Will practice ever be evidence based?

The apparent failure of evidence-informed practice and what we might do about it

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A bit about me

Director of Centre for Children's Social Care Research and Development (CASCADE) at Cardiff University

Involved in setting up the new national What Works Centre in Children's Social Care

Have led projects with an overall worth of over £13 million – usually focussed on evaluating what works… also academic lead for the largest social work qualifying programme in UK

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When in fact – often riven with doubts, often change my mind and currently uncertain about evidence based practice

My journey

- Accidentally did a Psychology degree…
- Moved to social work with children and families (M.Sc.)
- Frustrated by lack of evidence base
- Tried to develop better evidence (PhD and 20 years)
- Currently not sure that is working…

Overview

A critical reflection on the limitations of evidence based practice and what we might do instead or as well

Overview

Key recurring issues:

- Causality
- Complexity
- Context

…and their implications for

- Generalisability

Overview

1. Overview of evidence-based practice (EBP)
   - Randomized controlled trials and systematic reviews
   - Realist approaches
   - Irreducible problems of generalisability and complexity
2. Tentative proposals for making more of a positive difference:
   - Ways of staying close to practice
   - Complex systems analyses
   - The importance of feedback loops
   - Using existing data and data linkage

Children's Social Care in the UK

My area is "children's social care" in UK.

Though the arguments are of general relevance – to evaluation of complex interventions

This covers

- Response to child abuse or neglect
- Response to other needs – disability, parenting difficulties

Children's Social Care in the UK

Key elements:

- Very large number of referrals of "concerns"
- Work with children "in need" (400,000)
- Children at risk of "significant harm" worked with in families on "child protection plans" (55,000)
- Children – usually removed from families – "in care" (70,000)
- Plus wider services for such families

- These numbers are larger - absolutely and proportionately - than Hong Kong

Classic evidence based practice (EBP)

- I use EBP and Evidence-Informed Practice interchangeably
- Interested application at service level – not that of the individual practitioner
- Classic EBP values randomized controlled trials (RCT) and collates these into Systematic Reviews
- Argues this evidence should be fundamental to policy and practice

RCTs are one of our greatest intellectual achievements

The Logic of RCTs

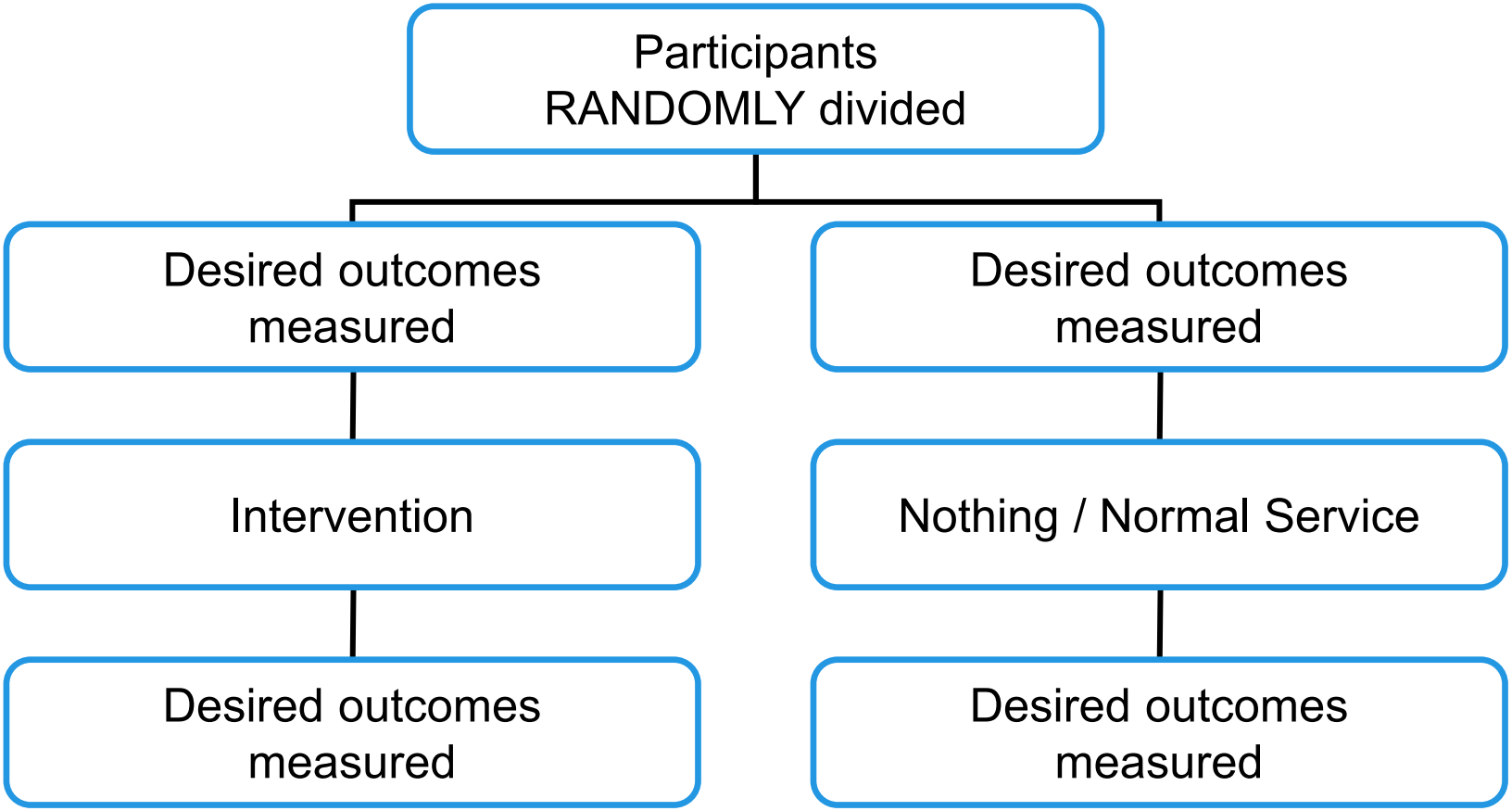
How do we establish that:

