LOTTERY FUNDED

economics as if people and the planet mattered

Changing systems for people with multiple needs: Learning from the literature

CHANGING LIVES

Oasis Aquila Housing

MENTAL HEALTH CONCERN

Written by: Juliette Hough
With thanks to: Alice Evans and Charlotte Millar for sharing their expertise, and Kat Wall for conducting additional research

New Economics Foundation
www.neweconomics.org
info@neweconomics.org
+44 (0)20 7820 6300
@nef

Registered charity number 1055254

Contents

Contents **2**

Summary **4**

Introduction 4

Systems thinking 4

Systems change 5

Mapping systems 5

Some learning and questions to collaboratively explore 5

Introduction **8**

Systems thinking **9**

About systems thinking 9

What is a system? 9

Case study: different purposes and perspectives within systems 11

System failure 12

Systems thinking and people with multiple needs 12

Mapping systems **14**

How systems change **17**

Two approaches to systems change 17

Principles for systems change 18

Leading systems change 21

Creating bigger change 24

Challenges to systems change **25**

Overviews of challenges 25

Case study: the ‘failure’ of the personalisation movement? 27

Power and vested interests 28

Policy resistance 28

The desire for simple solutions in a complex world 28

Pressure, stress and anxiety about externally imposed change 28

‘Second order change, first order mindset’ 29

Evaluation and the role of evidence 30
Continuous learning and reflection 30
Dynamic theories of change rather than static logic models 31
Measuring the right things 32
Collecting evidence to influence bigger systems 33
Evidence, innovation and risk 34
Discussion: learning from the literature 36
Some learning and questions to collaboratively explore 36
Endnotes 39

Summary

Introduction

This is the summary of a selective review of literature relating to systems change. Its purpose is to be of practical use to the people involved in the Fulfilling Lives project in Newcastle and Gateshead.

Fulfilling Lives[1] is an eight-year programme funded by the Big Lottery aimed at people with multiple needs - individuals who are likely to experience at least three of the following: homelessness, reoffending, problematic substance misuse and mental ill health. The programme aims to bring different organisations and services together to offer people one co-ordinated support service that meets all their needs. One of the intentions of the project is to change systems for people with multiple needs.

Systems thinking

Systems thinking is a way of understanding problems and how they can be solved. A system is made up of, for example, people, things and relationships, as well as of perspectives, values and purposes.

> *'A system is a configuration of interacting, interdependent parts that are connected through a web of relationships, forming a whole that is greater than the sum of its parts (Holland 1998).'*[2]

The system someone with multiple needs interacts with is a complex web of services including housing, criminal justice, substance misuse and mental health services. Within this broader system are sub-systems that might include (for example) hostels, support workers, families and individuals.

Systems thinking says that:

- The systems that people interact with can cause problems, even when they are designed to help people.
- We can solve problems by seeking to change these systems.

For example, some systemic problems facing people with multiple and complex needs might include: being discharged from hospital or prison onto the streets[3]; being expected, on leaving detox or rehab, to return to a hostel where many residents are using drugs or alcohol[4]; or being repeatedly evicted from hostels.[5]

Systems thinking also says that we can better understand problems as a complex, messy whole, rather than by splitting them into discrete chunks to be addressed alone. For example, many people with multiple needs find their problems are

addressed through separate services that are separately commissioned. This can lead to systemic problems, such as when people self-medicate for a mental health problem using drugs or alcohol, but mental health professionals are not able to assess them while they are under the influence of drugs or alcohol.

Systems change

Systems change requires radical change in our thinking, assumptions and ways of working. Systems change is not simply about implementing new projects; it is about doing things differently, and is a process rather than a project. It requires new facilitative forms of leadership and extensive collaboration. Systems change involves an ongoing process of innovation, reflection and learning.

Mapping systems

System mapping can provide an understanding of how the system currently works. The process of mapping systems collaboratively with as many stakeholders as possible is an important precursor of change because it enables an accurate identification of system problems and potential areas for change from all perspectives. It also ensures that stakeholders gain an experiential understanding of the need for change by hearing others' perspectives and participating in discussions.

Some learning and questions to collaboratively explore

Some key learning from the literature is outlined below, along with a number of questions that it may be useful for the Fulfilling Lives project in Newcastle and Gateshead to consider.

What is the purpose of the system?

All systems have 'purposes'. 'Sub-systems' (in this case, individuals, services, commissioners etc.) also have purposes, which might complement each other or be at odds with each other or with the overall system purpose. Different purposes can lead to system failure and need to be understood. For example a street-drinker's immediate purpose might be to avoid stopping drinking because they are afraid they cannot cope with traumatic memories sober; a mental health professional's purpose might be to make an accurate diagnosis, which requires someone to be substance-free.

Q: What is the purpose of the system that works with people with multiple and complex needs? What is the purpose of sub-systems – for example, the individuals within the system, a commissioner, a mental health professional, an outreach worker, a hostel keyworker, a police officer, etc? Where do sub-systems have conflicting purposes?

What are our taken for granted assumptions?

All systems are underpinned by implicit values and assumptions, which can be obstacles to systems change. For example, for a long time in the homelessness system it was assumed that people needed support with issues such as substance misuse before they would be able to maintain a tenancy. This could mean people spending years in the hostel system – or rejecting this system altogether and staying on the streets. The new Housing First approach radically questioned this assumption, by supporting people to move straight from the streets into accommodation; and early indications are that this approach has proved successful for many.[6]

Q: What are the assumptions that underpin our idea of what's normal? Can we question any of these?

What are my own, and others', vested interests?

Power and vested interests can be obstacles to change. These can be held both by others and by ourselves.

> *'I have to start by reflecting on and changing myself. I have to understand myself, because the person who will be the hardest for me to lead through change is me.'*[7]

Q: Where is the power and what are the vested interests in the system? What are my own vested interests? Which parts of the system do I wish to see change in, which do I not, and why? How much power do I feel comfortable relinquishing?

How are we encouraging innovation?

Innovation is central to systems change, but innovators can sometimes be seen as 'troublemakers' or not taken seriously:

> *'Many times in my career in improvement, I have felt isolated, vulnerable and misunderstood. People have treated me like some kind of oddball when I have craved to be taken seriously and appreciated for my efforts as a leader of change.'*[8]

Q: How will the project guard against people who are suggesting innovative change being seen as/treated as 'oddballs'? What are our unspoken assumptions about what makes a good idea and what doesn't, what is a problem we can address through this project and what is a problem we can't? Is there any scope for questioning these assumptions?

What evidence do we need?

Learning, reflection and evaluation are essential elements of systems change. However, too stringent requirements for evidence can prevent system change, by causing us to focus on indicators rather than real life changes experienced by individuals.

> "Outcomes are both complex […] and subjective or intangible […] There are often risks in measuring proxies such that we start to believe the target is what we want to achieve, rather than the real human outcome.'[9]

The need for evidence can also be a barrier to systems change if it prevents innovation, which often requires risk-taking.

Q: What processes are in place for reflection and capturing everyday learning? What evidence is needed in order to make small- or large-scale system changes? How can we get that evidence? What risks are we willing to take?

How is the project enabling collaboration and dialogue within and between groups?

People's perspectives and behaviours can be changed through collaboration and dialogue. This requires that as many people as possible are directly involved in discussions about the system, how it works, and how it could change.

Q: How far is Fulfilling Lives enabling collaboration and dialogue between groups? Who is able to participate in this discourse, and who is not? What forums for discussion are there beyond the three reference groups, and how can the three reference groups themselves directly collaborate? Who is not around the table?

Introduction

This is a selective literature review relating to systems change. Its purpose is to be of practical use to the people managing, delivering, participating in, overseeing and evaluating the Fulfilling Lives project in Newcastle and Gateshead. The literature reviewed has been selected by assessing its potential practical value for the project: it focuses on systems change literature primarily in relation to the public or voluntary sector.

Fulfilling Lives[10] is an eight-year programme funded by the Big Lottery aimed at people with multiple needs - individuals who are likely to experience at least three of the following: homelessness, reoffending, problematic substance misuse and mental ill health. People with such issues often rotate through various welfare and justice systems which can deepen the problems in their lives at a cost to them and society.

