management science, operations management, systems engineering, engineering design, etc.) assumes rational (possibly bounded rational) decision-making processes as a pre-requisite for improving the processes of service delivery. As already discussed in Section 2, a rational approach to decision-making is predicated on clear goals and well-defined and managed procedures.

#### 7.1.1 Clear Goals

From a normative perspective, goals should be determined and made explicit for the system being developed – typically as formal written requirements – before any development work takes place<sup>15</sup>.

For a service innovation or improvement the requirements should address:

- The scope and functionality of the service i.e. the elements of the service model.

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<sup>15</sup> See for example the Project Initiation Document (PID) used in the PRINCE2 project management methodology. PRINCE2 is the UK Government's standard for project management.

- The service's performance characteristics e.g. the cost and quality of the service provided. The performance specification should also include the allowable variation in these measures.
- The efficiency of the service development process itself i.e. how long it will take to develop the new service and what resources will be involved.

Of course, even if the need for formal requirements is recognised, there can be wide variation in how well these are produced. Problems include requirements that are underspecified or incomplete.

### 7.1.2 Defined Development Process

The second element of a normatively rational development process is that the process is standardised (i.e. the same process is repeated each time) and formalised (i.e. written down so that it is explicit and, as far as possible, clear and unambiguous). The process should also be clearly divided into the separate activities.

Using design as an example, in many organisations not only is the design process not formalised, the people doing design are not even aware that the activities they are performing are designing. This phenomenon has been labelled "silent" design" (Gorb and Dumas, 1987). In the rational view, design should be a planned/ managed, rather than emergent. The rules are as follows:

- Design activities should have a clearly separate analysis, synthesis and evaluate steps (Wynn and Clarkson, 2005).
- The design specification should be written down and be (sufficiently) detailed, precise and comprehensive (i.e. cover all aspects of the service including administration and interfaces).
- The service delivered should follow and conform to/ comply with the design specification (and be managed to do so).
- The design specification should be updated as the design develops.

### 7.1.3 Approaches to Service Innovation and Improvement

The specific development process that a healthcare organisation uses will depend on the overall approach it takes to service innovation and improvement. There are broadly two philosophies here: top-down using approaches like business process reengineering (BPR); and bottom-up using approaches like Lean Thinking (Boaden *et al.*, 2008; Powell *et al.*, 2009). Whichever approach is taken, rational approaches to innovation and improvement recognise that specific organisational capabilities (i.e. skills and knowledge) need to be developed (e.g. Paulk *et al.*, 1993) and that performance outcomes may not all be able to be improved at once (Ferdows and De Meyer, 1990).

An organised anarchy is an anathema to rational process improvement as there are: no clear goals to direct improvement towards and measure against; no standardised processes that can be managed to and changed in a controlled way. From the rational view, anarchic organisations cannot be well controlled and managed, and therefore successful outcomes cannot be guaranteed (a lack of dependability). If projects in anarchic organisations succeed then it is by luck or the heroic efforts of individuals. It is not sufficient to have had good outcomes, which are presumed to be by sheer chance; you have to have a reliable process to guarantee that you will get what you want.

## 7.2 Contingency View

From the perspective of the discipline of engineering design, organised anarchies/ CAS – which reputedly characterise much of the NHS – can appear chronically under managed and in desperate need of reform. This opinion reflects the very different approaches to decision making that characterise these two worlds as shown in Figure 7 below.

