How do you measure change in complex systems?
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This is an urgent question, because if we do not try to tackle it, we will continue to measure complex change in ways that oversimplify its nature – and to the extent that measurement sanctions what changes we aim to bring about, we will continue to do the wrong things too much of the time.

Setting the scene

Revaluation is an innovative process for measuring the ‘full value’ of activity in complex systems. It is a new approach, developed in the context of NHS Change Day 2015, a grassroots ‘social movement’ for improving patient experience. The organisers of Change Day felt it was unevaluable – based in part on having tried to do so in previous years – and framed the research task as one of ‘reimagining evaluation’.

Revaluation has since been applied in diverse settings including work on the natural environment, encouraging physical activity, and family nursing; it is continuously being refined through practice. Revaluation is centrally concerned with revealing the value of an activity or intervention in a complex system. Rather than asking ‘what works’, its first question is ‘what is going on?’. 
What is revaluation?

Reevaluation is both a process for measuring change in complex systems, and for making change in those systems. It evaluates in 'real time', helping actors understand their effectiveness as their action or intervention unfolds, in order to increase their impact. In evaluation terms, Reevaluation can be used for both formative (developmental) and summative (impact) evaluations: wherever the question 'what is the value of this activity?' is asked.

While there is much theory (behavioural, inter-relational, evaluative) underlying the approach, Reevaluation is experienced by the actors in a system as a simple participative process involving three phases of activity: telling their stories about the intervention or system, translating those stories into items of data expressing pieces of value, then negotiating with other actors to reach a 'settled account' of the overall value. The process is responsive to the actors’ capacities, and is thus different in each setting. The aim is that the measurement process should be seen as an extension of what actors are already doing, rather than an additional burden which feels apart from their work, and undertaken for someone else.
Stages of the process

The central device of Revaluation is the 6 Box grid for revealing value. This is introduced to actors at the start of the measurement process, and is used as a dashboard to summarise the kinds of value revealed by the end of the study. The main premise of Revaluation is that to develop a full account of the value in a system, we have to measure in three dimensions (the 3 Cs), each of which includes visible and invisible value, as shown below:
Calculate
Involves presenting quantitative outputs and outcomes; and manipulating numbers (summing, or converting using proxy data and ‘multipliers’) to arrive at a single figure, usually in £s. The dominant metric in orthodox evaluation.

Calibrate
Involves qualitative judgements about the relative merits (or cost/benefits) of different actions and outcomes. Based on how actors decide where to direct their efforts (and how much effort to make), both as individual decision making and socialised in groups.

Capacitate
Involves measuring the characteristics and capacity of a movement or network, plus the potential of that network to increase its capacity in future, and thus the value it can generate (ie. its emergent qualities). Included here are relational data, exploring the connections in a network including in space (eg. maps) and time (eg. calendars).

In each of these dimensions, Revaluation explores both visible and invisible value, defined as follows:
Visible Value is based on known data, that which is observed in a system and already collected (at least in some parts of the system). As such, visible value tends to relate to changes past. It can also be considered as direct value: intended impacts and outcomes, in line with the objectives of an intervention.

By contrast Invisible Value is based on knowable data, which could be gathered and generated if actors or commissioners were interested in doing so. A simple example is Return on Investment data, in which wider outcomes are monetised (eg. using proxy multipliers) to make their £ value visible. By extension, invisible value is also that which is hidden by actors (in systems where their work is not supported by commissioners) or which is indirect: not in line with (or unforeseen by) the intended outcomes of the intervention as commissioned.
Principles of revaluation

The approach taken to the gathering of data – based on storying and iteration – and to the analysis of that data – based on collective negotiation (as ‘socialising’) – is underpinned by a handful of design principles. These in turn derive from a diffuse interdisciplinary body of theory about how change happens in complex systems. Evaluations in complex systems should observe these principles, and the implications which follow from them.

