

Designing easy access to care for first episode psychosis in complex organizations

Kristin Lie Romm^{a,b}, Erlend Strand Gardsjord^{b,c}, Kristine Gjermundsen^b, Manuela Aguirre Ulloa^{d,e}, Lars-Christian Berentzen^b, Ingrid Melle^{a,b}

^a Institute of Clinical Medicine, KG Jebsen Centre for Psychosis Research and Norwegian Centre for Mental Disorders Research, Faculty of Medicine, University of Oslo, 0318 Oslo, Norway

^b Division of Mental Health and Addiction, Oslo University Hospital, 0407 Oslo, Norway

^c Institute of Clinical Medicine, Faculty of Medicine, University of Oslo, 0318 Oslo, Norway

^d The Oslo School of Architecture and Design, 0175 Oslo, Norway

^e Designit, 0172 Oslo, Norway

*Corresponding author:

Kristin Lie Romm, Tel: 0047 97009863, E-mail: k.l.romm@medisin.uio.no, Postal address: Early Intervention In Psychosis Advisory Unit for South East Norway, Oslo University Hospital, Gaustad sykehus, Sognsvannsveien 21, Oslo, Norway

E-mail addresses:

erlensg@medisin.uio.no

uxgjek@ous-hf.no

manuela.aguirre@aho.no

labere@ous-hf.no

Ingrid.melle@medisin.uio.no

Abstract

Aims: Developing early intervention services (EIS) in health care organizations (HCOs) is difficult because it is necessary to integrate service approaches across units. To accommodate the needs of patients and relatives, Oslo University Hospital (OUH) chose to use service design (SD) to redesign their first-episode services with an emphasis on easy access to care. This paper discusses the results and how SD can help to overcome known barriers to change in complex organizations.

Method: SD is a method that relies on principles of participation, innovation and visualization to develop coherent services. The method emphasizes the exploration of a problem area from the perspective of multiple stakeholders to create a shared understanding of the complexity. Idea generation, visualization and early modelling of possible solutions are employed to test alternatives involving stakeholders.

Results: A low threshold EIS was developed. A helpline with a specialist managing the phone was established. High-quality assessment regarding possible psychosis development was thus made available to patients, relatives and professionals, eliminating the need for paper referral. This approach was supported by a communication strategy that includes web-based information. A dedicated cross-specialist team was established to increase collaboration in complex cases. Finally, outreach services were improved.

Conclusion: SD is a suitable method to incorporate the views of different stakeholders (patients, relatives and professionals) to develop EIS services in complex organizations and can help overcome known barriers to change in HCOs.

Keywords: Psychosis, first episode psychosis, early intervention, service design, innovation AND mental health

Introduction

Early intervention in psychosis (EIP) is associated with better outcomes and reduced costs, but the implementation of early intervention services (EISs) in health care organizations (HCOs) is lacking in many parts of the world (Drake & Essock, 2009; McGorry, 2015; McGorry, Purcell, Goldstone, & Amminger, 2011).

The complexity of HCOs is a potential reason for the failure to implement evidence-based practices (Nembhard, Alexander, Hoff, & Ramanujam, 2009). HCOs aim to deliver highly predictable and effective services and at the same time avoid hazards (Carroll & Rudolph, 2006). Predictability and effectiveness can be made possible by rigid organizational structures, yet implementing complex procedures within these structures may be extremely difficult (Heyeres, McCalman, Tsey, & Kinchin, 2016; Jun, Morrison, & Clarkson, 2014; Nembhard et al., 2009). However, if services can manage complex patterns of morbidity and focus on integrating different service streams, they have the potential to improve access to care, service engagement and treatment quality (Heyeres et al., 2016; McGorry, 2015; Singh et al., 2010).

The usual approach to change in HCOs is based on the assumption that the workforce will work out the details as they go, without considering possible failures and without having provisions for the stresses that workload and urgency will place on the process (Plsek, 1997). Furthermore, organizational features such as the following, contribute to the risk of implementation failure (Nembhard et al., 2009). 1) There is a workforce aversion to experimentation, which is a prerequisite to the successful implementation of new ideas. 2) There is an aversion to the collaborative learning required to master interdisciplinary innovations due to a lack of interest in organizational improvement efforts. 3) Leaders and the workforce both struggle to place collective goals above self-interest. 4) The detection of

implementation problems is often followed by a subsequent lack of adjustment. As incentives do not favour implementation, individuals in HCOs thus circumvent attempts at reorientation (Locock, 2003; Pettigrew & Fenton, 2000).