A → B

Intervention Causes Outcome

Intensive Family (IFPS) Preservation Service → Keeps children in families

What is an "RCT"?



What are advantages?

- RCTs are a way of identifying causality in a complex world
  - They deal with the complexity of potential other factors that might influence outcomes
  - As the only difference between the groups is the intervention it can be concluded that the intervention caused the difference
- This is powerful – as many factors influence outcomes
- Systematic Reviews search for all RCTs (or broader) and pool the findings –a thorough summary of robust evidence

RCTs and Intensive Family Preservation Services - IFPS

- Before and after studies found 80-100% remained at home
- Large RCT found… no difference
- But subsequent RCTs and quasi-experimental studies tended to find a positive difference

This pattern of results illustrates both the contribution and the limitation of RCTs:

- RCT was the toughest test of outcomes
- But different RCTs produce different outcomes

Bezeczky et al (2019) Systematic Review of IFPS

Internal and External Validity

- Internal validity – can we know A caused B?
  - RCT a very strong test for this
- External validity – do the results apply elsewhere?
  - In reality: it always varies
  - Systematic Reviews have a rather simplistic, probabilistic approach to this – weighing the numbers

Complication, Complexity and Causation

- An RCT establishes a causal relationship between an intervention and an outcome – in that study
- Generalising is problematic:
  - The intervention is complicated and complex
  - The system it is in is complex
  - That system is embedded within complex systems
  - The families and problems worked with are also complicated and complex and affected by multiple systems

A theoretical problem with big practical implications

Couple of additional considerations:

- Delivery likely to be high standard in RCTs – can we sustain this?
- What do the comparison group get?

For instance, things that work in US but not in UK

- Multi-systemic family therapy to keep children out of care
- Family Nurse Partnership
- Intensive Family Preservation Services??

A much bigger question … how can we generalise knowledge?

- Applies across social sciences – and beyond
- Applies to other research, not just RCTs
- The problem for conventional EBP is:
  - It makes claims to generalisability
  - These are largely based on piling up results
  - This is not sophisticated or persuasive
  - … and there is little evidence of EBP being able to deliver benefits to scale

EBP and going to scale: "Implementation Science"

- A very large literature I am not going to do justice to
- My general take on it:
  - Scaling up human service interventions is really really difficult
  - Sustaining the changes even more difficult
  - Because you have to change what professionals are doing – and keep the change going
  - Changing people (professionals) in order to change people (parents and children)… is difficult!