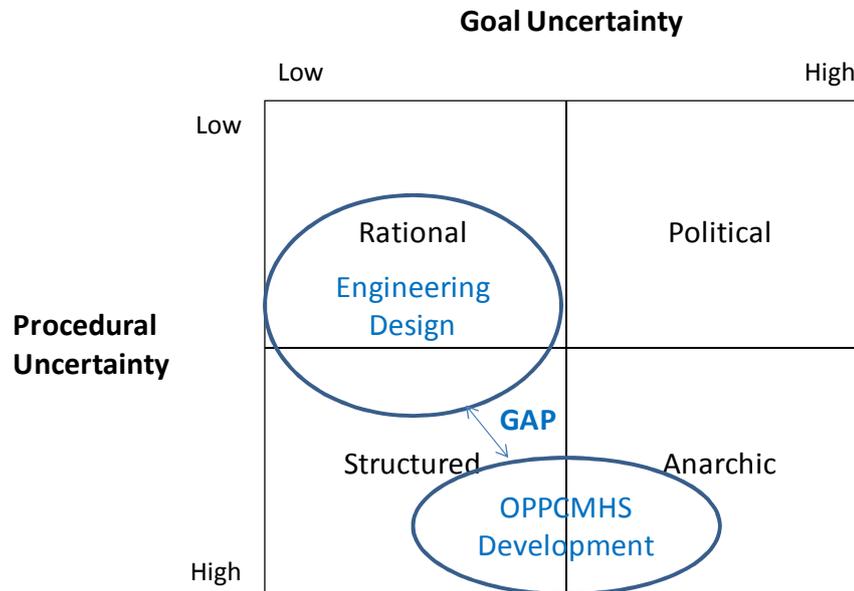


Figure 7. The relative position of engineering design and the OPPCMHS development

Figure 7 tries to position engineering design and the OPPCMHS development in the contingency model for the four decision modes. As already discussed, for the OPPCMHS development procedural uncertainty was high as there was no formalised development process and the project was relatively novel: primary care was a new type of service but there was experience of other service development projects. At the same time there was a mixed level of goal uncertainty: some requirements were reasonably well specified while others were not. Engineering design occupies a different space in this framework. There is generally relatively low goal uncertainty as a high premium is placed on clear requirements; however, depending on the novelty of the design, there will be different degrees of procedural certainty. Nevertheless, even the most diehard systems engineers recognise that different problems require different solutions: pragmatically there is no one-best-way and that the correct approach to take will depend on/ be contingent on the circumstances involved. For example even in engineering there are different approaches to design and manufacture between different companies, the classic example being the motor industry in the 1980's between Toyota and the US Big Three (Womack *et al.*, 1990).

Organisational contingency theory suggests that, like living organisms, organisations adapt by selecting/modifying their structure (including their decision processes), people and technologies to fit the needs of their environment (task) (Morgan, 1997). For example highly structured organisations, often labelled mechanistic, can be highly efficient when the tasks they perform can be well-specified and are highly predictable. On the other hand, loose organisational forms, often described as organic, are more appropriate where the organisation needs to be flexible to changing circumstances or to be highly innovative/ creative (Daft, 1998). Assuming that engineering designers

accept that NHS organisations are adapted to their environment based on the influence of their various stakeholders – Government, public, service users, staff etc. – they cannot then blindly apply the same criteria that are used for evaluating engineering design projects to historic healthcare service improvement initiatives. For example, if they want to evaluate management performance then it has to be against the project success criteria at the time of the project and not use another set after the event.

At the level of this case study, contingency theory also provides an explanation of why there has been little interest in adopting the rational decision-making processes that we, as engineering designers, think are so valuable: OPMH has been able to function without them. The capabilities needed for rational decision making are costly to acquire (whether bought in from outside or developed internally) and therefore a powerful impetus would be required for OPMH to invest in them.

### 7.3 The Need for Change and How to Do It?

The UK Government and the Department of Health have thrown down the gauntlet on the need for innovation and radical improvement across the NHS (Department of Health, 2011). There are already a plethora of small improvement pilots such as CAMTED-OP<sup>16</sup>. As constant service change becomes the norm – due to the constant need for greater safety, quality of service and financial efficiency – NHS organisations will seek to better manage their service improvement projects in order to do them as quickly, efficiently, effectively and with the least risk to the rest of their organisation and services as possible. In general they should be looking for:

- Greater development efficiency (more projects with the same people);
- Greater speed/ shorter lead times;
- Dependable outcomes;
- Minimal risk to ongoing operations/ existing services.

Consequently there will be growing institutional and regulatory pressures on NHS organisations to adopt rational systems improvement methods such as those promoted by organisations like the NHSI and NHS Improvement. That said, there is still considerable debate about what the best approaches to service improvement are, and resources such as the NHS Change Model<sup>17</sup> are not prescriptive on this. Top-down approaches have lost ground in favour of bottom-up ones, particularly Lean Thinking. This is despite some reservations amongst academics about whether Lean Thinking as understood in manufacturing, where it originates, is applicable to healthcare situations (Radnor *et al.*, 2012). At the same time there is a recognition that health care systems are complex adaptive systems (CAS), at least in the broadest sense, and that theories from complexity science may provide useful management insights for service improvement (Plsek and Greenhalgh, 2001; Plsek and Wilson, 2001). This has led to a greater emphasis on the need for whole systems thinking (i.e. considering the interactions between parts of the system rather than just the parts themselves) and much wider participation in improvement projects to elicit and make use of all the available perspectives on the problem to be solved (e.g. Stroebel *et al.*, 2005). In the case of the EDC, we have

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<sup>16</sup> Cambridgeshire Training, Education and Development for Older People (CAMTED-OP) offers training and practice development to staff teams caring for people with dementia at all stages of the care pathway.