To improve service innovation, HCOs have recently been looking to other high-risk organizations, such as nuclear power plants and air traffic control agencies. These organizations rely on industry and service innovation methods to handle challenges, to understand their service users, find bottlenecks and apply scenario building practices to avoid disasters (Carroll & Rudolph, 2006; Jones, 2013; Young et al., 2004). They manage risks prospectively, as opposed to the HCOs' tendency to have a reactive focus, analyse adverse events (Jun, Ward, & Clarkson, 2010) and give low priority to space for critical reflection (Locock, 2003).

There has recently been a call to involve service users when designing services to better adjust to their needs (Sederer, 2009; Weinstein, 2006). However, participation has been perceived as an act of tokenism rather than a genuine wish to involve users (Arnstein, 1969; Morrison & Dearden, 2013; Ocloo & Matthews, 2016). One reason for this could be the lack of a good methodology for how and when to involve users. Service improvement seems to benefit more from the use of more expensive qualitative methodologies rather than survey feedback based on *a priori* focus areas (Cooper, Gillmore, & Hogg, 2016; Tsianakas et al., 2012). In addition, there is a lack of tools and methods to *represent* the complexity and dynamics of the systems under change (Barach & Johnson, 2006; Clarkson et al., 2004).

Service design (SD) is a new field in which design, anthropology, psychology, management and process engineering skills are combined to support the development of human-centred services (Brown, 2011; Stickdorn, 2012). It is seen as particularly effective early in

innovation processes or when it is clear that current attempts at problem solving are not working well or have failed (Plsek, 1997; Roberts, Fisher, Trowbridge, & Bent, 2016). SD favours highly diverse and collaborative project teams and the action-oriented testing of possible solutions based on user-derived insights (Roberts et al., 2016). SD aims to ensure that service interfaces or ‘touchpoints’ (i.e. where patients interact with the clinical world) are useful, usable and desirable from the user’s point of view and are effective, efficient and distinctive from the supplier’s point of view (Mager, 2009). This is achieved using the following five key principles. 1) The service users are always at the centre of development. 2) Service development should be co-creative and involve all those who are part of the service system. 3) Services should be sequentially visualized (on paper/digitally), and key moments in a patient’s journey should be identified to ensure coherence. 4) The different elements of a service need to be verified by service users. Being aware of the service touchpoints ensures a sense of coherence. 5) The entire experience of a service from the patients’ point of view and not only the effectiveness must be taken into account (including the moments before and after patients interact with the service).

Despite being in the forefront when it comes to research on early detection and intervention, (Hegelstad et al., 2012; Larsen et al., 2006; McGorry, 2015; Melle, Larsen, Haahr et al., 2008), Norway is no exception when it comes to the problem of implementing EISs. In 2013, the Clinic of Mental Health and Addiction (CMA) at Oslo University Hospital (OUH) conducted a file audit of 88 first episode patients (FEPs) referred to the psychosis services in 2012. The audit revealed that the duration of untreated psychosis (DUP) varied between the hospitals’ two outpatient departments, with a median of 80 weeks vs. 24 weeks. Of the 54 new patients treated for schizophrenia in 2012, 19 (35%) had previously approached the CMA with similar symptomatology without identification of their psychotic disorder, suggesting the

lack of a thorough assessment at first contact. Finally, the threshold for access to care differed across the outpatient units. Based on this, the CMA wanted to explore whether SD could serve as a tool to redesign the EIP service across the clinic. In this paper, we aim to describe the process and results of SD as a method to improve access to care for FEPs and discuss how design thinking can help in overcoming barriers to change in complex HCOs.

Methods

A steering group consisting of top and middle management from the clinical departments, clinicians from the involved units, user representatives, a community GP and a representative from the hospital's Innovation Unit was created. A project group consisting of a project leader (KLR), a psychiatrist in the outpatient department (LCB), a communication advisor (KG) and a representative from the Innovation Unit was then established. Two service designers facilitated the process. Workshop and interview participants were selected by middle management leaders from the involved units. Patients and relatives were selected by their clinicians.