- In a complex system, there are multiple actors each pursuing different outcomes, based on multiple theories of how change happens (many tacit).
- In a complex system, the value is most evident at the lowest level of scale (though hard to see from the top/centre). Hence, the actors in a system know best where the value is.
- All value is shared and social (even dominant and absolute-seeming measures of value, such as £ value, are the result of collective negotiation and ‘trading’).
- Indirect value is always bigger than the direct (particularly where specific outcomes or objectives are pre-set, all the work required to achieve them will create more indirect value than the value of the targeted outcomes alone).
- Complex systems (so long as they are living) continue to change (including during and after the evaluation).
- Therefore, co-evaluate (the ‘evaluator’ and ‘evaluated’ are equal).
- Therefore, arrive at a ‘settled account’ of value through negotiation (‘socialise’ around different accounts of value).
- Therefore our answers are contingent – we must produce open-ended iterations, with different answers every time.
- Therefore, measure on multiple scales (apples and oranges), and compare.
- Therefore, the more you revalue, the more you reveal.

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What gets documented and reported

Exhibits
We hold up a mirror to what fragments of theory are in use about how things work and change round here

Story portfolios
Multiple iterations of stories of value in each of the sub systems that make up the system

Social listening
A picture of how the actors talk to each other and about what through social listening and discourse analysis

Mapping
How densely connected are the networks, and what is their potential for further change?

Deep stories
Accounts of personal transformation for personae that represent the population of activists and beneficiaries

6 box read out
Full value dashboard for each sub system and the system as a whole: calculation, calibration, capacitation in both visible and invisible forms

Learnings
What has the system learnt about ‘what is going on?’ (WIGO); and what has been learnt now we can see more of what is going on?

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Revaluation – so what?

Making value visible:
helps system actors to see the system and the full value of it – past, present and potential;

Multiple audiences:
measurement system that organises data to address interests of multiple audiences;

How does it add up:
keeps the question of aggregation open, trying to relate different metrics (apples and pears);

Keeping it complex (enough):
complexity and responsiveness go hand in hand; revaluation is conceptually sophisticated, but accessible as an experience;

Meaning in the inter-dependencies:
much of the value lies in the relationships between different parts of the system;

Fragments of theory in use:
multiple mental models of how change happens are brought out into the open for all to see.
Applications

Revaluation is best suited to contexts in which complexity is acknowledged, such that ‘what is going on?’ is recognised as a good opening question. When subsequent questions relate to the value of that activity (eg. ‘what is good?’, ‘what matters?’, or ‘what is the best thing…?’) then Revaluation can help bring actors together to achieve shared outcomes. Associated attributes of such systems where Revaluation can most improve outcomes include:

- Living systems (ecosystems, but also socio-ecological systems)
- ‘Social movements’, or similar cause-driven collectives or communities of practice, where there is distributed leadership (ie. no one is ostensibly in charge)
- Interventions or activities without pre-set outcomes (objective-free) or where one intervention is designed to produce multiple outcomes (some of which may not be pre-determined)
- Interventions which are explicitly scoped out as ‘more than’ programmes
- Activities or interventions in systems under stress (eg. biodiversity, obesity) – where success involves transformation, or paradigm change

#NHSChangeDay

#MatExp
Change platform to improve maternity experience in London.

Nature Fund
Revaluation of 20 investments in landscape-scale sustainability work in Wales.

Plymouth System Leadership
Embedded system of measurement in system leadership innovation in health and social care service re-design.

Grapevine
Full value read out of the indirect benefits of social mobilisation in Coventry.

Family Nurse Partnership
Northern Ireland
Revealing value for regional partnership providing intense support to young families.

Leadership Centre
Informing understanding of value of system interventions in 9+ A&E delivery boards

Derbyshire Active for Life
Working alongside system actors to develop measurement system for making shared value visible.

NHS Leadership Academy
Analysing stories of the value of the developing diversity of NHS leadership.

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