<sup>17</sup> <http://www.changemodel.nhs.uk>

long held and promoted the view that healthcare organisations can learn a lot from the engineering design methods used in safety critical industries (Clarkson *et al.*, 2004).

There is also debate about whether rational methods are appropriate at all. Some enthusiasts of complexity science argue that complex adaptive systems (CAS), such as healthcare systems, are too complex to be managed and improved by “traditional” means (Begun *et al.*, 2003). There are two points to be made here. Firstly that, as previously explained, different decisions require different decision-making processes; the key is recognising which problems are not going to be amenable to rational methods and which are, or may be (Kurtz and Snowden, 2003). This has long been recognised in industry where a clear split often exists between day-to-day operations and the R&D functions in order to separate routine decision-making and continuous improvement from problems which involve greater uncertainty and require more creativity for their solution. Secondly healthcare organisations are social systems, not natural systems, and therefore can be shaped by human agency to reduce their complexity.

From a contingency point of view, a move away from organised anarchy to more managed and structured service improvement projects requires a reduction in uncertainty related to both goals and procedures. Goal uncertainty can be reduced through improved leadership, clearer requirements etc. and much is being done in the NHS to improve leadership and some of these other factors (e.g. the NHS Change Model). This needs to go hand in hand with reducing procedural uncertainty (i.e. adopting effective improvement methodologies) which at the moment seems to be less of a focus for NHS improvement agencies, and may possibly prove more problematic than thought given the previous point about disagreements on the best improvement approaches to use. Moreover, reducing goal and procedural uncertainty will require significant effort. Significant organisational changes will be needed to make this happen and new skills and capabilities will need to be learnt. On the other hand, the potential benefits are increased control leading to reduction in risk in the form of variation in outcomes. It is beyond the scope of the work done to date to suggest how these changes might be made. In the case of CPFT clearly some process-driven expertise needs to be drawn upon as a basis of change, even if this change is going to take some time.

## 7.4 Contributions from Academia

There two main areas where academia can help NHS providers with their service development process improvement journey.

The first of these is training on the current state of academic knowledge in improvement science. Healthcare policy makers and managers would benefit from a better understanding of the theories, methods and tools that can be applied to healthcare service improvement. It would be good if managers understood what the issues are when they make decisions or engage in the decision-making process. Within CLAHRC CP, the academic partners give courses and seminars to CLAHRC fellows on various topics related to innovation and improvement such as systems thinking, design thinking, change management, operations and project management.

The second is the development of new knowledge through research collaborations. These collaborations will involve both descriptive and participatory research. In order to change practice, researchers ought to understand practice. More descriptive research could be done to better understand the complexities of service development from the perspective of healthcare

professionals and the capture the specifics of “as-is” health practice in service design and development such as the details of the development processes that they follow. An example of such research would be a transverse study about the top to bottom design of particular service changes (e.g. IAPT). We should also continue to identify and report on best practice case examples in service improvement.

Moreover we also need to work alongside healthcare experts as they improve, or develop new, services in order to determine what does and doesn’t work for them. There is a wide array of theories, processes, methods and tools that could be adopted for service improvement and key questions about these are:

- Which of these “work”?
- Perhaps more importantly, under which circumstances? There are unlikely to be “one-size-fits-all” solutions.
- How should they be packaged? The current advice is rather fragmented and divorced from the underlying theories. This suggests the need for packaged methodologies.
- And, hence, what is needed for local adaptation and adoption (a major concern for the improvement science) so that they can be rolled out quickly across the NHS?