Newcastle and Gateshead is one of 12 areas of England in which the Fulfilling Lives programme is taking place. The programme aims to bring different organisations and services together to offer people one co-ordinated support service that meets all their needs. People with multiple needs are central to the development and delivery of the work. One of the intentions of the project is to change systems for people with multiple needs.

This report discusses:

- **Systems thinking:** what is a system, and what is systems thinking?
- **Mapping systems:** how can systems best be mapped?
- **How systems change:** what can we learn from others' experiences about how systems change?
- **Challenges to systems change:** what can we learn from others about what prevents systems change, and how these preventers might be overcome?
- **Evaluation and the role of evidence in systems change:** What evidence do we need in order to change systems, and how can systems change best be assessed?

Systems thinking

This section introduces systems thinking, including thinking about what a system is, systems failure, and how systems thinking is relevant to people with multiple and complex needs.

About systems thinking

Systems thinking encourages us to focus on the systemic causes of problems, and to seek solutions to these problems by changing these problematic systems.

It encourages us to view problems holistically as a complex, messy whole, rather than splitting them into discrete chunks to be addressed alone.

'Dividing systems into constituent parts will reduce the apparent complexity so it feels like we can manage each part, but the division actually reduces our understanding of how the whole system works.'[11]

A systems perspective means accepting 'ambiguity and complexity.'[12]

What is a system?

'A system is a configuration of interacting, interdependent parts that are connected through a web of relationships, forming a whole that is greater than the sum of its parts (Holland 1998). Systems are overlapping, nested, and networked; they have subsystems and operate within broader systems (von Bertalanffy 1955; Barabasi 2002).'[13]

Systems are:

- Dynamic: complex or complicated systems (with which we are concerned) have unpredictable dynamics. Cause and effect is not always clear, and systems can create unintended outcomes.
- Overlapping, nested and of different scales.

There are a number of ways of conceptualising systems and their properties. In *Thinking in Systems*, her classic work in systems change, Meadows identifies three system attributes: elements, interconnections, and purpose.[14]

- Elements: both tangible (people, physical resources, buildings etc) and intangible (cultures, values etc).
- Interconnections: the relationships that hold the elements together, such as acceptance criteria, referrals, budgets and money flows, knowledge and information etc.

- Purpose: the purpose of the system rather than the stated purpose of people within the system. This can be 'deduced from [system] behaviour, not from rhetoric or stated goals'. This almost always includes the purpose of perpetuating itself as a system, which can make change difficult.

Understanding a system's purpose

Purpose is the most difficult of the three system attributes to identify because it is not explicit. Donella Meadows explains the way in which systems can produce purposes that are unintended by all of those involved:

'A system's function or purpose is not necessarily spoken, written, or expressed explicitly, except through the operation of the system. The best way to deduce the system's purpose is to watch for a while to see how the system behaves [...] System purposes need not be human purposes and are not necessarily those intended by any single actor within the system […]

[O]ne of the most frustrating aspects of systems is that the purposes of subunits may add up to an overall behaviour that no one wants. No one intends to produce a society with rampant drug addiction and crime, but consider the combined purposes and consequent actions of the actors involved:

- *Desperate people who want quick relief from psychological pain*
- *Farmers, dealers, and bankers who want to earn money*
- *Pushers who are less bound by civil law than the police who oppose them*
- *Governments that make harmful substances illegal and use police power to interdict them*
- *Wealthy people living in close proximity to poor people*
- *Nonaddicts who are more interested protecting themselves than in encouraging recovery of addicts*

Altogether, these make up a system from which it is extremely difficult to eradicate drug addiction and crime.' [15]

Case study: different purposes and perspectives within systems

This case study by Sarah Schulman illustrates the different purposes and perspectives that individuals and services ('sub-systems') can have within a system, and the way in which they can work together to produce a system which fails to meet many of these purposes, including to best support the individual in need.

- *'By 9am, Katie had dealt with four systems.*
- *Her partner, Nick, was out drunk with his mates.*
- *Her ten kids were in various states of undress. If they were even awake.*
- *The social worker was in the driveway, getting ready to drop in.*
- *The school attendance officer was on the phone, asking about her older son's whereabouts.*
- *The pharmacy was texting to confirm her methadone appointment.*
- *Katie just wanted a hot shower. And some peace and quiet.*

I spent a week living with Katie and her ten kids, in a spotless three–bedroom house, in a leafy Australian suburb. From the inside, systems weren't the abstract entities that descriptors like 'dynamic', 'interconnected' and 'complex' seem to suggest. Systems were groups of people clumsily interacting.

- *They were a mum, dads, kids, aunties, uncles, mates, grandparents.*
- *They were clients, social workers, psychologists, police officers, managers, policy advisors, ministers.*
- *They were students, parents, teachers, a principal, school attendance officers, education consultants.*
- *They were a patient, a pharmacist, a drug supplier, doctors, healthcare administrators, ministers.*

Few of these people were getting what they needed, or wanted. Katie needed support from Nick. The kids needed attention. The aunties and uncles wanted to know what to do. The social workers needed to ensure the kids' safety. The family wanted to stick together. The policy advisors wanted to avoid a headline. The teachers needed the kids to stop getting into trouble. The principal needed the kids to come to school. The pharmacist wanted Katie to show up.' [16]

System failure

Systems thinking enables system failure to be identified and analysed.

System failure can include 'unintended consequences, alienation of professionals involved in delivery, and long-term failure to improve overall system performance.'[17]

For example, when describing work with vulnerable families, Christiansen describes how the system can becomes 'a barrier to (rather than driver of) change':

'[M]ost interventions focus on one family member or address one aspect of the problem because public agencies are focusing on living up to the standards that are defined within their own formal area of responsibility. Families then have to adapt to the agenda of the system rather than the other way around. [The consequences] include leaving vulnerable families misunderstood by the system in a fragile state while frequently experiencing having their cases closed before they feel that their problems have been solved.'[18]

Systems thinking and people with multiple needs

Systems thinking entails a radical new way of thinking about how to support people with multiple and complex needs. Traditionally, problems have often been located within the individual: they might exhibit violent behaviour, might not engage or they might have drug, alcohol or mental health problems that need to be addressed. More recently, people working in this area have begun to question how far the system itself is the cause of certain problems. For example, many people have described being discharged from hospital or prison onto the streets[19]; being expected, on leaving detox or rehab, to return to a hostel where many residents are using drugs or alcohol[20]; or being repeatedly evicted from hostels.[21] This can be understood in systems terms as leading to 'failure demand': 'demand [for services] caused by a failure to do something or do something right for the customer'.[22] Systems thinking shows that the system can create unintended negative outcomes (such as, in these cases, return to a street lifestyle or relapse), even when the purpose of everyone involved is to provide help and support.

Likewise, the system often addresses problems separately, so for example someone might receive support for their drug or alcohol use, their mental health problems and their housing issues, from different professionals. This can lead to known system issues; for example, the difficulty that results when people self-medicate for a mental health problem using drugs or alcohol, but mental health professionals are not able to assess them while they are under the influence of drugs or alcohol.

The quotation below refers to families with problems, but it could equally refer to someone with complex needs:

'[A]t school when faced with a difficult problem we are taught to break it into smaller parts, solve each part, and put the solution back together again. But we know […] that we cannot take a family with 20 problems, solve each problem with a specialist, and put the family back together again.'[23]

Separate service delivery is often a result of siloed commissioning, with different commissioners responsible for different services that people with multiple and complex needs require.

Mapping systems

System mapping can provide an understanding of how the system currently works, and enable the identification of problems within it. This is important in order to develop interventions and to understand where broader system change is necessary. It also helps when evaluating how systems have changed.

System mapping should be done collaboratively, involving as many stakeholders as possible. The process of mapping systems collaboratively is an important precursor of change, because:

- It enables an accurate identification of systems problems, through understanding the system from the multiple perspectives of stakeholders (although the perspective of the people the system is intending to support should be the primary perspective).
- It ensures that stakeholders gain an experiential understanding of these problems by hearing others' perspectives and participating in discussions, which will facilitate their involvement in change.

System mapping can seek to map:

- System boundaries: which system(s) is this programme concerned with?
- The elements within the system: physical elements such as people, services, resources, and intangible elements such as working cultures and values.
- Interconnections within the system: what are the relationships between system elements, and where do information, knowledge and power lie.
- The purposes of different people or organisations within the system: where are these similar or complementary, and where might they be contradictory?

