Complex care, frailty and integration

Exploring the role of simulation and modelling round-table discussion – February 2014

'Communiqué'

Introduction

On the 12th February 2014 a group of people with an interest in the care and support of people who have complex needs, and who also understood something of the benefit of the use of simulation and modelling to inform policy and strategic planning, met at Brunel University. Their purpose was to explore the role of the latter in the former, i.e. to begin to answer the question "*how can simulation and modelling inform the move to a more sustainable system for the care and support of people who are frail or who have complex needs*".

The group (see box) included clinicians and people with a wealth of experience in improvement methodologies, social care, public health and strategic workforce planning. A short discussion paper had been circulated beforehand and some of the participants had been asked to come with examples from their own areas of work where simulation and modelling had made a contribution.

The value of simulation and modelling

During the round table discussion participants were asked to share some of their own experiences of using simulation and modelling. Their experience focussed particularly on 'system dynamics' modelling, which is particularly suited to helping us understand population health challenges, although the Cumberland Initiative remains committed to ensuring that a range of complementary approaches are used and that informed decisions are made about what to use when.

Participants drew on their experience of work undertaken with the Whole Systems Partnership in the strategic modelling of population health needs for people who are frail or who have dementia, the modelling of social care needs including financial modelling of future needs, the development of a Cohort Model for end of life care needs and strategic workforce models developed to inform the commissioning of training for medical and other health care staff groups.

Participants experiences of simulation and modelling:

It gave us the language to share across areas, because it was based on a cohort approach and common reference points of definitions and language.

We need to keep it simple and demystify modelling, to avoid people being bewildered by "the beast".

There's no point in planning workforce for a square system if the service model is already moving to a round one - or if patient need is already moving to a round one.

We have learnt that it's important to keep things simple and approachable, and to make sure it's always based on data we understand.

We are at the end of a first year of using modelling. We are developing a common language and becoming more comfortable with using 'good enough' data. We now have much better engagement across the system.

We're using it to address future demography, because the 'do nothing' option isn't an option.

We have learned that we need to revisit and reframe models because they don't last forever - the system changes around them and they need to move on to the next stage. We also know that we have to involve operational people in the modelling process to build understanding and trust, improve information, and support implementation.

The discussion also recognised that realising the practical and widespread benefits from some of the work reflected above remains a challenge, but it was the firm belief of participants that embedding simulation and modelling in a continuous improvement cycle would accelerate the spread and adoption of good practice that arose from local insights. An approach that harnessed this through a collaborative portal and managed network of practitioners also has significant potential, which is beginning to be demonstrated through the Workforce Modelling Collaborative[1], supported and facilitated by the Whole Systems Partnership.

Reconceptualising the system

The challenge presented by Peter Lacey in the preparatory paper, and outlined at the start of the round table discussion, was to make the case for a reconceptualization of the system of care and support for this important, and growing cohort of the population. Without needing to rehearse all the evidence participants were acutely conscious of the pressures that services are currently under and that the 'demographic time bomb' was perhaps still only ticking, albeit with significant current impact!

The case was made, and accepted by the group, that we needed to work toward:

A pull system where services have the capacity, competences and 'connectedness' necessary to meet complex needs, rather than one that allows people to fall into a disconnected, silo'd set of skillsets and organisational boundaries typical of single condition pathways.

The preparatory paper provided an illustration of such a system, although a static representation in 2-dimensions can rarely rise to the challenge of truly representing

[1] The Workforce Modelling Collaborative is a membership organisations of Local Education and Training Boards. For more details use this link.

how such a reconceptualization could work. To illustrate the nature and dynamic of such a reconceptualization a simple system dynamics model was presented. This is illustrated in the figure below.