Realistic evaluation (Pawson and Tilley, 1997) is likely to prove useful here as a research approach as it explicitly requires researchers to consider both the context and the underlying mechanisms that link an intervention with outcomes. Effective participatory research will be predicated on identifying suitable improvement projects where these questions can be addressed for example either in the design of whole care pathways, such as the OPPCMHS development reported here, down to the level of individual design routines such as was used to the determination of the staffing levels for the new primary care service. There are also issues to be addressed about how to work together:

- *Communication.* As academics we need to communicate our ideas better. One aspect of this is to recognise that there are different thought worlds, perspectives and priorities between healthcare providers and the academia. This means that we will need to be better as researchers at translating between one and the other.
- *Access.* Participatory research needs a commitment by both parties to make it work. Academics need to recognise that participatory research is going to be frustrating as people and problems can flee from projects (a choice opportunity in the garbage can model). At the same time, healthcare partners need to provide sufficient sponsorship of the research to make sure that it continues to progress and research projects don’t just die.

## 8 Conclusion

This report has reviewed some of the key literature related to organisational decision making and the principle that different decision making modes exist depending on how uncertain the people in the decision making process are about: 1) the goals of the decision and; 2) the procedures to be followed to make the decision (Choo, 2006; Daft, 1998). Theoretical understanding of these different decision making modes was then used to analyse a case study: the development of the primary care service for older people by CPFT, its commissioner and partner organisations. The results of that analysis were that decision making in the development of the new service was a mix of structured (Mintzberg *et al.*, 1976) and anarchic (Cohen *et al.*, 1972) modes. This was recognised as being typical for healthcare organisations but could be potentially problematic in future given the current, and presumably future, need for rapid innovation and radical improvement across the whole of the NHS which will, in the authors' opinion, require the adoption of more rational approaches. Historically NHS organisations have had mixed success applying rational improvement methods (Boaden *et al.*, 2008; Powell *et al.*, 2009) and therefore there exists an ongoing need for research into what works, in which contexts and circumstances, and why.

The Cambridge EDC is committed, through its involvement in CLAHRC CP and its other healthcare research, to undertaking research to create knowledge, understanding, methods and tools that will contribute to the improving the design process in healthcare. The EDC's starting point is knowledge, understanding. Methods and tools that are used for engineering design in industry. This report is a step in gathering information about the context and current practice of design in healthcare innovation and improvement projects in order to inform our subsequent research. The key learning/ contributions for us are that we have:

- Successfully applied a contingency framework of decision-making modes to the analysis of a real life case study.
- Gathered more evidence that healthcare systems are complex adaptive systems (although we are ambivalent about this terminology) and that decision-making related to service improvement is best explained by a combination of the structured and anarchic modes.
- Highlighted that other decision making modes are possible and exist (e.g. rational) while accepting that the employment of these other modes may currently be limited by wider organisational constraints.

On the other hand the research reported here suffers from a number of limitations:

- This was a single, descriptive case study. We need to be cautious about generalising the findings to the whole of CPFT and beyond to other healthcare providers. That said we believe it is pretty representative: the OPPCMHS development was reported by the participants an example of a project that had gone particularly well.
- The difficulty of getting engagement from healthcare colleagues. Relatively limited involvement from the OPMH people in shaping the conclusions of this report due to other higher priorities within CPFT.

Finally we need to look forward to the future research and what we would we like to know. As mentioned above, understanding the context for intervention is key and the EDC still does not know enough about how healthcare services are designed and need to do more descriptive research on

design in the widest context. We would like to do a transverse study of the design of a particular intervention e.g. expand out the study of OPPCMHS both upwards (to national policy) and downwards to how interventions are actually delivered to service users. With a better understanding of the context, we want to work with all the healthcare partner organisations in CLAHRC CP to identify further opportunities to research improvements to the service development process using a realistic evaluation approach (Pawson and Tilley, 1997). There is still a huge gap between what professional designers can do for healthcare organisations and what healthcare professionals can do by themselves. Through participatory, action research (Lingard *et al.*, 2008) we could like understand what tools and methods work and what individual skills and organisational capabilities, if any, need to be developed by healthcare professionals in order to use them themselves. This may lead us to explore professional training and further the development of skills and knowledge thereafter (e.g. Gabbay and le May, 2011). Finally we may need to consider the organisational/ institutional barriers to change, possibly in conjunction with our colleagues in the Institute for Public Health and the Judge Business School.

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## Appendices

### A. Stacey Diagram

The contingency framework for organisational decision-making (Figure 3) used in this technical report is one of a number variants on the same theme (e.g. Choo, 2006; Daft, 1998; Stacey, 1993; Turton, 1991). Probably the best known of these is the Stacey Diagram, which has been widely used, and elaborated, in the healthcare complexity literature (e.g. Plsek and Greenhalgh, 2001). In its simplest form it proposed that there are three types of decision making: simple, complex and chaotic depending on the certainty with which cause-and-effect linkages can be determined (the x-axis in Figure A1 below) and the agreement between decision makers about a decision or issue (the y-axis).