Forum for the Future[24] outline some of the different types of maps that can be used for different purposes in mapping systems, explaining that it is likely that a systems map might draw on several of these elements:

System maps	What is the structure, purpose and boundary of the system and/or sub-system? How are value, information and power transferred within the system?
Stakeholder maps/ power dynamics maps/influence diagrams	Who is in the system and how do they relate to each other? Who is active and who is impacted? Who holds the power in the system and how does influence flow through the system? Where are the gaps?
Multiple cause diagrams/sign graphs/causal loop diagrams/system archetypes	Why has X or Y happened? Why is something the way it is? How do different actions relate to each other? Where are the areas you can focus on in order to create most change? What sort of reinforcing or balancing behaviour is in the system? What is happening to the system over time? What characterises this system (the system archetypes)?
Issues maps/cause and effect diagrams/ value chain maps	How do actions in a system relate to each other? What are the physical flows of a system? How is value transferred within the system? How does the supply chain work?
Rich pictures	Early inquiry into the system – where individuals and groups share their per- spectives of how a system is working and what the challenges are, and then come together to debate and create a combined perspective.

From: Draper, S. (n.d) *Creating the big shift: System innovation for sustainability.* Forum for the Future

The process of system mapping can include both mapping how the system looks now, and how we would like it to look. Anna Birney of Forum for the Future suggests that creating a shared vision, for example in a collaborative workshop, can be a helpful way of starting to map current systems:

'In Dairy 2020, Forum for the Future bought together organisations right across the supply chain. Together we co–created possible future scenarios for the dairy industry. Using these, the group agreed a vision for a sustainable dairy industry, and developed a framework of guiding principles for how we can get there. We have found that using futures is both a great way to establish the current state of the system and also to engage with potential participants so that we are ready to act together.'[25]

Nesta suggest mapping systems at different scales and from different perspectives:

'For example, you might begin by mapping the customer journey at the point of delivery of your innovation. Then you can move on to map how resources flow between different organisations, and the governance arrangements in place to support delivery. From there you might scale up again and map how your innovation fits within the wider market of competitors, customer, suppliers and other stakeholders'.[26]

As another tool to help with mapping systems, Laura Bunt describes using 'personas':

'Trying to map or visualise a system can be influenced by individual experience of it; a clinical professional's demands of a health system will differ substantially from a family's or a community provider. In creating the [one] visualisation […], we used 'personas' to plot different people's pathways through a system to help consider a range of perspectives on what a different system of knowledge generation and application might look like.'[27]

Nesta include a number of helpful examples of visual systems maps in their discussion paper *Systems Innovation*. They say:

'The aim of these diagrams is to build up a rough picture of the dynamics of the system – what causes what; where are there feedback or feed-forward loops; how factors reinforce each other, and so on. [They…] are helpful in clarifying opportunities for action […] The best maps show both causation (ie. what causes what) and also the state of knowledge (ie. what's known about what causes what) so that they can guide strategy and options for innovation, while also shaping research strategies to fill in the missing gaps of knowledge'.[28]

How systems change

This section outlines knowledge about how systems change. It begins with an outline of two practical approaches to systems change, and then describes a number of overall guiding principles or elements of successful systems change which are common in the systems change literature. It then discusses how to lead systems change, and how to create bigger change.

Two approaches to systems change

Six steps to systems change

Forum for the Future have identified six steps to systems change. These include:

1. Experience the need for change.
2. Diagnose the system: mapping systems, identifying opportunities for change and prioritising actions.
3. Create pioneering practices: innovation and learning.
4. Enable the tipping point: scaling up change through growth, replication or diffusion/influence.
5. Sustain the transition .
6. Set the rules of the new mainstream .

They talk through these steps in more detail in their report *Creating the big shift: system innovation for sustainability*.[29] This is a particularly ordered view of how change happens; some other systems thinkers view change as happening in a less ordered way, and would see the issue of scaling up change as more problematic (see 'Creating bigger change' section).

Leverage points – places to intervene in a system

Donella Meadows developed an influential list of 'leverage points' – places to intervene in a system (ordered in increasing order of effectiveness):

- 12. Constants, parameters, numbers (such as subsidies, taxes, standards).
- 11. The sizes of buffers and other stabilizing stocks, relative to their flows.
- 10. The structure of material stocks and flows (such as transport networks, population age structures).
- 9. The lengths of delays, relative to the rate of system change.
- 8. The strength of negative feedback loops, relative to the impacts they are trying to correct against.
- 7. The gain around driving positive feedback loops.

- 6. The structure of information flows (who does and does not have access to information).
- 5. The rules of the system (such as incentives, punishments, constraints).
- 4. The power to add, change, evolve, or self-organize system structure.
- 3. The goals of the system.
- 2. The mindset or paradigm out of which the system — its goals, structure, rules, delays, parameters — arises.
- 1. The power to transcend paradigms.

These are explained more fully on her website: http://www.donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/

Principles for systems change

Systems thinkers tend to agree on a number of important elements of successful systems change programmes. These include:

- Collaboration
- Purpose
- Innovation, learning and reflection
- Uncertainty and vulnerability

Collaboration

Collaboration is at the heart of systems change. Involving a range of stakeholders is important because it ensures that the system is well understood, helps create better solutions, helps ensure that the people involved understand and buy into the need for change, and enables ongoing learning and reflection to be captured.

'[D]ifferent individuals and organisations within a problem domain will have significantly different perspectives, based on different histories, cultures and goals. These different perspectives have to be integrated and accommodated if effective action is to be taken by all the relevant agents. This insight conflicts directly with the command and control culture that dominates government and public administration. The use of command and control inevitably fails within complex systems, and alienates people by treating them instrumentally.'[30]

'Core team relationships are crucial: We spoke different languages at our organisations and didn't spend nearly enough time building understanding'.[31]

Through collaborative involvement, stakeholders are able to experience the need for change first hand, learning experientially from dialogue with others:

'Systems thinking predicts that individuals will not change their mode of thinking or operating within the world until their existing modes are proved beyond doubt, through direct experience, to be failing'.[32]

Case study: changing practice through collaboration

'The Street Community Neighbourhood Policing Team and the Rough Sleepers Street Services and Relocation Team (RSSSRT, who provide outreach services to rough sleepers) in Brighton work closely to address street drinking.

'Sussex Police's Operation Dodger won the Tilly Award for good practice in tackling crime and anti-social behaviour in 2005. Among other things […] joint sessions were […] held with police and service providers, which aimed to increase understanding of the needs of street drinkers and identify common values and aims.

'The teams said that these sessions challenged both potential stigmatisation of street drinkers among police, and potential collusion with street drinkers by agencies. Within the first eight months of the project, the number of street drinkers reduced from 158 to 70.'[33]

Purpose

Many systems thinkers stress the importance of starting a systems change programme by going back to identify the purpose of the work, which has sometimes been lost among other system purposes.[34] Likewise, identifying core values[35], and defining a shared vision[36] can be helpful. There is agreement that systems change work should focus on outcomes, not on projects, services or targets.

'At the heart of any effort to transform a system must be a good 'why'. And that 'why' should touch our hearts.'[37]

'An 'effective' system might be measured by the amount of information exchanged, by the frequency of professionals calling each other to talk about [service user], by the percentage of paperwork reduced. But, I would argue, a 'good' system has little to do with the system itself, such as whether it's a seamless service experience or a satisfying interaction. And instead has much more to do with whether the system is good for people's lives.'[38]

Innovation, learning and reflection

Innovation is central to systems change work and it is important that innovation is fostered.

'Implementation [of systems practice] would deliberately foster innovation and include evaluation and reflection as part of the overall design'.[39]

Learning and reflection go hand in hand with innovation, as innovative ways of working are constantly evaluated and improved.

'Although there are many different schools of systems thinking they all agree that when dealing with complex systems the best approach to improving performance is to take a range of actions, evaluate the results and subsequently learn what works best. This evolutionary approach to learning requires both innovation (variety of actions) and effective feedback on the results of previous actions (a selection process).'[40]

Innovation, learning and reflection are considered in more detail in the section 'Evaluation and the role of evidence'.

Uncertainty and vulnerability

Many systems thinkers highlight the uncertainty inherent in complex systems, and therefore in working to change them. The way in which a system will respond to changes is unpredictable.