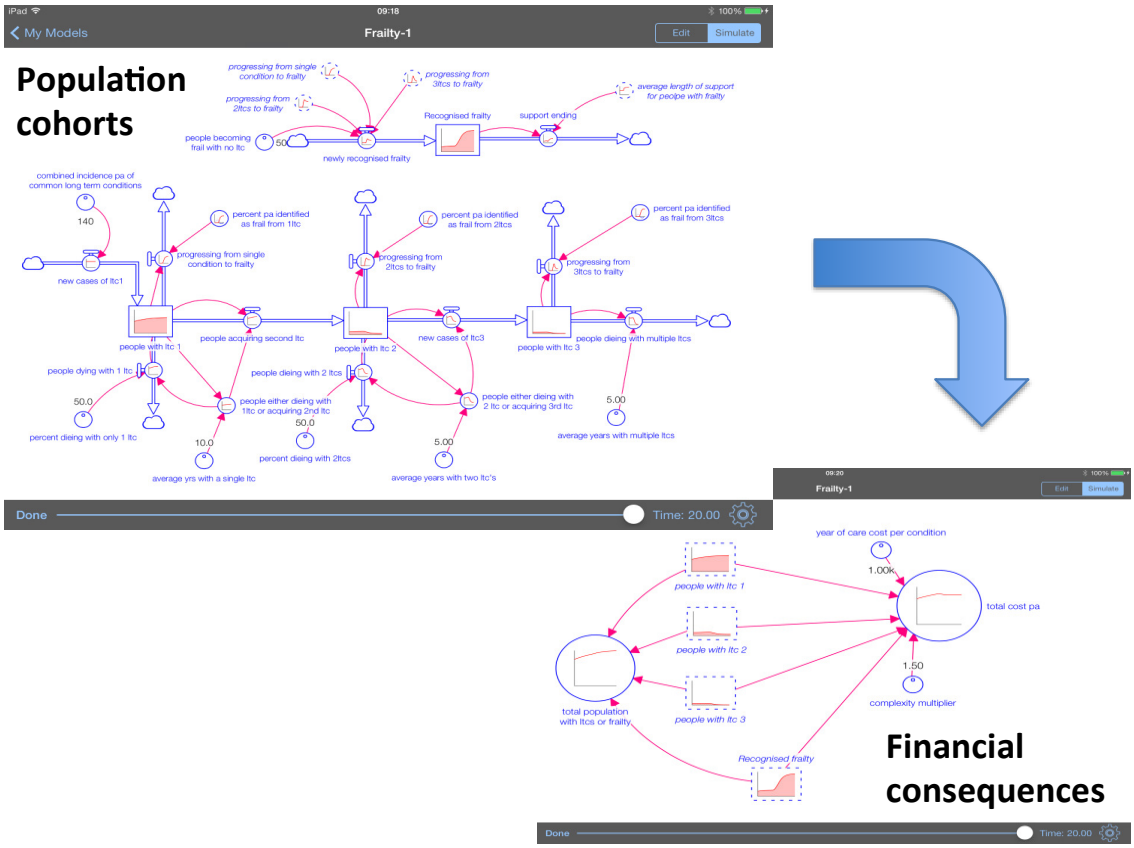

Figure 1 A reconceptualisation of the system for frail and complex needs

There are two key dynamics that challenge our current conceptualisation of this system:

1. That we naturally think from left to right – but that complementing this with a strong right to left dynamic, i.e. the 'pull' required and informed by data mining and risk stratification, which then supports pro-active professional judgement, is a necessary corrective.
2. That we also naturally think about the progression of parallel conditions in individuals but instead need to think about individuals who may acquire more than one condition, i.e. the person-centred rather than condition centred set of needs.

Participants in the round table also recognised the need, as outlined in the preparatory paper, to improve what we know about:

- What constitutes appropriate cohorts of need within a given population such that services can be both effective and efficient in the use of resources – as one participant reflected "*people don't think of themselves as having conditions - they present with collections of symptoms or deficits*";
- What are the best service models, sensitive to local context, that can be implemented locally than reflect and inform the reconceptualization envisaged here;

- How local partners need to be supported and facilitated to ensure adoption and take-up at scale;
- What a balanced set of outcomes look like when we are considering the needs of people rather than of conditions.
- What contribution strong relationships make in new systems of care, between citizens and professionals between professionals, and in the immediate context that people with multiple conditions find themselves – as one service user recently expressed it:

> *"I just don't understand the fuss around maximising independence. Who really wants to be independent? Bake your own bread, grow your own veg, maybe, but milk your own cows, deliver your own post, fix your own hip, no thanks! They really mean independent from public services. Actually, I want to be able to depend on the community around me, when I need it and I quite like it when people feel they can depend on me. The truth is we are all interdependent. It's important to feel that you're valued and a part of something bigger than just yourself."*

These questions need to inform the next steps, which are suggested below.