EBP and going to scale: "Implementation Science"

Fixsen et al (2005) reviewed literature and concluded effective implementation involves:

- Carefully select, train, supervise, coach, process evaluate staff
- Organisational commitment, resources and ongoing outcome evaluation
- Funding, policies, regulations to support it
- Involve those receiving, delivering and leading service throughout

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WOULD THIS NOT IMPROVE SERVICES ANYWAY?

Problems for EBP

- In practice … disappointing?
- Limited evidence on implementation, scalability and sustainability
- Tendency toward a highly prescriptive approach – the science of getting people to implement the "right" way
- Creation of "evidence based" franchises…
- Much of this is the logical outcome of problems with generalisability that flow from tightly defined approach to interventions – which is necessary to do RCTs

Realist evaluation and the promise of mid-level theory

- Realist evaluation critiques the theory of causation embedded within EBP
  - Probabilistic
  - Deterministic
  - **Atheoretical**

- Without explaining causation we cannot make claims to generalisability

Realist evaluation and the promise of mid-level theory

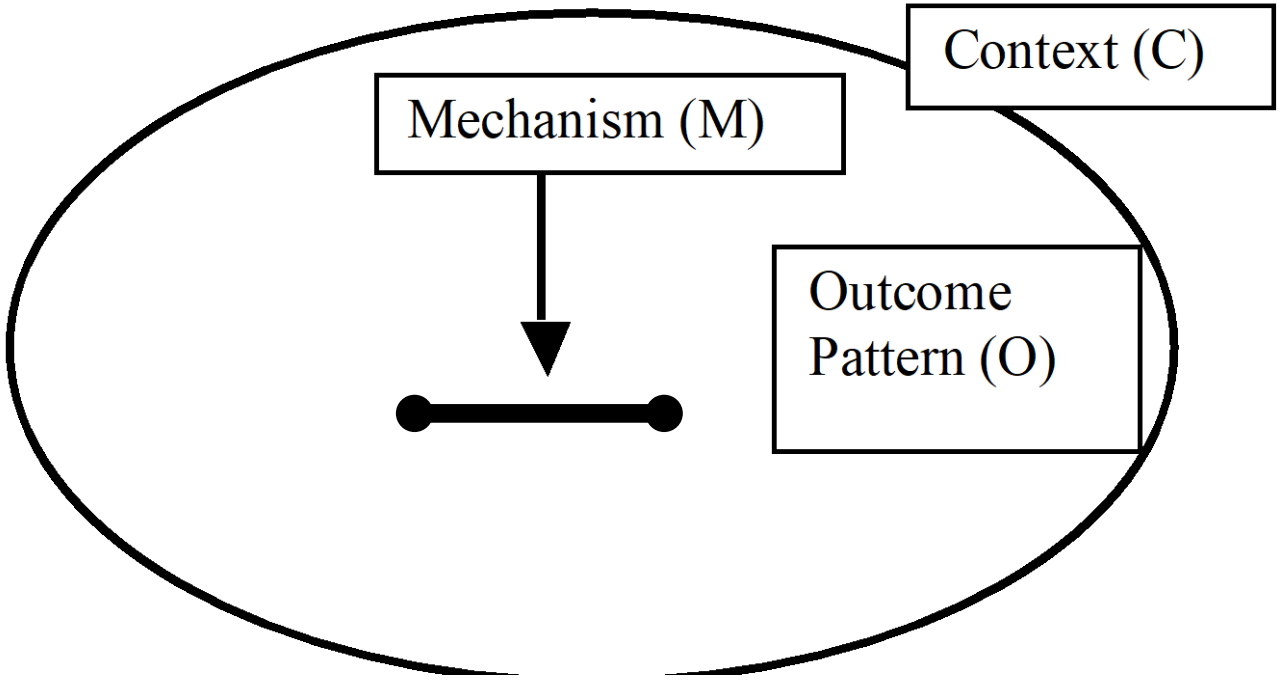
- Start not with method but with theory:

"It is the power of conceptual abstraction that provides investigative memory. It allows research to move from one context to another, one substantive area to another and still allows for learning and transferability as the same explanatory ideas are tested and retested, shaped and reshaped."

