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# Why are organisations that provide healthcare services fuzzy?

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## RESEARCH

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## Abstract

**Background**

Healthcare organisations are an enigma to many people in- and outside the service. Organisational fuzziness is a common state, characterised by a lack of clarity, lack of awareness, lack of organisational knowledge, and the reliance on practice and custom instead of transparency.

**Aims**

The objective of this study was to obtain a better understanding of what causes this fuzziness and provide an actionable description of fuzzy organisations. Such a description is essential to managing and preventing organisational fuzziness.

**Method**

We used a longitudinal case study in an integrated health- and social care organisation to obtain a thorough understanding of how the organisation functions. These in-depth insights allowed the identification of three generators of fuzziness.

**Results**

We found that the three main generators of organisational fuzziness are change, informal organisation and complexity. Organisational fuzziness is thus partly due to the inherent complexities of human systems. However, also continuous change and the inability of the system to adapt its formal structures resulted in structures deteriorating or no longer being appropriate.

**Conclusion**

Existing approaches to explain unclear or absent structures in healthcare organisations by describing these organisations as complex adaptive systems (CAS) are too simplistic. While aspects relating to people and their interactions are indeed complex, fuzziness of structural aspects are often the result of continuous change and insufficient organisational capacity to adapt to it.

**Key Words**

Complexity; change; healthcare services; complex adaptive systems; healthcare organisations; service design

## What this study adds

1. Healthcare organisations can be difficult to understand and even more difficult to change. In the literature healthcare organisations have been described as CAS, a description with limited actionability.
2. This study differentiates between the formal and the informal organisation and identifies the latter as one of three generators of organisational fuzziness.
3. Knowing the generators of fuzziness can in turn lead to actionable strategies to enable change.

## Background

Healthcare organisations can be difficult to understand and even more difficult to change. One example is ubiquitous organisational boundaries. These exist on various levels: between professional groups, between primary and secondary care, and between the agencies involved in providing care.[1,2] Other factors that add to opacity of current services are dysfunctional financial incentives,[3-5] as well as duplication and the lack of integration.[6] In addition, authors, such as Plsek and Wilson,[7] frequently encountered and reported silos within organisations.

There is a scarcity of research evidence into the design of healthcare services, but to compound this, the existing evidence suggests that even well thought-through programs fall short of expectations.[8,9] A prerequisite for both, better design of healthcare services and research into how to achieve this, is a thorough understanding of healthcare organisations. This study aims to obtain such understanding

of a particular organisation and shine light on what makes organisations that provide healthcare services fuzzy. These insights then allow for a description of healthcare organisations that is more actionable than CAS in managing fuzziness.

Healthcare organisations are often fuzzy. Organisational fuzziness means that it is difficult to obtain an understanding of the organisation and especially to identify clear processes, a clear local vision or clear values. One manager in the organisation studied in this paper conceded: "I think it [the service] is probably designed more by luck than judgement". The way things were supposed to be done and the way things were actually done often differed markedly.

Recently healthcare has looked to other fields for new approaches (e.g. Six Sigma)[10] but unless healthcare organisations have clear and transparent structures, it will be impossible to assess whether underlying mechanisms can be transferred. In short, fuzziness hinders cross fertilisation between healthcare management and other fields.

Scholars have acknowledged fuzziness in healthcare, e.g. in the form of reluctance to follow guidelines, the importance of formal interactions, competing objectives and unclear cause and effect relationships,[11] and argue that healthcare organisations should be described as a wicked problem,[12] complex system or complex adaptive system (CAS).[7,13-15] Glouberman and Zimmerman distinguish three types of problems: simple, complicated, and complex ones.[16] The first type, simple problems, can be handled by clear rules. They consist of a relatively small number of parts that require only a low level of expertise and there is high certainty concerning the outcomes. Complicated problems, on the other hand, are also defined by clear rules and relationships, as well as high certainty about outcomes. However, they consist of a large number of parts and require higher levels of expertise. Finally, complex problems may or may not consist of a large number of parts. Yet the parts, their relationships and the rules governing complex problems can all keep changing. Expertise does not guarantee success with complex problems and there is a high degree of uncertainty about the outcomes. Complex problems are unique, non-linear and non-deterministic.[16,17] CAS are special cases of complex systems. The advantage of CAS is that, although they are non-deterministic, they can be modelled using agent-based models (AGM).[18] CAS are characterised by the following five attributes:[13,18] Internal inhomogenity, emergent behaviour, massive entanglement, adaptivity, and dynamic behaviour. Adaptivity implies that the systems are highly dependent on their context.[13,18-20]