The UK's Design Council describes the design process as a double diamond (Design Methods for Developing Services, 2011; Fig. 1.), encouraging divergent and convergent thinking to facilitate innovative problem solving. A design process is divided into five phases (Locock, 2003). Following is a description of these phases in relation to the current project (see Table 1 for an overview).

- Phase 1: *Discover and explore*—Participants covered FEP treatment; general, acute, child and adolescent psychiatry; and addiction medicine. Two GPs, two user representatives and an Innovation Unit representative were present for the workshop. The designers took notes and used post-it notes on a timeline while collecting material (Sanders & Stappers, 2014). Thus, the views and experiences of the professionals,

patients and relatives became visible. The role plays informed about existing conditions through active engagement with the service (Buchenau & Suri, 2000).

- Phase 2: *Define problems*—The designers did the preliminary sorting and analysis of the data, creating a ‘rich design space’ (Sevaldson, 2008) by mounting notes and stickers on a wall to provide a common area for sorting and reflection. They persistently asked questions such as *why* each step in the known patient journey was undertaken, by whom, where and in what sequence. The project group was invited to reflect and help reframe the new insights into themes that could be presented in the ideation workshop.
- Phase 3: *Develop ideas*—The idea-generating workshop was conducted to explore *what an ideal process of referral might look like* using divergent thinking. The aim was to find solutions to current problems while preserving what worked well.
- Phase 4: *Deliver propositions for new service solutions*—Notes from the workshop and post-it notes from exercises and drawings from the idea generation stage were categorized into themes of central importance to service optimization. The themes were then contextualized and visualized as scenario-based cartoons representing different solutions.
- Phase 5: *Testing and evaluation*—The proposed solutions were presented to stakeholders before the last adjustment. Based on their feedback, the steering group then decided on a final solution to be implemented and tested.

Results

The CMA implemented a new EIS with five key components (see Table 2), as follows:

- An EIS direct phone line. This is a low threshold service where a specialist in early psychosis is able to make rapid assessments when someone suspects psychosis. The phone is available for the public, clinicians and GPs.

- There is no need for written referrals to access the service.
- Internal and external communication strategies to ensure a common understanding of the service were developed. New web pages offer information about the service and about the symptoms of early psychosis. Educational materials for schools and community workers were produced.
- A cross-specialist assessment team was established to be consulted in complex cases. The team consists of experts on psychosis, bipolar disorder, addiction medicine, personality disorders and trauma-related disorders.
- Improved outreach services.

The new service model was launched in March 2017, with the direct phone line operative from January 2017. The test period was set to one year. The planned evaluation in 2019 consists of a new file audit looking at DUP, previous contact, pathways to care, family involvement, service satisfaction and use of coercion. A recent evaluation of the EIP phone service is presented in Table 3. The cross-specialist assessment team has met regularly four times over one year. It has recently decided to work more like a diagnostic forum and to invite clinicians to join case discussions to raise awareness of the benefits of cooperation across disciplines.

Discussion

SD informed and shaped the process of establishing a patient-centred, low-threshold service led by a specialist. Efficiency was increased with a detailed communication strategy and reduced bureaucracy. The service aligns with previous research on optimized early detection services (Larsen, Joa, Langeveld, & Johannessen, 2009). Visualized maps of the patients' journeys made it evident that both users and professionals from all units are part of the same service chain. This is important because we tend to point to 'the others' as the obstacle when

there is a lack of coherence (Roberts et al., 2016). Increased collaboration across units occurred as the result of both patients' and relatives' frustration with complex symptom pictures and the lack of necessary competencies. We still need to determine how we can optimize this group. Diagnostic discussion can be a tool for further development. This is important, as better health service integration is needed to build more efficient HCOs (Heyeres et al., 2016).

In line with previous research, narratives and quotes from relatives and patients presented by outsiders offered insight without personal interests being suspected (Jun et al., 2014).

Designers are not constrained by organizational limitations and are therefore free to say the unsayable and offer insight without giving consideration to 'the way things work around here'. The common understanding of existing problems made it possible to place collective goals above self-interest, which has proven to be a challenge (Nembhard et al., 2009). The staff involvement and bottom-up process spurred an interest in organizational improvement, which is important because it is known to increase the likelihood of successful implementation (Nembhard et al., 2009).