'To adopt a long-term perspective is, to some extent, to embrace uncertainty […] systems are unpredictable.'[41]

Genuine collaboration also entails uncertainty, when activities cannot be fully planned but should be allowed to unfold.

'There is a need for becoming less scripted[, to] work with citizens rather than deliver services to them [...and to] focus on outcomes'.[42]

Those working to change systems need to be able to work within such uncertainty. They also need to be able to be vulnerable.

'[F]ear is […] the biggest barrier to learning. It's hard to learn when you feel fear. […] As Peter Senge wrote in The Fifth Discipline (as quoted by Chip Bell):

"When we see that to learn we must be willing to look foolish, to let another teach us, learning doesn't always look so good anymore…Only with the support and fellowship of another can we face the dangers of learning meaningful things."

[…] The evidence base on learning organisations emphasises the importance of leaders who role model humility and vulnerability.'[43]

Leading systems change

Much has been written about how to lead systems change, and the distinctions between the qualities of a systems change leader and a traditional leader. A common comparison is between a more traditional 'command and control' leadership style and systems change leadership. These are some of the ways in which ideal systems leaders have been described:

'Leadership in the new world is more about enabling a conducive environment to develop that in turn nurtures your desired system / services, than it is about directly controlling (or managing) that system.'[44]

'Engagement with agents and stakeholders would be based more upon listening and co-researching rather than on telling and instructing. Responsibility for innovation and improvement would be widely distributed'.[45]

'Systems leaders concentrate on facilitating change through making sense of what's going on, fostering new connections across the system, building capacity, developing knowledge and creating the structural conditions to support change.'

'The leaders who stand out have a greater level of optimism about the future and about what they believe they and their organisations can achieve. A common characteristic of these leaders is their ability to create a compelling picture of the future. This enables the people who work in their organisations to see their own situation in a different light and more readily embrace change on a personal level. […] This kind of leadership is not situational. It comes from a deep sense of purpose and a belief that profound change can be achieved.'[46]

The table overleaf, from Richard Selwyn, contrasts the key features of 'command and control 'and 'systems thinking'.

Selwyn's comparison between command-and-control and systems thinking[47]

Command-and-Control vs Systems Thinking – This following table contrasts the key points between command-and-control and systems thinking with a McGregor-Kotter mash-up. In reality, we are likely to require both forms of leadership at different times for success.

Command-and-Control		**Systems Thinking**
Top down view	vs	User centric / outcome view
Break into functions, discrete services, specialist roles and standardise	vs	Understand the whole system and personalise
Costing activity and transactions	vs	Valuing outcomes and experience
Planning and milestones	vs	Vision, beliefs, principles, environment and culture
Target setting, bureaucracy, and perception of order and control	vs	Nurturing an adaptive, autonomous, chaotic, and learning environment
Wary of risk and innovation	vs	Managing risk and encouraging innovation
Contractual / adversarial relationship with providers and often partners	vs	Partnership delivery models valuing relationships
Extrinsic motivation through carrot and stick	vs	Intrinsic motivation through recognition, pride, engagement, visible impact on citizens
Mistrust of staff and desire to control, mistrust of citizens and desire to do services to them	vs	Belief in staff and citizens with appreciative models for service design
Transactional and process based relationships with citizens	vs	Valued and personal relationship with citizens
Left brain	vs	Right brain
Yin?	vs	Yang?

From: Selwyn, R. (2012) *Outcomes and efficiency: Leadership handbook*. PIPC Cognizant Program Management.

Shaping beliefs and behaviours

Several systems practitioners have emphasised the need to shape the beliefs and behaviours of those involved in the systems that are changing.

Helen Bevan, who works for NHS Improving Quality, says that the first thing someone working to change systems should do is reflect on their own values, vested interests and behaviours:

'I have to start by reflecting on and changing myself. I have to understand myself, because the person who will be the hardest for me to lead through change is me.'[48]

She says that people can be influenced through hope, involvement and support:

'We cannot simply implant a different mindset into people so that, as a result of a mandate from the government, they start to behave differently. But we can give people the context, the sense of opportunity, the hope for the future, the involvement, the tools and the support to enable them to make the changes.'[49]

Mechanisms for shaping beliefs and behaviours

Sarah Schulman at the Australian Centre for Social Innovation outlines three mechanism they have used 'for shaping peoples' *and* professionals' beliefs and behaviours.'[50]

'Mechanism 1: Modelling

Seeing is (often) believing. To change your 'stuck' beliefs and behaviours, you have to be exposed to people who have different beliefs and behaviours, and see that those beliefs and behaviours enable flourishing. so in Family by Family, families […] are linked–up with families a lot like them. Families who are in a similar socio–economic class, or who have faced similar challenges, but who are living well. The closeness of their experiences is critical. So too is spending time together in each other's daily environments – where the messiness is not shielded from view.

Mechanism 2: Space

It's not often we make our beliefs explicit, and look at things from a few different points of view. Creating the time, space, and structure for people to air their values and beliefs can help to debunk assumptions or logical fallacies. In Weavers, we use a book of prompts to get carers to name some of their hidden beliefs (e.g., nothing can change, I just have to grin and bear it, etc.), first to normalise their way of thinking, and then to understand alternatives.

Mechanism 3: Feedback

Most of the time, it's hard to know whether we are doing 'good.' Particularly where 'good' isn't defined. Often, the hardest question for professionals to answer is: are you doing 'good' work? Care workers would say 'yes' if they got to their clients' houses on time, or if one their clients expressed gratitude for their service. They knew very little about their client's day after they showered them or gave them their medications. In Care Reflect, we developed a range of ways for care workers to get more direct, constructive feedback. To learn about their clients' whole weeks, and to track their ups and downs. And ultimately, to generate ideas for conversations and experiences they could have with clients that might enable better living when they weren't around.'

Creating bigger change

An important way in which systems change programmes can influence broader systemic change is by collecting the evidence that systems are not working. There should be the opportunity to step back from everyday work to consider what can be learnt from this in terms of broader systems:

'In relation to every insight or idea, the question of its systemic implications was raised as an inherent part of the process'.[51]

There are different views about how smaller interventions or programmes can lead to larger scale change. Forum for the Future describe three strategies for 'scaling up' change: growing, replicating and diffusing/influencing.[52] The International Centre for Social Franchising describe 'four phases of replication; validate the model, design it for scale, systematise processes and then pilot the model to see if we can replicate it elsewhere'.[53]

However, others question whether the principle of scaling up change is appropriate in the context of unpredictable and human-centred systems.

'On a systemic level, how do we move from extensive piloting of seemingly valuable human-centred ideas and make these rather isolated interventions more than the sum of their parts? […] A fundamental challenge seems to be how to, on a systemic level, apply and scale services that are highly relational and inherently rely on significant levels of mutual empathy and trust'.[54]

This is a central question for systems change programmes to engage with as they progress.