One area which has seen significant changes in service provision is services for people with intellectual disabilities (ID). The UK Department of Health defines an intellectual disability as a combination of impaired intelligence and impaired social functioning which originated before adulthood and has a lasting effect on development.[21] An intelligence quotient (IQ) score of 70 or below is generally considered as an indicator for diagnosis, but the exact criteria for a diagnosis may vary between services.[22] People with ID may also experience acute episodes of illness, medically very similar to non-disabled people. However, these episodes become more complex in the presence of additional needs and hurdles, such as a lack of communication, physical impairments or challenging behaviour, usually seen as the remit of social care. ID breaks the mould of disease-focused medical specialism. Instead of an episode of a specific illness, the focus in ID is on a population and how to manage its well-being over an entire lifetime. This makes it an interesting case study, as the understanding of health has begun to shift, from being 'absence of disease' to a more holistic concept of 'physical, mental and social well-being'.[23]

In the UK it is the responsibility of the NHS to provide healthcare. In England, this is delivered by local primary care trusts. Social care is commissioned by the local authorities, such as county councils. Besides their function as commissioners, local authorities often also provide some services themselves. Provisions in the "Health Act" set the legal framework which allows health- and social care organisations catering to people with ID to pool resources, with one of the organisations formally leading.[24] We studied such a health- and social care partnership (in the following referred to as HSCP) in a mixed rural and urban county, which was founded in 2001 under the lead of the local authority. The service consists of five integrated community teams, one for each district of the county.

## Method

The initial aim of the study reported here was to investigate service design practices in the HSCP. However, structures and services were so opaque that the goal shifted to obtaining a thorough understanding of how the organisation works and what generates the observed organisational fuzziness. Based on these insights, it was then possible to suggest a more actionable description than the prevailing CAS approach in order to facilitate managing the observed organisational fuzziness.

The overall research design had to be flexible and focus on participants' views to explore the multiple organisational facets and realities. A longitudinal case study was considered to be the most appropriate approach. Studying a

particular organisation for an extended amount of time provides a first-hand, deeply contextual understanding of the issues it faces.[25] Other approaches, such as surveys or computer modelling, lack the contextual information or require giving up the outsider's perspective (e.g. ethnography). The case study combined retrospective investigations with over a year of regular interactions and enabled us to obtain rich insights into how the HSCP functions.

We used a mixed methods approach. Especially in the early phases, methods were predominantly qualitative; they required a thorough understanding of the actors, the context of action and the processes in which action is embedded. However, also quantitative methods, such written responses to a questionnaire (n=10), were used to complement the primary collection of qualitative interview and observation data. While these questionnaires allowed for qualitative analysis, due to the small sample size, the data was primarily used to triangulate findings that were based on qualitative data.

The three main sources of data were observations, the analysis of internal documents, and interviews with social care workers, clinicians and managers. Both formal interviews and informal interviews were conducted with management staff of the HSCP, members of its community teams as well as staff of the two organisations that constitute the partnership, the Local Mental Health Trust (LMHT) and the Local Authority (LA). Further interviews were conducted with staff from similar services, such as a local specialist service for people with acquired brain injuries (SSABI) and West Sussex County Council. Ten formal interviews took place, lasting between 40 and 85 minutes. Most of the eleven informal interviews took place in the context of regular meetings. The questionnaires used in the formal interviews evolved in the course of the study. Early interview would focus on procedural questions and obtaining a fundamental understanding of the service. In the later stages of the study, questions about the service became more detailed, information was clarified and verified and there were targeted quests for information.

Observations granted insights into how four of the five local teams worked. We were also able to participate in the meeting of the therapeutic art group in one of the localities and to attend the HSCP Board meeting. The six observational visits lasted between half a day and a full day. Power structures, work processes and staff experiences were area we particularly focused on. However, the visits were intended to be exploratory and thus rigid checklists would have been unduly constricting.

Furthermore, 26 policy documents were reviewed, as well as around 40 documents specific to the HSCP. These were either publicly available on the internet or had been supplied by interviewees. We gained access to 22 documents from the founding period of the HSCP between 2000 and 2003. Although this information was patchy, it was beneficial as written documents imply a higher a level of commitment to the content. Therefore, they are more definite than the interview or observation data and complement these.