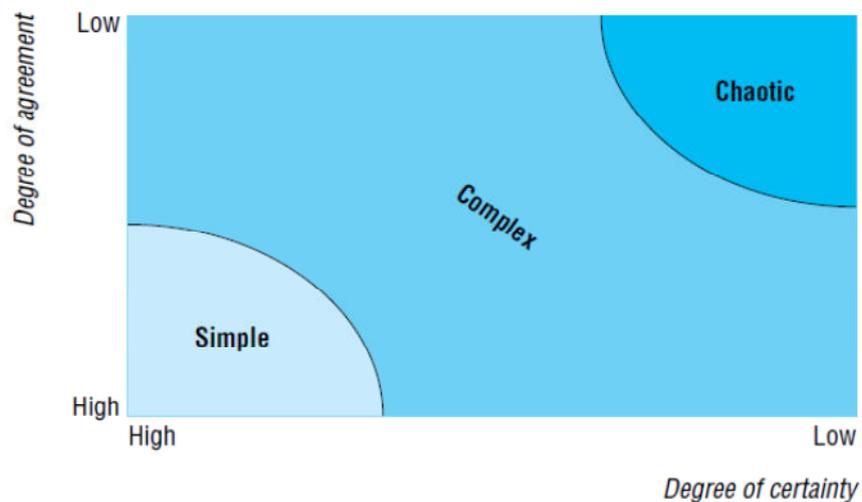


Figure A1. The Certainty-Agreement Diagram (Plsek and Greenhalgh, 2001:627)

Brenda Zimmerman's version of the Stacey Diagram, which extends the simple region and is marked up with the decision making modes, is shown in Figure A2 below. Her regions 1, 2, 3 and 5 correspond to the rational, political, structured and archaic modes in our Figure 3. Degree of certainty in the Stacey Diagram is broadly equivalent to procedural uncertainty in Figure 3, similarly degree of agreement with goal uncertainty, hence Figure 3 can be mapped onto the Stacey Diagram by rotating it through 90 degrees and placing it in the bottom left hand corner as shown in Figure A3.

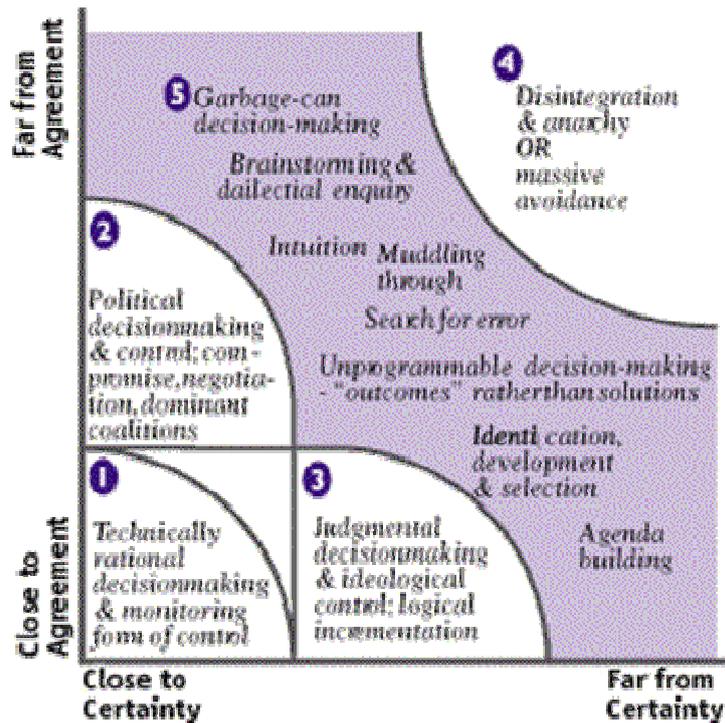


Figure A2. Zimmerman's Version of the Stacey Diagram

(Source: [http://67.199.72.55/edgeware/archive/think/main\\_aides3.html](http://67.199.72.55/edgeware/archive/think/main_aides3.html) accessed 18 November 2012)