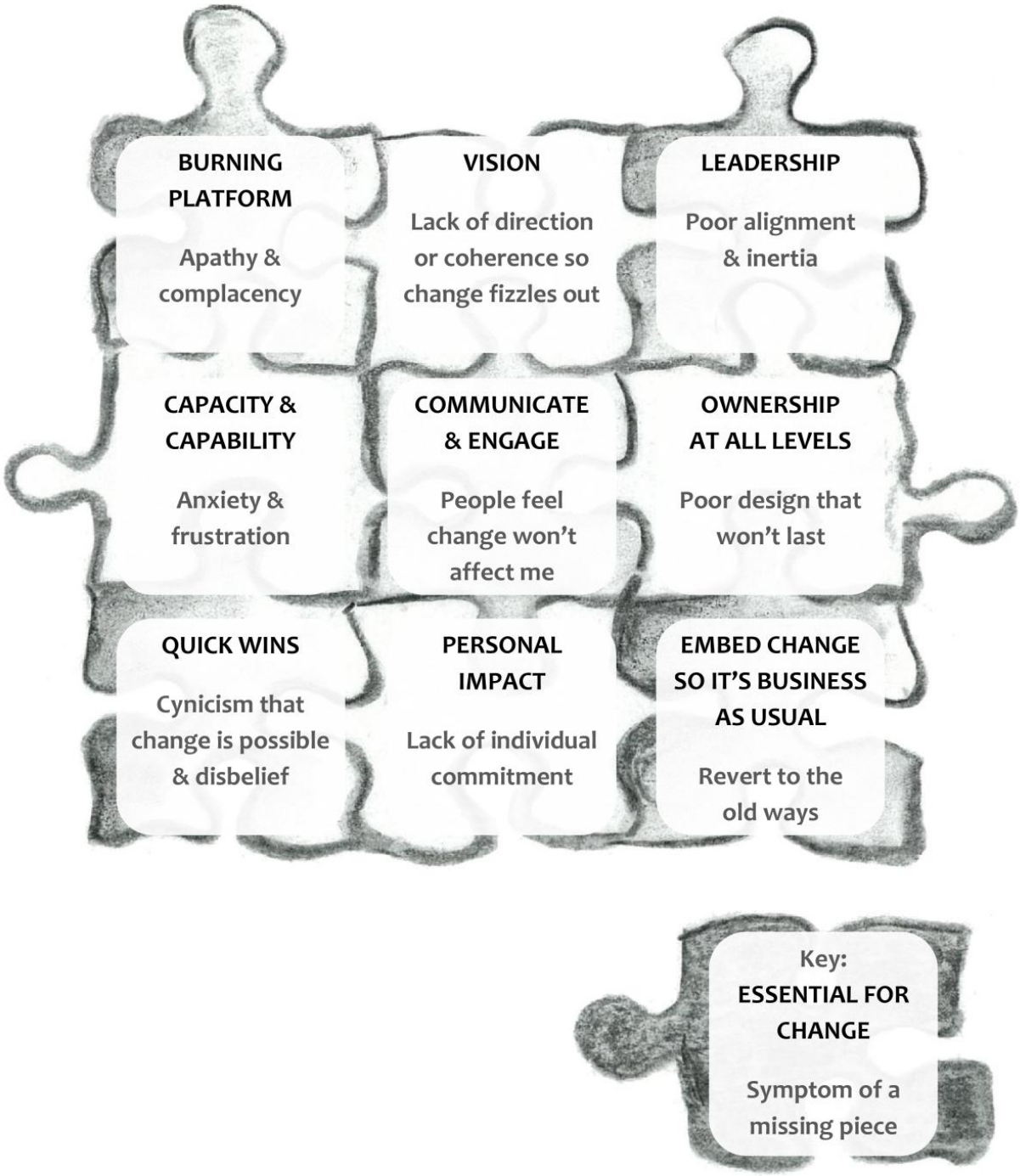
Challenges to systems change

This section outlines some of the challenges to systems change that theorists and practitioners have identified.

'There are so many forces opposing the changes we want to see; a system that rewards people for "keeping the trains running" rather than radical change, those with the power and/or a vested interest in keeping the status quo, colleagues and leaders who are sceptical, apathetic or scared of change.'[55]

Overviews of challenges

Selwyn has developed a 'dynamic change jigsaw' that shows both what is required for effective change, and the problematic consequence if this is not in place.[56]



From: Selwyn, R. (2012) *Outcomes and efficiency: Leadership handbook*. PIPC Cognizant Program Management.

Selwyn explains each of these challenges further in his leadership handbook. He suggests that each of the jigsaw's 'pieces' should be addressed as a distinct workstream and warns 'don't leave it to chance'.

In *System Failure*, Chapman focuses on the obstacles to learning within the process of government and policy making, which he summarises as:

- *'an aversion to failure, exacerbated by the political process which uses failures to score points rather than learn lessons*
- *the pressure for uniformity in public services*
- *shared assumptions between civil servants and ministers that command and control is the correct way to exercise power*
- *lack of evaluation of previous policies*
- *lack of time to do anything other than cope with events*
- *a tradition of secrecy used to stifle feedback and learning*
- *the dominance of turf wars and negotiations between departments, effectively making end-user performance secondary to other considerations*
- *the loss of professional integrity and autonomy under the knife of efficiency in policy making, and resistance and protection of vested interests by some professional and intermediary bodies.'*[57]

Case study: the 'failure' of the personalisation movement?

In January 2014, Simon Duffy, founding member and former chief executive of leading personalisation advocates In Control, wrote an article for the Guardian suggesting that personalisation (at least in some areas) had failed.[58]

He described personalisation as an attempt to change the system, 'moving away from standardised services, towards a flexible system where people have more control and play a bigger part in their community.'

However, he said that in some areas it had become:

- 'An excuse for abandonment': when people were told they would have a personal budget, and not given support about how to use it.
- 'The new bureaucracy': when 'complex systems of support planning, panels and monitoring are put in place.'
- 'An excuse to cut costs'.

So why did this happen? Duffy writes that some areas rejected personalisation; others implemented it but in a way that was poorly thought through. He blames funding cuts being experienced by local authorities, and alludes to bureaucracy over-riding the purpose of helping people, writing that 'there will need to be a stronger focus on people's rights and many of the current bureaucratic systems will need to be dismantled.'

Some of the frequently described challenges to systems change are as follows.

Power and vested interests

Power and vested interests can act as forces against systems change.

'It's important to remember that all innovation by its nature disturbs the balance of a system. Even minor changes can ruffle feathers and challenge vested interests. Often, what is described as systems change is in fact simply an improvement in the links between actors within the system […] it doesn't change relationships or shift the balance of power'.[59]

It is important to consider where power lies in systems, to ensure that this is not an obstacle to change and to seek to redistribute power where appropriate.

Policy resistance

Policy resistance is 'the tendency for well-intentioned interventions to be defeated by the response of the system to the intervention itself.'[60] An example of this is: 'Low tar and nicotine cigarettes actually increase intake of carcinogens and carbon monoxide as smokers compensate for the low nicotine content by smoking more cigarettes per day, by taking longer, more frequent drags, and by holding the smoke in their lungs longer.'[61]

The desire for simple solutions in a complex world

Many systems thinkers shy away from many of the tools that have become a central part of much planning and reporting within bureaucracies, such as standards and checklists. Systems change is a new way of working, rather than a project or intervention. Rather than assuring quality through standards and checklists (for example), it does so through a re-focusing on purpose and outcomes for the people whom the system is intended to support.

'[Some commentators want] to see more "hard edged" recommendations related to mechanisms for enforcement or regulation, checklists, minimum standards and/or behavioural incentive systems. My response is that many of the solutions that these commentators seek are "simple" solutions which are not, on their own, reliable levers for change in a highly complex world. Experience shows us how these simple solutions can push the system in a certain direction, distort priorities and often (unintentionally) create the opposite effect to the changes we are seeking.'[62]

Pressure, stress and anxiety about externally imposed change

Selwyn stresses the importance of emotion, including 'grief / anger / fear', in change programmes. He advises that we 'address emotions as much as actions – put as

much planning effort into understanding and supporting staff emotionally as we do into the actions and activities', 'give space for emotions', and motivate staff.[63]

Bevan says that if change is imposed externally it will struggle to be sustained:

'[T]ransformation has to start on the inside, at the level of the individual. All meaningful and lasting change occurs only when individuals identify with the change, first person, in the present tense. The change has to fit with their view of the world and their aspirations, otherwise it won't be internalised and sustained.

'In any situation where change is imposed from the outside, the people we are trying to change are likely to want to change things back to how they were, as quickly as they can […] They don't appreciate that the new agenda brings major, substantial opportunities to enhance what they currently do. Rather, they feel the pressure, stress and anxiety that comes when someone else tells you that you had better change…'[64]

This highlights, again, the importance of collaborative working.

'Second order change, first order mindset'

It is important that those involved in systems change understand that it is a radically new approach. It is not just a new project, or improved set of joint working processes. It is a new approach which involves a different kind of leadership, an equalising of power, and a refocusing on values and purpose. If this is misunderstood, systems change will be difficult to achieve.

'Many NHS leaders, locked into the daily struggle of achieving activity levels and quality standards within financial constraints, operate with a "first-order" change mindset. This means it is difficult to perceive possibilities beyond the existing realities. The future is viewed as 'more of' or 'less of' what currently exists; "more primary care-based services", "less bed days", "less money". On the other hand, Creating a Patient-Led NHS represents nothing less than "second-order" change; a fundamental and radical reframing of NHS systems and the way they must operate in future.