We sought advice from the local Research Ethics Committee. The committee concluded that this project is a service evaluation and thus did not require formal ethics approval.

## Results

As mentioned in the methods section, it was difficult to obtain a clear understanding of HSCP and especially to identify clear processes, a clear local vision or clear values. The data gathered showed that there were three main themes to the organisational fuzziness of the HSCP: *lack of clarity*, *lack of awareness and organisational knowledge*, and *reliance on practice and custom* instead of transparency.

*Lack of clarity* - Firstly, the organisation was characterised by a climate of uncertainty. It took several weeks to assemble a simple hierarchy diagram of the organisation based on the interviews and available documents. By the time the diagram was finished, it was already out of date again due to staff turnover. Several interview partners also pointed out that a major restructure was imminent, although nobody knew any details yet and would not for several months. A recurring theme in interviews was a perception that there are structures that were once well defined, but eroded over time as other parts of the service and the context of the service changed.

*Lack of awareness and organisational knowledge* - A second major obstacle to obtaining an understanding of the organisation was the widespread lack of awareness and organisational knowledge. This was reflected in the difficulties encountered when assembling the hierarchy diagram. Individuals showed little awareness of the organisational structures and positions outside their direct line of management. The lack of organisational knowledge was also reflected by the written responses to a questionnaire (n=10) that had been distributed to staff from a cross-section of professions and teams. Participants were asked to state the purpose of their own work, their team's work and the organisation's work. One participant asserted that (s)he thinks the team does 'as much as they can' while

the organisation does 'I am not sure what'. Holders of similar posts described their respective roles in very different terms. One participant saw his or her work as one particular task, while another stressed the 'wide range of activities'. Several participants did not distinguish between role and purpose. Often there was no awareness of the big picture. In general, clarity about roles decreased as the entity got more abstract. The lack of awareness extended beyond purely structural aspects, several respondents commented on the lack of common goals and that due to the changes that have taken place over recent years there is a 'lack of coherent vision about the purpose of the organisation'.

There is further evidence from another study conducted as part of the CLAHRC project that looked at team climate and functioning (based on).[26] The questionnaire that was used in the study contained a block of questions about vision. Several participants did not answer these questions. Two participants who did were very frank about the lack of vision and objectives in the comment section: 'Difficult to answer if not clear about objective!! This assumes we have some!!'

*Reliance on practice and custom* - A third theme was the difficulty to identify responsibilities **–** both for service design but also more generally. During the observations we found that power did not always coincide with role but was at least in part based on personality and/or experience. Regarding service design, several job descriptions included design activities, but it became apparent as the study progressed that there was one person who was central to most change projects. However, this again seemed to be based mainly on his extensive experience with previous projects rather than his role. One interviewee summarised this approach as 'practice and custom instead of transparency'.

In order to better understand what generates organisational fuzziness, we returned to diagrams that we assembled during the data collection phase and used a modelling view to classify them.

Diagrams are classically used for data analysis and communication, but can also be useful in data collection, as Umoquit and co-workers[27] showed in a multidisciplinary systematic review. These authors found that the suitability of a diagrammatic approach depends on the type of data. Thus, diagrams can provide a vital link between data collection and data analysis. Through feedback and iteration, this can lead to more detailed and complete data collection and reveal gaps that would not have been obvious in written or spoken language.

A system can be represented in different 'modelling views'. A modelling view is a 'set of attributes or concerns with respect to which a system is described'.[28] It serves a particular purpose[29] and consists of a single or several diagrams.[30] There are different sets of views; all views of a set together form a comprehensive picture of the system. Eriksson and Penker[30] suggest a set of four different views to assemble a complete model of a business (
Table **1**). Their framework was originally developed to define functional and non-functional requirements for software and to provide a base for the analysis and design of systems. It therefore focuses on exploration and requirement setting. It is well established and has an appropriate level of detail. Applying it to this study allows linking the types of diagrams that could be drawn to how well certain aspects of the organisation are defined.