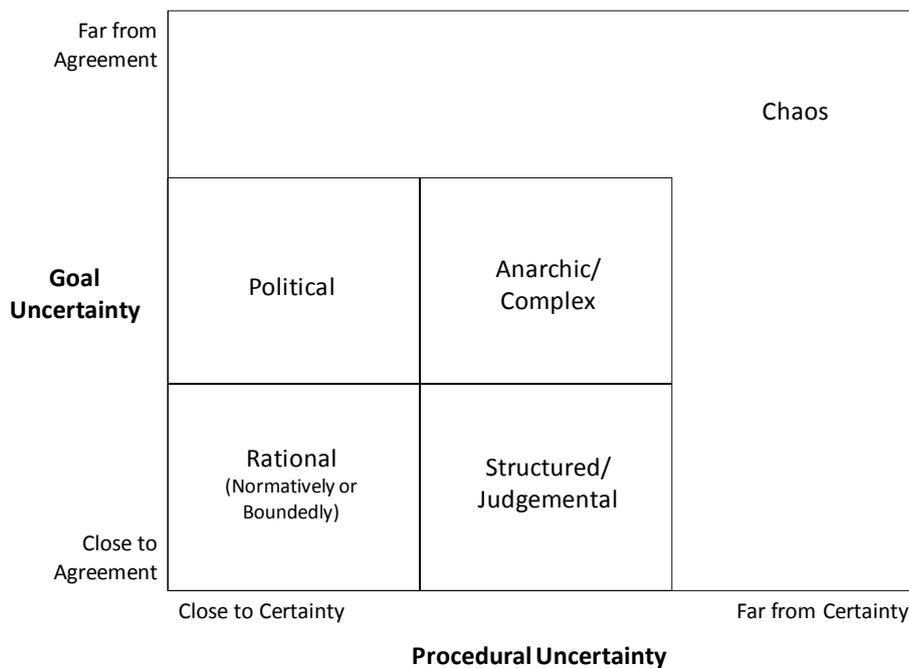


Figure A3: Mapping of the four organisational decision making modes onto the Stacey Diagram for comparison.

## B. Nutt's (1984) Model of Organisational Decision Making

The data gathered about the OPPCMHS development reported in this technical report was originally analysed using Nutt's (1984) model of organisational decision making. Nutt builds upon Mintzberg *et al.*'s (1976) structured decision making model and proposes that decision making processes can be decomposed into up to five stages:

1. *Formulation*: Carried out to improve problem understanding and to set objectives by systematically examining needs and opportunities stipulated by an executive.
2. *Concept Development*: Alternative ways to deal with the problem and meet the objective are identified
3. *Detailing*: Seemingly viable alternatives are refined to make their operating features clear, so they can be tested for workability.
4. *Evaluation*: Used to determine the merits (benefits, costs, and other features) of each alternative.
5. *Implementation*: Carried out to install the plan.

Not all five stages may be used for decision making. Nutt (*ibid*) suggests that there are a number of archetype processes that are distinguished by which of the five stages are included. These are summarised in Table C1 below.

*Table C1 Archetypal decision-making processes (Nutt, 1984)*

Process type	Theme	Stages activated	Frequency
Historical model	Adopt the practices of others	1, 3, 5	41%
Off-the-shelf	Aggressive and overt search	1, 3, 4, 5	30%
Appraisal	Seeking a rationale	1, 4, 5	7%
Search	Passive and defensive search	1, 5	7%
Nova	New ideas sought	1, 2, 3, 4, 5	15%

Moreover, within each stage, search, synthesis, and analysis are steps often used.

- *Search*: Used to gather information
- *Synthesis*: Relationships are derived, such as by using morphology to assemble ideas in a relational format.
- *Analysis*: Used to prune or to prioritize ideas, objectives, problems, potential solutions etc.

Like Mintzberg *et al*, Nutt used students to apply his model to organisational case studies (in 78 of them) and map their findings onto its structure. The example case he uses is in the cited paper is of the development of a renal dialysis centre (see Figure B1 below)