'The biggest challenge facing system reform is a mindset challenge; second-order ambition cannot be achieved with first-order perspectives, methods and approaches. Albert Einstein famously described the situation: "No problem can be solved from the same consciousness that created it. We must learn to see the world anew".[65]

Evaluation and the role of evidence

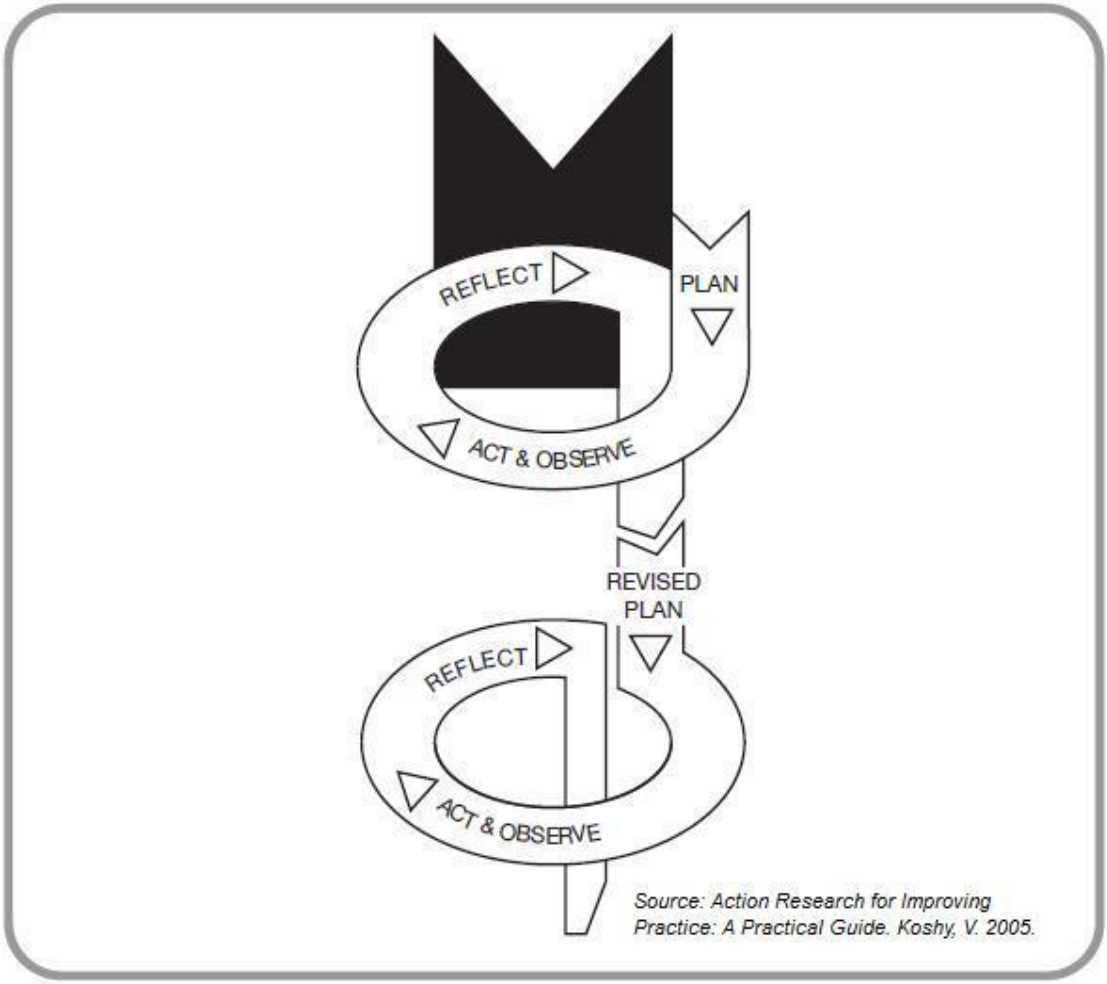
This section considers evaluation and the role of evidence in systems change. It discusses the importance of continuous learning and reflection, describing dynamic theories of change, measuring the right things, collecting evidence to influence bigger systems, and the relationship between evidence, innovation and risk.

Continuous learning and reflection

Because complex systems are dynamic (they are always changing in unpredictable ways), learning and reflection are central to systems thinking. This learning should continuously influence the work within the system.

Ongoing, participatory evaluation can be particularly appropriate for systems change work. For example, it could be helpful to consider the cycle of planning, acting, observing and reflecting undertaken in action research:

The action research spiral.



Source: Action Research for Improving Practice: A Practical Guide. Koshy, V. 2005.

It is important that evaluation methods can capture the complexity of the system itself, and of the system intervention.

'The right [evaluation] design is one that addresses the evaluation's purpose(s) and captures the complexity of the intervention and its context.'[66]

For this reason, a mixed methods evaluation, which captures the views of a range of stakeholders and uses a range of qualitative and quantitative methods, is likely to be appropriate.

Evaluating system change

In *Evaluating system change: A planning guide,* Hargreaves outlines a list of considerations for those planning an evaluation of a systems change intervention, and lists some appropriate methods. Her main point is that, when a system and the system intervention are dynamic (changing and unpredictable), the evaluation needs to be able to understand and respond to these dynamics. She provides an checklist for evaluators, which includes:

- Understanding the conditions and dynamics of the situation:
  - Identifying the system's boundaries.
  - Determining the complexity of relationships (including flows of information, client referrals, staffing arrangements, funding streams, and sharing of other resources).
  - Noting the diversity of stakeholders' perspectives or purposes (which can sometimes be hidden, overlooked or not overtly expressed).
- Understanding the elements and dynamics of the intervention:
  - Understanding the dynamics of an intervention's governance.
  - Identifying causal mechanisms (using appropriate tools).
  - Analysing intended outcomes (bearing in mind that these might be multiple, unpredictable and potentially conflicting).
- Determining the users, purposes and methods of the evaluation.[67]

Dynamic theories of change rather than static logic models

Systems change is never finished; instead, a process that enables systemic problems to be identified and responded to is in place. For this reason, more static logic models might not be the best way of conceptualising systems change. Logic models are cause and effect models showing the relationships between input, outputs and outcomes. However, the depiction of simple cause and effect

relationships is often rejected in systems thinking, because they are felt to be inadequate to represent the complexity of systems: '[w]ithin complex adaptive systems, the dominant mode of response is non-linear'.[68] Other models such as the more fluid and complex theory of change[69] might be more appropriate.

'Linear logic models are not always appropriate for complicated and complex system intervention and evaluation designs, which should use theories of change and conceptual frameworks that match the complexity of the interventions' situations.'[70]

Measuring the right things

Some leading systems thinkers argue that traditional attempts to evidence the effectiveness of work can themselves be at the heart of system failure. They point out the dangers of setting indicators to measure intended outcomes. In this case, the indicator can become the focus of the work, rather than the intended outcome, and one consequence of this can be 'gaming' the system.

'[F]orm–filling bureaucracy […] becomes the focus for inspection, and, as a consequence, […] workers lose sight of their purpose, the de–facto purpose of the system having become avoidance of failing on the forms.'[71]

'Outcomes are both complex […] and subjective or intangible […] There are often risks in measuring proxies such that we start to believe the target is what we want to achieve, rather than the real human outcome.'[72]