**Table 1: A comprehensive set of four different views of a business, according to Eriksson and Penker[30]**

| View | Focus |
|---|---|
| Business Vision View | overall vision, goal structure and key obstacles |
| Business Process View | activities and value creation, process-process and process-resource interactions |
| Business Structural View | structures among resources |
| Business Behavioural View | individual behaviour of re-sources and processes |

The analysis showed that most diagrams were either depicting structures or processes and that there was no diagram capturing the vision of the organisation. This is consistent with the lack of awareness and organisational knowledge. However, a closer examination revealed a difficulty with the modelling view concept: it assumes that certain aspects of the organisation can be drawn. However, for example the vision of the service is highly intangible. Espoused theories, world views and values people believe their behaviour is based on, are usually not the theories used to take action.[31] Thus a vision diagram could merely capture what people think they should be doing.

Hence, the absence of diagrams could imply either that the subject is complex and cannot be captured, such as behaviour on an individual level, or that the corresponding structures are absent.

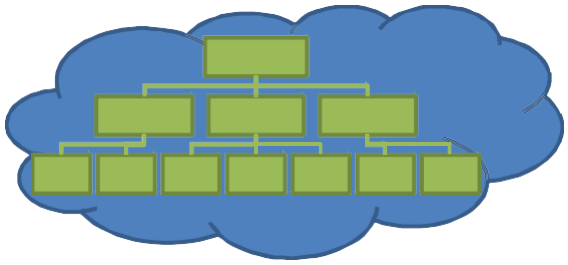
The definition above suggests that a 'complex formal organisation' cannot exist as the formal aspect of an organisation is characterised by its structures and processes. If they were complex the actors and their relationships would be continuously changing and could not be captured or defined. However, we were able to identify structures, such as hierarchies, protocols or pathways, even

if information was sometimes patchy.

While the formal aspects of the HSCP are thus either simple or complicated, the informal organisation can be highly complex. We found that this was reflected in the difficulties of defining the actual processes that were taking place. Sometime there was no protocol for the specific problem at hand and sometime protocols and pathways were situation-specifically modified. Also when comparing the hierarchy diagram with the actual organisation, it was found that there were individuals who had more influence than their position implied, often due to either personality or experience.

The formal and informal organisation was found to be deeply interlinked. In order to formally define a healthcare organisation, humans are reduced to medical conditions and professional roles and their relationships to power structures and guidelines. As such it is a simple or, more likely, a complicated system that has been set up to meet what are in reality often complex needs. It functions as 'scaffolding' for a complex system of the individuals who fill its roles (Figure 1). These individuals can deal with the often complex needs of their patients and can deliver a complex service within the complicated structure set by the formal organisation.

**Figure 1: Complicated organisational structures acting as scaffolding for complex human system**



We analysed our data by drawing a set of diagrams and found that there were certain aspects that we could draw, such as structures and processes, others were difficult to capture, such as visions, believes and actual behaviour. Thus, diagramming supported the distinction between the complicated organisational structures and the complex human system that they support. The latter, in turn, is instrumental in addressing the complex needs of the service users. The first type of complexity can be referred to as *internal complexity*, while the second type can be labelled external complexity. Hence, organisational fuzziness, the difficulty to define an organisation, is in part indeed due to complexity.

However, some gaps in the description were not due to complexity. Rather, the formal organisation was ill-defined or had eroded due to previous changes. This was the case for the hierarchy diagram, which was difficult to assemble but is clearly a formal part of the organisation. In those cases the complex system adapted by creating its own procedures. However, these are not formalised and as they exist without underlying formal scaffolding, they were perceived as organisational fuzziness.

Change is omnipresent and on a macro level continuous. This made it difficult to define structures and processes. As such it was the third major generator of organisational fuzziness. Yet, change was also highly non-uniform and while there were highly visible radical changes,[32-33] most developments appear to be local and small-scale. An example for the latter is the so-called 'Eating and Drinking Skills Clinic'; it started as a local, small-scale initiative and its disintegration has been gradual and unintentional. Also a combination of both is common: a radical change to one part of the system is followed by evolutionary local adaptations of other parts to these new circumstances. This was the case with the introduction of personal budgets and direct payments.[31] Following this radical change local adaptations, for example in the role and self-perception of case managers, took place. These small changes are emergent as they are driven by individuals in an often pragmatic fashion and can lack a clear vision. Over time, as circumstances change, this can lead to the erosion of previously well-working processes, as happened in the case of the Eating and Drinking Skills Clinic. Sustained radical or systemic change was by comparison rare and had to be driven by powerful external drivers, such as for example the government policies on integrated teams[21] or on self-directed support.[34]

## Discussion

This works shows that the three most important generators of organizational fuzziness are *complexity, informal organisation* and *change*. The aspects of organisational fuzziness that stem from truly *complex* aspects are inevitable and not necessarily bad. This type of fuzziness allows the organisation to adapt to its context, in particular the heterogeneity of its staff and of the needs of its patients.