Pawson, 2008

- "what works, for whom, in what circumstances and why"

Mechanism, Contexts, Outcome Patterns (MCO)



Generative causation

- Explain mechanisms that cause patterns of outcomes
- Causation is about human agency – or at least the reasons, feelings, ideas that influence what people DO
- The mechanism explains what happens to influence people's thoughts, feelings, motivations etc.
- Causal explanations are propositions – that mechanism/s, in particular contexts produce certain patterns of outcome
- Realist evaluation is theory led, mixed method, usually iterative and can be co-produced

Is Realist Evaluation living up to its claims?

- Considerable debate about the core elements – when is a mechanism a mechanism, or a context a context
- No technical answer to such questions – much depends on the level of understanding sought
- We put Realist approaches at heart of the What Works Centre for Children's Social Care
- Very helpful for better understanding of what might make an intervention "work"
- BUT…

Is Realist Evaluation living up to its claims?

Fletcher et al, 2016 – Realist contribution to complex intervention science…

1. Realist Reviews – identifying CMOs
2. Case studies and Process evaluations
3. Feasibility and Pilot studies
4. RCTs

Is Realist Evaluation living up to its claims?

Fletcher et al, 2016 – Realist contribution to complex intervention science…

Really struggled with evidence on implementation, scalability and sustainability

Though obviously in principle well placed to help us think about these…

Is evaluation living up to its claims? Some case studies

- UK Alcohol Treatment Trial
  - Comparison of motivational, social network and AA
  - All equally effective...
  - Being used??
- The ASSIST smoking reduction programme:
  - Strong RCT (2008)
  - Used in 51 schools... Is it still working?
- IFPS in the UK
  - Worked in pilot study
  - ... Not when rolled out?

Is evaluation living up to its claims? Thought experiment 1

If we had say £100 million … and did an RCT of EBP in all the local authorities in the UK for 10 years…

So trial arms are:

1. EBP – RCTs, Systematic Reviews, Realist research on CMOs and widespread urges to implement
2. Business as usual – but they get the money

Would there be a significant improvement in outcomes?

Would it last?

Is evaluation living up to its claims? Thought experiment 2

As a leader of a busy and pressured service for children and their families… what do you want from research?

Is evaluation living up to its claims? Thought experiment 2

As a leader of a busy and pressured service for children and their families… what do you want from research?