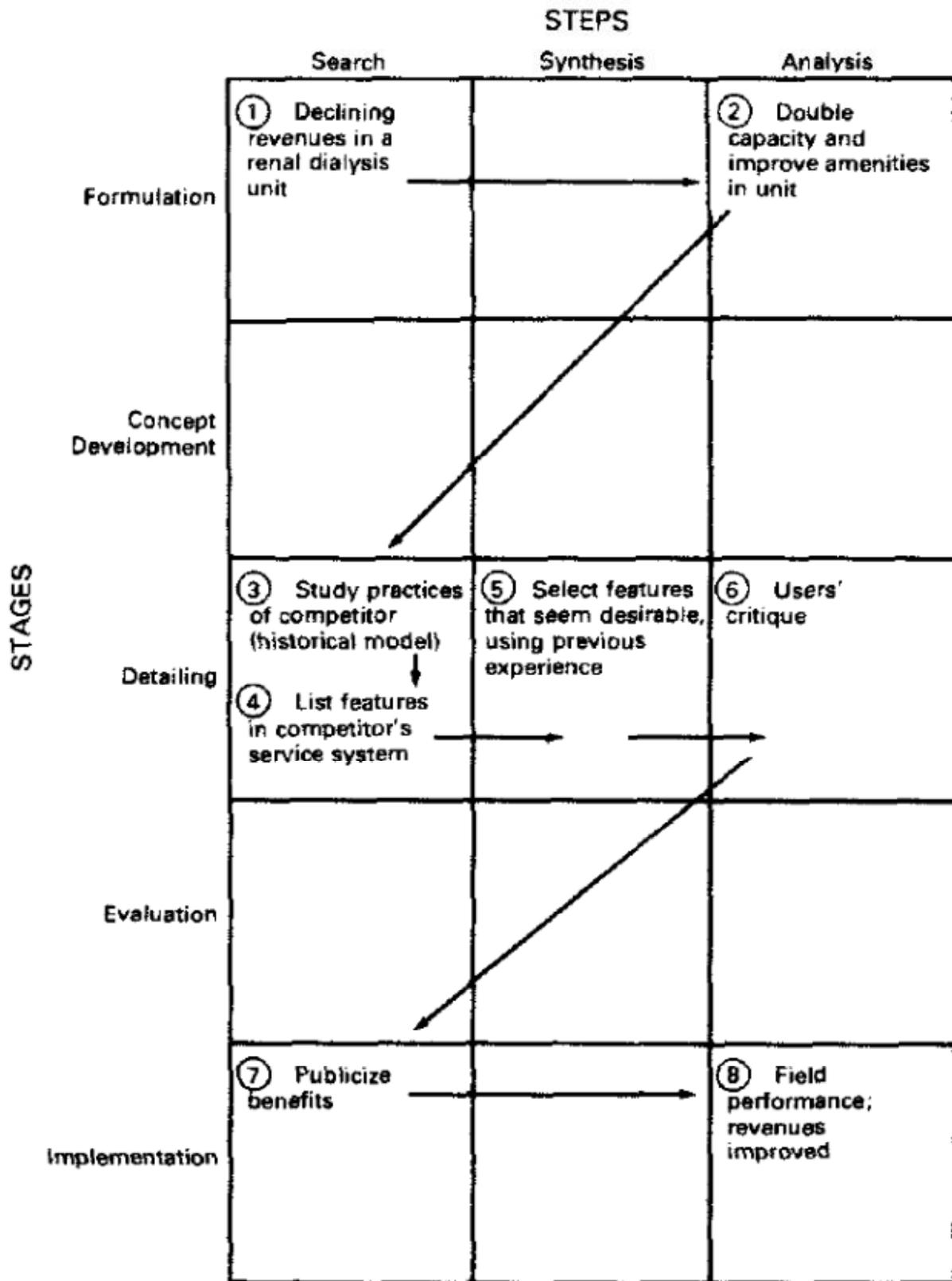


Figure B1 The development of a renal dialysis centre (Nutt, 1984:418)

Nutt's model seemed appropriate for the analysis because it broadly corresponds to descriptions of the design process that occur in the engineering design literature (Wynn and Clarkson, 2005) and also allowed the possibility of comparing between this and other case studies based on the archetypes. However, actual use of the model proved problematic for a number of reasons:

- The OPMH staff and commissioners who reviewed the analysis using Nutt's model found the logic and naming of the stages and steps framework confusing.
- Nutt's model pays insufficient attention of the cyclic, iterative nature of the decision-making in practice compared to, say, Mintzberg *et al.*'s.
- The researchers themselves had difficulty agreeing how to decompose and allocate decision-making activities to the cells within the grid due to insufficiently precise definitions of, and possible overlap between, the stages and steps. For example what is the difference between analysis step in each stage and the entire evaluation stage?

There is clearly a lesson here about choosing the right analysis framework for the job.