While fuzziness due to true complexity is inevitable, fuzziness caused by the other two generators can be prevented. Incomplete change propagation can lead to Ill-defined structures, which can be seen as an emerging informal organisation bridging gaps in the formal one. As an emerging structure, it lacks a blueprint or big picture and individuals are usually only aware of the parts that directly concern them. However, this points towards a solution for

this type of fuzziness: Van Aken[35] argued for a multiple step design process where in a "second redesign" the formal structures, put in place in the first attempt, are adapted to account for what had emerged in practice.

The description of healthcare organisation as a CAS, does not capture this distinction between true complexity and local emergence due to the absence of structures. Another weakness of CAS is that they are compelling descriptions but usually do not offer much insight into how to mitigate problems. They stress the importance of creating the right circumstances to allow desirable behaviour to emerge but do not specify how to do so. By contrast, distinguishing complex and complicated or simple aspects allows deriving action plans. Suitable design processes could help to propagate externally induced changes and support coherent evolutionary change. Furthermore, it opens up new specific research questions into the relationship between the structures and the complex human system forming around them. It is likely that other fields, such as knowledge management or organisational learning, have valuable insights that are applicable to these questions.

Differentiating the generators of fuzziness enables those in charge of designing healthcare services to take adequate measures to manage fuzziness – or flag up instances where commonly applied techniques are destined to fail. Complex problems can be simplified by increasing certainty and agreement.[14,36] For example certainty can be increased through bespoke and individually designed solutions. [37] But this is expensive and services have only limited resources. Therefore, in practice this is done through ideology or routines and standards.[37] The resulting standardised services will cater to majority of cases rather well, but come at the cost of exclusion of cases that do not fit the scheme. This is particularly problematic when it comes to specialist services for people who are excluded from other services, e.g. people with ID. Being aware of the ideas outlined in this paper can help making the case for additional resources by arguing why standardization is not feasible.

## Conclusion

Organisational fuzziness is a problem for healthcare services, particularly in times of austerity when there is political pressure for increased efficiency. This work showed that explaining unclear or absent structures in healthcare organisations by describing these organisations as CAS is too simplistic. Instead we present a more actionable framework by presenting different generators of fuzziness which have to be managed in different ways.

Interesting future directions for this research will be to better understand the balance of managing complexity through simplification (often out of economic imperatives) and ensuring that people are not excluded from vital services. It will also be interesting to further explore the idea of planned redesigns further to reign in informal organisational structures due to incomplete change propagation: How often should these redesigns takes place? Which degree of freedom is required by the inherent complexity and what is harmful fuzziness?

## References


1. Greenhalgh T, Humphrey C, Hughes J, MacFarlane F, Butler C, Pawson R. How Do You Modernise a Health Service? A Realist Evaluation of Whole-Scale Transformation in London. Milbank Q. 2009;87(2):391–416.
2. Clarke CL, Wilcockson J. Seeing need and developing care: exploring knowledge for and from practice. Int J Nurs Stud. 2002 May;39(4):397–406.
3. Rosenberg RN. Translating Biomedical Research to the Bedside. JAMA. 2003 Mar 12;289(10):1305–6.
4. Berman L, Rosenthal MS, Moss RL. The paradoxical effect of medical insurance on delivery of surgical care for infants with congenital anomalies. J Pediatr Surg. 2010;45(1):38–44.
5. Paton C. Present dangers and future threats: some perverse incentives in the NHS reforms. BMJ. 1995;310(6989):1245–8.
6. Bierema LL. Systems thinking: A new lens for old problems. J Contin Educ Health Prof. 2003;23:S27–S33.
7. Plsek PE, Wilson T. Complexity science: Complexity, leadership, and management in healthcare organisations. BMJ. 2001 Sep 29;323(7315):746–9.
8. Grol R, Grimshaw JM. From best evidence to best practice: effective implementation of change in patients' care. Lancet. 2003;362(9391):1225–30.
9. Grimshaw JM, Thomas RE, MacLennan G, Fraser C, Ramsay CR, Vale L, Whitty P, Eccles MP, Matowe L, Shirran L, Wensing M, Dijkstra R, Donaldson C. Effectiveness and efficiency of guideline dissemination and implementation strategies. Health Technol Assess. 2004;8(6):1–72.
10. Chassin MR. Is Health Care Ready for Six Sigma Quality? Milbank Q. 1998;76(4):565–91.
11. Kernick D. Wanted-new methodologies for health service research. Is complexity theory the answer? Fam Pract. 2006 Jun 1;23(3):385–90.
12. Buchanan R. Wicked Problems in Design Thinking. Des Issues. 1992 Apr 1;8(2):5–21.
13. Begun JW, Zimmerman B, Dooley K. Health care organisations as complex adaptive systems. Advances