Co-production and idea generation facilitate divergent thinking to generate a wide range of solutions to a given problem regardless of existing restraints (Brown, 2011; De Bono, 1993). The method applied in this context is at odds with the usual top-down, policy-driven approach to service development and quality improvement (Massey & Munt, 2009; McGorry, 2015). It involves open, collective activity that includes all stakeholders as equal partners (Pirinen, 2016). An external Norwegian report focusing on the user participants in this study confirmed that they felt involved and that they felt their opinions were valued. While relatives often criticize the system for not recognizing their knowledge (Askey, Holmshaw, Gamble, & Gray,

2009), design thinking fosters attentiveness to the needs of the other stakeholders and cultivates an openness to criticism (Stickdorn, 2012). With management and organizational support, divergent thinking can make it possible to solve dilemmas by being able to focus on solutions instead of being defensive (Cramm, Strating, Bal, & Nieboer, 2013; Hyde & Davies, 2004).

In line with previous research, the service models that were visualized and *sequenced* ensured that the collaboratively proposed solutions could be discussed, that the risks could be managed and that the validity and safety of the solutions could be confirmed (Tucker, Nembhard, & Edmondson, 2007). The service prototyping made the service ‘tangible’ and represented a safe way of experimentation (Stickdorn, 2012). It fostered a willingness to engage and experiment with innovative problem solving. This is in line with the literature showing that creativity seems to be easier to accept when the benefits are tangible, direct and fairly immediate (Massey & Munt, 2009). It is also in line with methods used in other high-risk organizations where scenario testing is preferred when testing new ideas (Jun et al., 2010) and where awareness of the different elements in a service chain is crucial to achieve coherence (Ostrom et al., 2010).

The application of SD principles made it clear that the help-seeking process starts at home. HCOs seldom consider this first part of the service chain as relevant to their work, but they should. A study of professionals’ and service users’ definitions of continuity of care (COC) (Sweeney et al., 2016) found that access to care and information were important to service users but were seldom identified as important by professionals. In contrast, professionals had significant concerns regarding impediments to collaboration across specialized areas in HCOs, in line with our findings. Because patients experience COC to be associated with

quality of care, improvements may indirectly increase the experience of quality (Bachrach, 1981; Sweeney et al., 2012).

The phone service seems to reach mothers who play an active role in seeking help. However, 60% of those calling did not live in the CMA catchment area. This might imply a general lack of specialist assessments and advice, high thresholds to care or a lack of information about where to seek help. As 25% of those calling found the phone number on the hospital's web site, they probably knew where they were calling. A regional specialist phone service with knowledge about the various EIP services might be an idea. Using a trained specialist to do the initial assessments is innovative and disrupts the usual service stream where specialists tend to be shielded behind less experienced personnel serving as gatekeepers. 'The expert in front' approach is a result of the self-described needs of patients, relatives *and* clinicians. However, there were concerns whether the service would be necessary and/or time consuming. Existing large workloads were perceived to be at odds with including people with lower symptom burdens. To be able to work around this, back-up plans for how this could be dealt with on a practical level were discussed. As the phone service has turned out to be less time consuming than expected, it is quite acceptable.

Limitations

Economic constraints made it difficult to ensure that all stakeholders were able to attend all workshops, which could have enabled broader anchoring of the project. The 15 service user stories may not be representative of all service users at the CMA; for example, ethnic minorities were under-represented.

Conclusion

"...there will always be a bottleneck; the decision is where you want it" (Young et al., 2004).

Access to care is a bottleneck with serious long-term effects because it delays treatment. SD is

a useful tool to create change and improve service development in complex HCOs. The method described here made it possible to define a shared understanding of common problem areas and made it possible to set collective goals above individual and group interests. The major strength of this method is the focus on co-creation and divergent thinking, which helped participants to experiment and generate an interest in organizational improvement. However, innovative ideas often need innovative economic incentives to ensure implementation.

Therefore, service development is also a health policy issue.