Key messages for frailty and complex needs

Participants made a number of further comments that could be considered as forming a consensus underpinning the general acceptance of the challenge set out here. This included the need to emphasise:

- The use of simulation and modelling to forge and strengthen the link between the strategic and operational components of change;
- The benefit of seeing the use of simulation and modelling as embedded within a continuous improvement cycle;
- The fundamentally collaborative nature of the exercise;
- The nature of the 'research' that we need to inform this programme, in particular that 'gold standard/RCT' approaches were unlikely to be helpful and may, indeed be counter-productive in understanding complex needs;
- That 'instant results' are unlikely, and potentially undesirable, as we seek a once in a generation cultural change in how we support people with complex needs;
- That we need to be prepared to fail, and then to learn, using the safe environment of simulation and modelling as we progress toward a new consensus, underpinned by appropriate research, evaluation and practical tools that support new ways of working – we're refitting the super-tanker without steering it onto the rocks!

Fundamental to the support that simulation and modelling can provide is to arm collaborators with the intelligence to have better informed arguments! The consensus that emerges, even where differences remain, is, as a result, built on an explicit and transparent set of assumptions that can remain the focus of on-going challenge, research and either validation or rejection.

Next steps

To bring together, under the umbrella of the Cumberland Initiative, a collaborative applied research group that can work with a small number of interested localities to explore, populate and use the reconceptualization outlined in this paper. This group would use the simple systems model illustrated here, alongside informatics, analytical and clinical support to arrive at a prototype application that informs local implementation of service models for people with multiple conditions or frailty, and to link this with patient outcomes, resource management, and strategic workforce planning.

Building the funding case for this, as well as the key relationships with those who wish to partner in the work, should be the next stage.

Who's who:

The following participants in the original round table have reviewed the material in this communiqué and are supportive of its aims:

Prof Terry Young, Brunel University & the Cumberland Initiative (joint chair).

Dr David Paynton, GP (joint chair).

Anita Hayes, NHS IQ and lead for End of Life Care Services.

Dr Bruce Pollington, Clinical Director at the Heart of Kent Hospice.

Prof Carol Jagger, AXA Professor of Epidemiology of Ageing, Newcastle University.

Claire Marchant, Head of Housing and Community Services, Neath Port Talbot County Borough Council.

Geoff Lake, former Adult Social Care Strategic Advisor to North East Lincolnshire CCG.

Susan Hamer, Organisational and Workforce Development Director, National Institute for Health Research Clinical Research Network.

Trish Knight, Director of Workforce, Education and Quality, Health Education East Midlands.

Peter Lacey, Managing Director, Whole Systems Partnership.

Lucy O'Leary, Senior Consultant, Whole Systems Partnership.

John King, Executive Director, Ethos Partnership.

The Cumberland Initiative is a group of Universities, clinicians and industry partners that are committed to transforming the quality and cost of NHS care delivery through simulation, modelling and systems thinking. It has recognised that addressing the needs of people with complex care needs in the context of increased integration is a 'grand challenge' where a range of modelling and simulation approaches can be key to unlocking what is otherwise a daunting transformation agenda.

The Whole Systems Partnership has worked with health and social care agencies in policy and strategic change programmes for more than a decade. It uses a systems thinking approach and system dynamics modelling as a key tool in helping partners to explore strategic change in services such as those for people with dementia, end of life care needs or complex needs associated. They are working with others in the Cumberland Initiative and the Ethos Partnership to see this type of approach delivered at scale across the health and care sector.