in Health Care Organisation Theory. San Francisco: Jossey-Bass; 2003. p. 253–88.
14. Plsek PE, Greenhalgh T. Complexity science: The challenge of complexity in health care. BMJ. 2001 Sep 15;323(7313):625–8.
15. Kernick D. Can Complexity Theory Provide Better Understanding of Integrated Care? JICA. 2003 Oct 1;11(5):22–9.
16. Glouberman S, Zimmerman B. Complicated and Complex Systems: What Would Successful Reform of Medicare Look Like? In: Forest P-G, Marchildon GP, McIntosh T, editors. Romanow Papers: Changing health care in Canada. Toronto: University of Toronto Press; 2004. p. 21–53.
17. Rogers PJ. Using programme theory to evaluate complicated and complex aspects of interventions. Evaluation (Lond). 2008;14(1):29–48.
18. Chu D, Strand R, Fjelland R. Theories of complexity. Complexity. 2003;8(3):19–30.
19. Shiell A, Hawe P, Gold L. Complex interventions or complex systems? Implications for health economic evaluation. BMJ. 2008 Jun 7;336(7656):1281–3.
20. Zimmerman B, Lindberg C, Plsek PE. Edgeware: Complexity Resources for Healthcare Leaders. Dallas: VHA Publications; 1998.
21. Department of Health. Valuing people: a new strategy for learning disability in the 21st century. London: Department of Health; 2001.
22. American Association on Intellectual and Developmental Disabilities. Definition: Intellectual Disability [Internet]. 2009 [cited 2009 Jul 1]. Available from: http://www.aamr.org/content_96.cfm?navID=20
23. World Health Organization. Constitution of the World Health Organization [Internet]. World Health Organization; 1989 [cited 2011 Aug 13]. Available from: http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf
24. Great Britain. Health Act 1999. London: Stationery Office;
25. Yin RK. Case study research: Design and methods. 2nd ed. Thousand Oaks, CA: Sage Publications, Inc; 1994.
26. Anderson NR, West MA. Measuring climate for work group innovation: development and validation of the team climate inventory. J Organ Behav. 1998;19(3):235–58.
27. Umoquit M, Tso P, Burchett H, Dobrow M. A multidisciplinary systematic review of the use of diagrams as a means of collecting data from research subjects: application, benefits and recommendations. BMC Med Res Methodol. 2011;11(11).
28. Jun GT. Design for patient safety: A systematic evaluation of process modelling approaches for healthcare system safety improvement [PhD thesis]. Cambridge University; 2007.
29. Holt J. UML for systems engineering: watching the wheels. 2nd ed. London: IET; 2004.
30. Eriksson HE, Penker M. Business modeling with UML. New York: Wiley; 2000.
31. Argyris C, Schön DA. Theory in practice: Increasing professional effectiveness. San Francisco: Jossey-Bass; 1974.
32. Taylor NSD. Obstacles and Dilemmas in the Delivery of Direct Payments to Service Users with Poor Mental Health. Practice. 2008 Mar;20(1):43–55.
33. Aspray TJ, Francis RM, Tyrer SP, Quilliam SJ. Patients with learning disability in the community. BMJ. 1999 Feb 20;318(7182):476–7.
34. Department of Health. Our health our care our say: a new direction for community services. London: Department of Health; 2007.
35. van Aken JE. Design Science and Organization Development Interventions. J Appl Behav Sci. 2007 Mar 1;43(1):67–88.
36. Stacey RD. Strategic Management and Organizational Dynamics. London: Pitman; 1996.
37. Heyman B, Swain J, Gillman M. Organisational simplification and secondary complexity in health services for adults with learning disabilities. Soc Sci Med. 2004 Jan;58(2):357–67.

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## ETHICS COMMITTEE APPROVAL

Not necessary according to Cambridgeshire 3 Research Ethics Committee