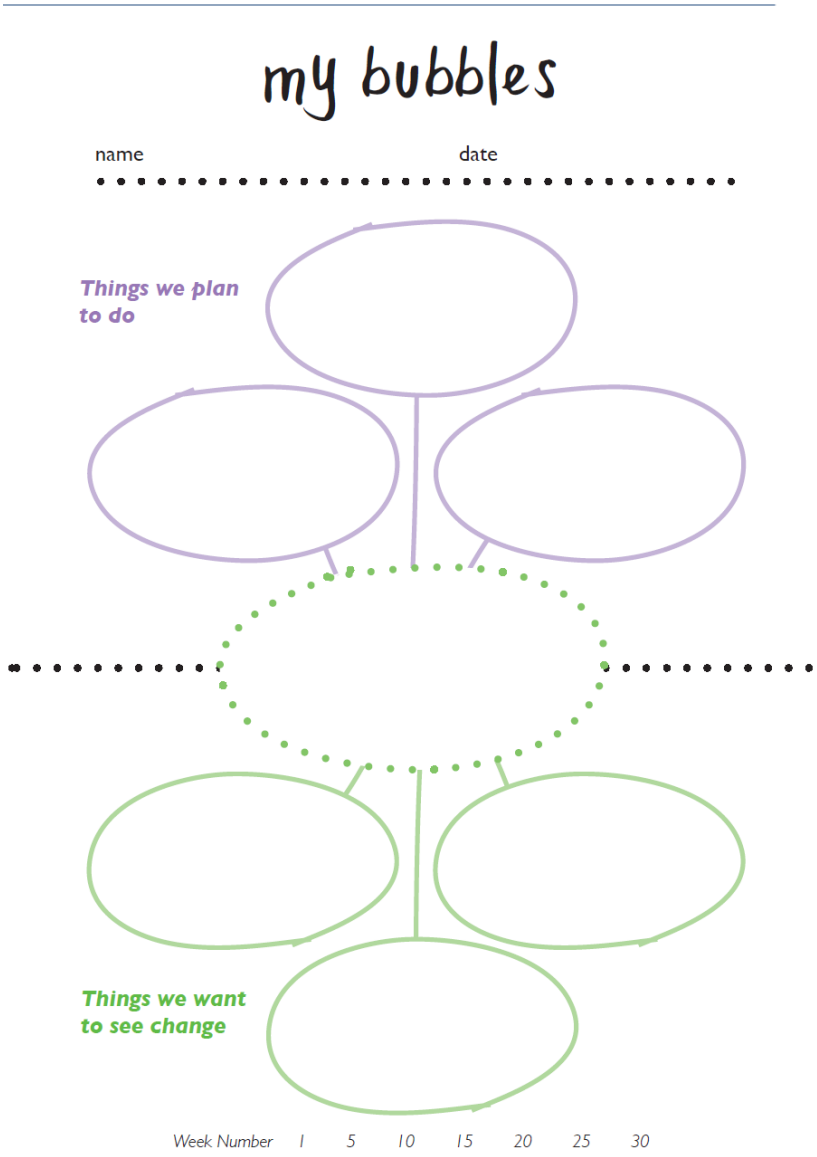
An example of this has been seen in the Work Programme, with a House of Commons Work and Pensions Committee report identifying 'creaming' and 'parking' of some people.[73] Charities have pointed out that this is a particular issue for people with multiple needs.[74]

Instead, Seddon suggests that people need to reconnect with the purpose of their work, and to measure the 'achievement of purpose […] from the customers' point of view':

[B]etter ways to design and manage work […] include rejecting targets in favour of measures related to purpose, cost–management in favour of value–management, standardisation in favour of designing to absorb variety, commissioning on unit price in favour of commissioning on the basis of cost, inspection in favour of prevention, and putting control where it belongs, in the work.'[75]

An example of a more user-focused evaluation tool is the bubble that measures personal goals, activities, and outcomes, used in the evaluation of the Australian

Centre for Social Innovation's Family by Family project, a peer-to-peer programme that works with families in crisis:[76]



From: Community Matters Pty Ltd (2012) *Family by Family Evaluation Report 2011/2012.*

Collecting evidence to influence bigger systems

The Big Lottery intends that 'the [Fulfilling Lives] funding will give organisations the chance to showcase and evidence more effective and efficient ways for designing, commissioning and delivering support services for this group in the future.'[77]

Some of the systems that people with multiple needs interact with are relatively small (eg. hostels) and some are much bigger (eg. the welfare system). Some are within the power of project stakeholders to change directly: for example, a hostel manager, staff, commissioner and residents working together have a good chance of changing

a hostel system. However, others are not: problems relating to housing supply, national funding allocations, or the benefits system cannot be directly changed, although creative solutions might be found.

However, the project can seek to influence these systems by collecting evidence of where the system is currently failing, and seeking to use this to influence those who do have the power to change them, such as central government departments.

Evidence, innovation and risk

It is important to consider the relationship between evidence and innovation. Innovation cannot take place without the willingness to take risks - this is why *'Take some risks: we will be courageous in taking risk to challenge the system'* is one of the core values of the partnership outlined in the Newcastle and Gateshead Fulfilling Lives project plan.[78]

If evidence is necessary in order to make large-scale system change, then it is important to consider what form this evidence must take, given that, when trying something new, there will not be evidence that it has worked before. Likewise, in complex systems, even evidence that something works in one context (for example with one client group, in one geographic area or in one project) does not mean that it will work in the same way in another (remembering that systems are dynamic and contingent).

It might be that the only evidence available is qualitative and quantitative evidence that the current system is not working, along with a qualitative understanding of why this is.

Case study: innovation and risk

The City of London Corporation and Broadway introduced a pilot project providing personalised budgets to long term rough sleepers in the City of London. The project was one of the first trials of personalisation in the homelessness sector, and is a good example of the importance of taking risks in order to innovate. When developing the project, the decision was made to work with 'the hardest-to-reach people within the City.' They had been sleeping rough for between 4 and 45 years and did not engage with outreach teams.

It was not known how effective the project would be, and a number of stakeholders expressed concern that it would not work:

'I thought people would milk it, get jealous.'

'*I think [the personalised budget] will work for some, and others will see it as a nice way to get something for nothing ... I think the clients should match the money – it indicates commitment. Otherwise they might just take the money ... You need to means test the personal budget. Otherwise you can give and give and give.'*

However, this was shown not to be the case, and the project achieved impressive outcomes, with 11 of the 15 people moving into accommodation and seven of these remaining in accommodation over the evaluation period. The project has since been expanded across several London boroughs, and has influenced similar projects nationally.[79]

Discussion: learning from the literature

Some learning and questions to collaboratively explore

Systems change theory can inform a radical new way of thinking about how to support people with multiple and complex needs.

Some key learning from the literature is outlined below, along with a number of questions that it may be useful for the Fulfilling Lives project in Newcastle and Gateshead to consider.

What is the purpose of the system?

All systems have 'purposes'. 'Sub-systems' (in this case, individuals, services, commissioners etc.) also have purposes, which might complement each other or be at odds with each other or with the overall system purpose. Different purposes can lead to system failure and need to be understood. For example a street-drinker's immediate purpose might be to avoid stopping drinking because they are afraid they cannot cope with traumatic memories sober; a mental health professional's purpose might be to make an accurate diagnosis, which requires someone to be substance-free.

Q: What is the purpose of the system that works with people with multiple and complex needs? What is the purpose of sub-systems – for example, the individuals within the system, a commissioner, a mental health professional, an outreach worker, a hostel keyworker, a police officer, etc? Where do sub-systems have conflicting purposes?

What are our taken for granted assumptions?

All systems are underpinned by implicit values and assumptions, which can be obstacles to systems change. For example, for a long time in the homelessness system it was assumed that people needed support with issues such as substance misuse before they would be able to maintain a tenancy. This could mean people spending years in the hostel system – or rejecting this system altogether and staying on the streets. The new Housing First approach radically questioned this assumption, by supporting people to move straight from the streets into accommodation; and early indications are that this approach has proved successful for many.[80]

Q: What are the assumptions that underpin our idea of what's normal? Can we question any of these?

What are my own, and others', vested interests?

Power and vested interests can be obstacles to change. These can be held both by others and by ourselves.

> *'I have to start by reflecting on and changing myself. I have to understand myself, because the person who will be the hardest for me to lead through change is me.'*[81]

Q: Where is the power and what are the vested interests in the system? What are my own vested interests? Which parts of the system do I wish to see change in, which do I not, and why? How much power do I feel comfortable relinquishing?

How are we encouraging innovation?

Innovation is central to systems change, but innovators can sometimes be seen as 'troublemakers' or not taken seriously:

> *'Many times in my career in improvement, I have felt isolated, vulnerable and misunderstood. People have treated me like some kind of oddball when I have craved to be taken seriously and appreciated for my efforts as a leader of change.'*[82]

Q: How will the project guard against people who are suggesting innovative change being seen as/treated as 'oddballs'? What are our unspoken assumptions about what makes a good idea and what doesn't, what is a problem we can address through this project and what is a problem we can't? Is there any scope for questioning these assumptions?

What evidence do we need?

Learning, reflection and evaluation are essential elements of systems change. However, too stringent requirements for evidence can prevent system change, by causing us to focus on indicators rather than real life changes experienced by individuals.