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Table 1. Phases and activities in the design process

Phase 1 Discover and explore		Phase 2 Define problem		Phase 3 Develop ideas	Phase 4 Propositions for new service solution	Phase 5 Testing and evaluation
Data collection	Aim	Analysis	Synthesis	Idea generation	Work out alternatives	Testing for final solution
One exploratory workshop with 25–30 key stakeholders and user representatives	To get to know the service and its actors	The designers created a ‘rich design space’ where all raw data was exposed on the walls. Material from post-it notes and interview notes and quotes were clustered into themes and problem areas. These focused on problem areas that were considered feasible to solve.	Each problem area was reframed as an insight with potential for action, backed up with quotes from the material. These actionable insights were used as a basis to inspire key stakeholders to ideate solutions.	An ideation workshop with 30 participants from 14 departments and 2 user representatives was conducted. Actionable insights were presented and ideas were developed in groups.	The designers created a new ‘rich design space’ to synthesize the material, looking for patterns among the ideas. Finally, three different solutions to the previously identified problem areas were chosen to be presented to stakeholders and user representatives.	Based on the feedback from phase 4, an adjusted final solution was chosen by the steering group to be implemented and tested in the clinic.
28 interviews representing 15 patient journeys and 13 interviews with health professionals	To map the patient journey and enable identification of problem areas and opportunities for innovation					
Two role plays with 3 health professionals (2 psychiatrists and 1 psychologist)	To do contextual inquiry for more in-depth understanding of the steps in a referral situation					
One focus group with healthy youth	To understand how the service could implement a more youth-friendly approach					

Table 2. Problems/needs defined during the process and the final solution.

Problem/needs elicited during the process	Quotes from workshop/interviews were used to guide the process of problem solving	Solution
<p>No clearly defined strategy for how to meet people when someone suspected a developing psychosis.</p>	<p><i>“We tried to get help, but felt that no one was listening”</i> (relative)</p> <p><i>“No one takes responsibility - “it’s not my table” - and then they send you around”</i> (relative)</p>	<p>One direct phone line covering the hospital answered by a specialist in psychiatry or psychology</p> <p>This offered a more coherent service where information and advice could be exchanged without delay, and further assessment planned.</p>
<p>Referral note from a GP mandatory, thus potentially delaying access to care</p>	<p><i>“Sometimes we reject a referral because it lacks necessary information”</i> (clinician)</p> <p><i>“Mental health is more complex than breaking a leg, we need more extensive information in the referral note such as symptoms and symptom load”</i> (clinician)</p> <p><i>“What do you need referral notes for, when the patients don’t want treatment?”</i> (relative)</p>	<p>No referral note necessary. The GP could be informed after the first assessment.</p> <p>Direct communication makes it easy to collect the necessary information to make a preliminary assessment of the need for help and how this can be planned.</p>
<p>No clear information strategy to the public or other service partners about the EIP services</p>	<p><i>“I have heard very little about the early intervention services. I call the regular out-patient clinic and expect them to tell me what to do”</i> (GP)</p>	<p>New internal and external communication strategies about the low threshold access to care service.</p>
<p>Lack of cooperation between specialized areas in complex cases with comorbidity/dual diagnosis</p>	<p><i>“Why is it so hard to get help from other disciplines within Oslo University Hospital?”</i> (clinician)</p>	<p>A cross-specialist assessment team with the possibility to contact experts in other fields to get a second opinion.</p>
<p>When a person resisted assessment after being referred by the GP, their case was closed after three invitations for a meeting</p>	<p><i>“I needed help with my economy, that would have been a way to engage me”</i> (patient)</p> <p><i>“I appreciate that they tried voluntary treatment first”</i> (patient)</p> <p><i>“I wish there was someone that could reach out and see the whole person and work with engagement and trust.”</i> (relative)</p> <p><i>“The GP summoned NN four times, but NN never turned up”</i> (relative)</p>	<p>More outreach work was prioritized to avoid long DUP and reduce coercion.</p> <p>Extra emphasis was made on engagement and trust.</p>

Table 3. Calls to the EIP phone service from January 2017 to March 2018.
(n (%) if not otherwise specified)

EIP phone service	
Number of calls	62
Duration of calls (mean/range)	15 min /2 min–50 min
Found number on internet	25 (40%)
Calls relevant for further assessment	42 (75%)
Calls from the CMA catchment area	17 (40%)
Other catchment areas	25 (60%)
Role of person calling, n=51	
Mother	27 (53%)
Father	2 (4%)
Friend	3 (11%)
Health professionals	14 (27%)
Social services/School	4 (8%)
Patient	2 (4%)
Age of patient (mean/median)	22/22

Figure 1. The Double Diamond: In creative processes, possible ideas are generated ('divergent thinking') before refining and narrowing them down to the best idea ('convergent thinking'). This happens twice, once to confirm the problem definition and once to create the solution.