Ideally simple solutions to intractable problems

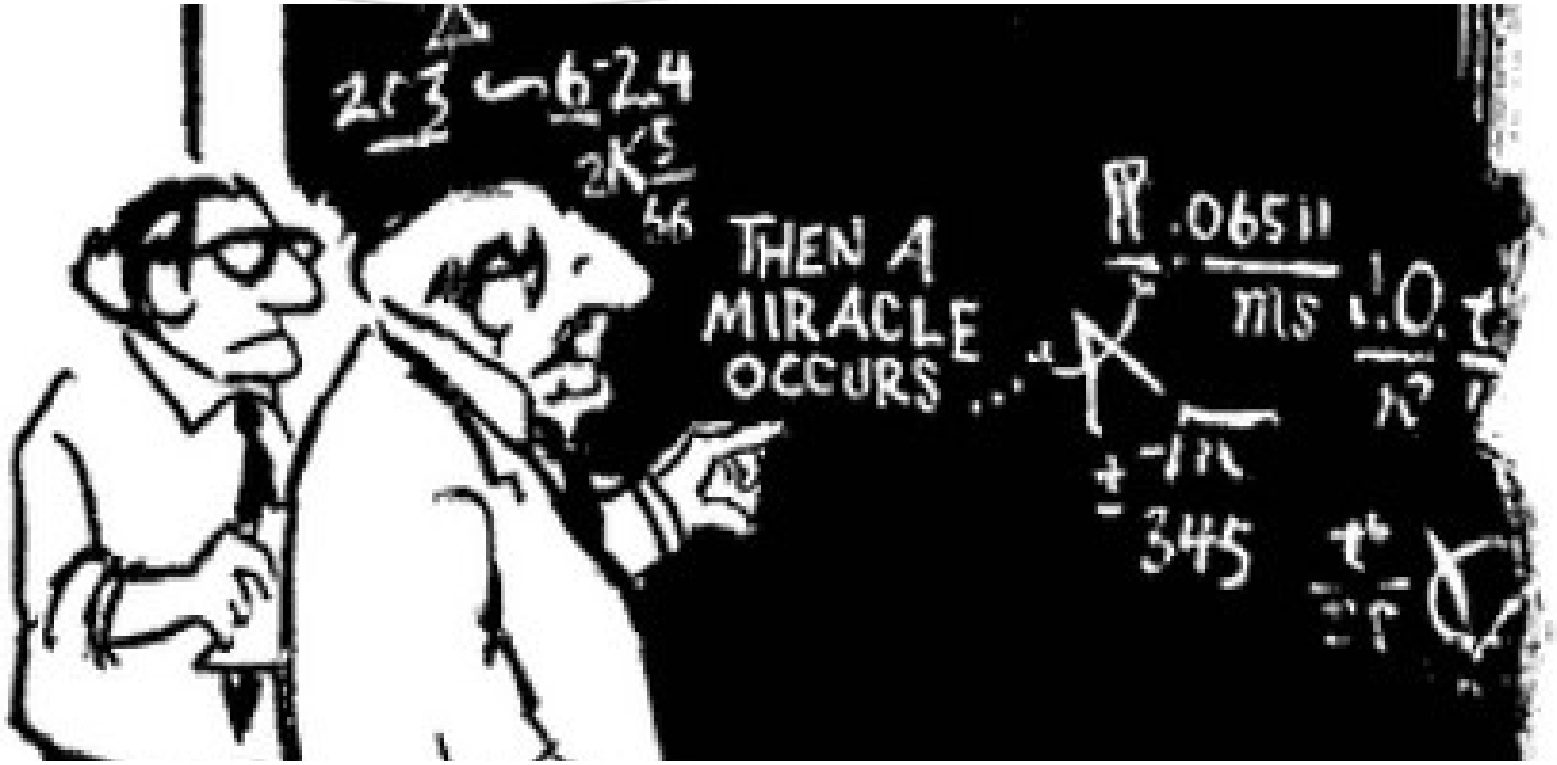
…. Because complicated solutions are unlikely to work

… And simple problems can be solved without help

And by and large everyone is already trying their best

In the absence of that?

Maybe we need to be more explicit about the link between research and practice?



Causality, Context and Complexity: A Way Forward?

EBP should:

- Review existing evidence for what works
- … And what does NOT…
- Understand mechanisms and contexts that influence this (perhaps without the methodological complexity of Realist approaches unless that can be shown to add value)
- Sometimes develop and pilot an RCT where there is no evidence

Causality, Context and Complexity: A Way Forward?

EBP should ALSO:

1. Start from where a service is – what they see as the problems and what is happening now
   - Views of children, parents, workers, leaders
   - Observations
   - To build theories about the complex systems in which practice takes place
     - Systems and Realist approaches particularly helpful

Causality, Context and Complexity: A Way Forward?

2. Build interventions to address these problems

- Ideally simpler – tackling one element of the system
- An intervention should be the simplest possible way of addressing an identified problem

- EBP has focussed on developing and evaluating complex interventions e.g. Multi-systemic family therapy or even cognitive behavioural therapy
- Sometimes we need complexity – but it confounds generalisability
- Could we develop simpler interventions e.g. Different ways of doing a meeting or engaging someone in work?

Key point: build system of constant feedback

3. Build ongoing feedback to evaluate the impact of the intervention, e.g.
   - Process or implementation measures (including observation)
   - Quantitative measures e.g. Complex systems modelling, simple number counting
   - Where possible good counter-factuals
   - But maybe best counter factual is change within the system
     - If taken to scale could be e.g interrupted time series
   - Use existing datasets and linkage

Key point: build systems of constant feedback

- Already a feature of implementation of many evidence based interventions:
  - Process measures
  - Monitoring of outcomes
- Move to build evidence based systems rather than evidence based interventions
  - use data to improve themselves through feedback loops
- Rather than building evidence in one place – implementing it in another, seek to build evidence in situ
  - "weighing a pig does not make it fatter"
  - Need to find ways to USE the evidence we feedback