> "Outcomes are both complex […] and subjective or intangible […] There are often risks in measuring proxies such that we start to believe the target is what we want to achieve, rather than the real human outcome.'[83]

The need for evidence can also be a barrier to systems change if it prevents innovation, which often requires risk-taking.

Q: What processes are in place for reflection and capturing everyday learning? What evidence is needed in order to make small- or large-scale system changes? How can we get that evidence? What risks are we willing to take?

How is the project enabling collaboration and dialogue within and between groups?

People's perspectives and behaviours can be changed through collaboration and dialogue. This requires that as many people as possible are directly involved in discussions about the system, how it works, and how it could change.

Q: How far is Fulfilling Lives enabling collaboration and dialogue between groups? Who is able to participate in this discourse, and who is not? What forums for discussion are there beyond the three reference groups, and how can the three reference groups themselves directly collaborate? Who is not around the table?

Endnotes

[1] Big Lottery Fund (n.d.) *Fulfilling Lives: Supporting people with multiple needs*. http://www.biglotteryfund.org.uk/prog_complex_needs Accessed on 01.09.2014
[2] Hargreaves, M. B. (2010) *Evaluating systems change: a planning guide*, Mathematica Policy Research Inc.
[3] Homeless Link and St Mungo's (2012) *Improving hospital admission and discharge for people who are homeless*.
[4] Hough, J. and Rice, B. (2011) *Voices of experience: How people who drink on the streets can make positive changes in their lives.* Broadway.
[5] Homeless Link (2010) *Staying in: Understanding evictions and abandonments from London's hostels.*
[6] Pleace, N. and Bretherton, J. (2013) *Camden Housing First: A Housing First experiment in London*. Centre for Housing Policy, University of York.
[7] Bevan, H. (n.d.) *Helen Bevan on the Challenge of System Reform*. NHS Institute for Innovation and Improvement. http://www.institute.nhs.uk/quality_and_value/introduction/article_13.html. Accessed on 01.09.2014.
[8] Bevan, H. (2013) *A call to action: Helen Bevan's blog*. BMJ blogs. http://blogs.bmj.com/quality/2013/07/29/a-call-to-action-helen-bevans-blog/
[9] Selwyn, R. (2012) *Outcomes and efficiency: Leadership handbook*. PIPC Cognizant Program Management.
[10] Big Lottery Fund, op. cit.
[11] Selwyn, op. cit.
[12] Nesta (n.d) *Open Workshop: An introduction to systems change*. http://openworkshop.nesta.org.uk/content/topic-1-introduction-systems-change. Accessed on 21.05.2014.
[13] Hargreaves, op. cit.
[14] Meadows, D. (2008) *Thinking in systems: a primer*. (ed by Wright, D.). Sustainability Institute.
[15] ibid.
[16] Schulman, S. (2013) ''Good' systems for whom?', in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[17] Chapman, J. (2004) *System failure: why governments must learn to think differently* (2nd ed.) Demos http://www.demos.co.uk/publications/systemfailure2
[18] Christiansen, J. (2013) 'Human-centred system innovation: Transforming perceptions of what a 'system' can be', in in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[19] Homeless Link and St Mungo's, op. cit.
[20] Hough and Rice (2011) op. cit.
[21] Homeless Link (2010), op. cit.
[22] Seddon, J. (2013) 'Systems failure and systems thinking', in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[23] Selwyn, op. cit.
[24] Draper, S. (n.d) *Creating the big shift: System innovation for sustainability.* Forum for the Future. http://www.forumforthefuture.org/thebigshift
[25] Birney, A. (2013) 'A 'how to' for system innovation - a starting place for practitioners', in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[26] Nesta (n.d) *Open Workshop: Understanding and leading system change*. http://openworkshop.nesta.org.uk/node/189. Accessed on 21.05.2014.
[27] Bunt, L. (2013) 'Systems innovation and the health information revolution', in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[28] Mulgan, G. and Leadbeater, C. (2013) *Systems innovation: A discussion paper*. Nesta. http://www.nesta.org.uk/publications/systems-innovation-discussion-paper
[29] Draper, op. cit.
[30] Chapman, op. cit.

[31] Sinha, R. and Spencer, R. (2013) 'The Finance Innovation Lab: A case study of system innovation in finance', in *Systemic Innovation: A discussion series*. Nesta.
[32] Chapman, op. cit.
[33] Hough and Rice (2011), op. cit.
[34] Seddon (2013), op. cit.
[35] Sinha and Spencer, op. cit.
[36] Draper, op. cit.
[37] Scott, A. and Scotton, N. (2013) 'The heart and soul of systemic innovation', in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[38] Schulman, op. cit.
[39] Chapman, op. cit.
[40] ibid.
[41] Martynski, C. (2014) *Dealing with Uncertainty.* Forum for the Future. Retrieved from *https://www.forumforthefuture.org/blog/dealing-with-uncertainty.*
[42] Christiansen, op. cit.
[43] Bevan, H. (2013) *A call to action: Helen Bevan's blog part 2*. BMJ blogs. http://blogs.bmj.com/quality/2013/08/19/a-call-to-action-helen-bevans-blog-2/
[44] Selwyn, op. cit.
[45] Chapman, op. cit.
[46] Bevan, H. (2013) *A call to action: Helen Bevan's blog part 2*, op. cit.
[47] Selwyn, op. cit.
[48] Bevan, H. (n.d.) *Helen Bevan on the Challenge of System Reform*, op. cit.
[49] ibid.
[50] Schulman, op. cit.
[51] Christiansen, op. cit.
[52] Draper, op. cit.
[53] Berelowitz, D. (2013) 'From replicating proven ideas to systemic innovation', in *Systemic Innovation: A discussion series*. Nesta. http://www.nesta.org.uk/publications/systemic-innovation-discussion-series
[54] Christiansen, op. cit.
[55] Bevan, H. (2013) *A call to action: Helen Bevan's blog*, op. cit.
[56] Selwyn, op. cit.
[57] Chapman, op. cit.
[58] Duffy, S. (2014) *Personalisation was supposed to empower vulnerable citizens. It failed.* The Guardian. http://www.theguardian.com/public-leaders-network/2014/jan/30/personalisation-social-care-support-bureaucracy-service-failure
[59] Nesta (n.d) *Open Workshop: An introduction to systems change*, op. cit.
[60] Sterman, J. D. (2002) *Systems dynamics: Systems thinking and modeling for a complex world*. Massachusetts Institute of Technology Engineering Systems Division.
[61] ibid.
[62] Bevan, H. (2013) *A call to action: Helen Bevan's blog part 2*, op. cit.
[63] Selwyn, op. cit.
[64] Bevan, H. (n.d.) *Helen Bevan on the Challenge of System Reform*, op. cit.
[65] ibid.
[66] Hargreaves, op. cit.
[67] ibid.
[68] Chapman, op. cit.
[69] Center for Theory of Change (2013) *Center for Theory of Change.* http://www.theoryofchange.org
[70] Hargreaves, op. cit.
[71] Seddon, op. cit.
[72] Selwyn, op. cit.
[73] House of Commons Work and Pensions Committee (2013) *Can the Work Programme work for all user groups? First Report of Session 2013–14.* House of Commons London: The Stationery Office Limited. http://www.publications.parliament.uk/pa/cm201314/cmselect/cmworpen/162/162.pdf

[74] Ainsworth, D. (2013) *Work Programme 'not helping the most disadvantaged unemployed people'.* Third Sector. http://www.thirdsector.co.uk/work-programme-not-helping-disadvantaged-unemployed-people/policy-and-politics/article/1183328
[75] Seddon, op. cit.
[76] Community Matters Pty Ltd (2012) *Family by Family Evaluation Report 2011/2012.*
[77] Big Lottery Fund, op. cit.
[78] Mental Health Concern, Aquila Way and the Cyrenians (2013) *Fulfilling Lives: Newcastle and Gateshead core partnership project plan*.
[79] Hough, J. and Rice, B. (2010) *Providing personalised support to rough sleepers: An evaluation of the City of London pilot*. Broadway and Joseph Rowntree Foundation.
[80] Pleace and Bretherton, op. cit.
[81] Bevan, H. (n.d.) *Helen Bevan on the Challenge of System Reform*, op. cit.
[82] Bevan, H. (2013) *A call to action: Helen Bevan's blog*, op. cit.
[83] Selwyn, op. cit.