Example: Systems analysis of variations in children in care

- 58% increase in children in care in Wales in last 15 years, more than England and variation between apparently similar areas

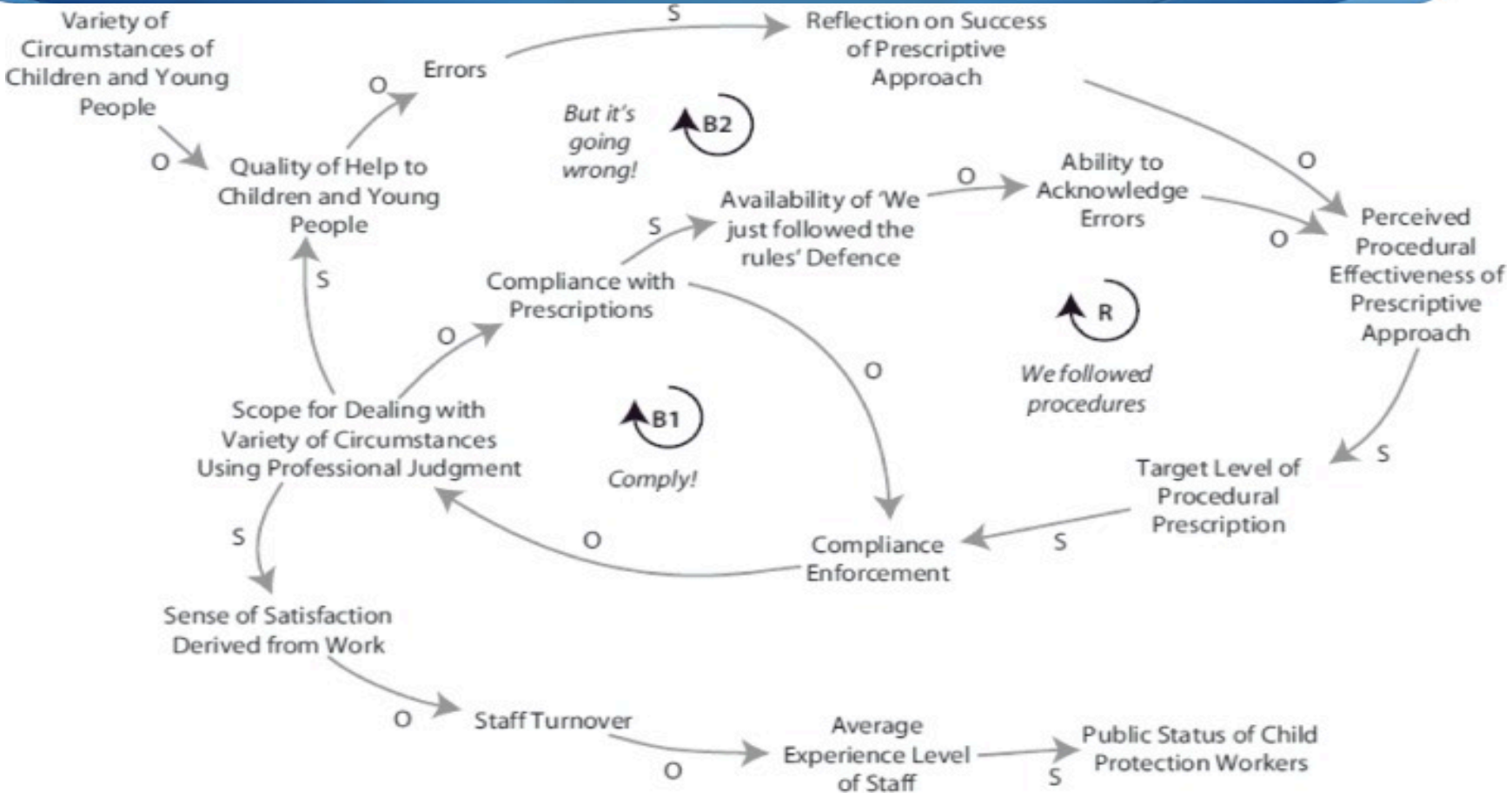
Proposal: Work with 4 areas, 2 in Wales and 2 in England

1. Developing models –"stock and flow", what happens to referrals and why.

2. Testing models – worker responses to case studies

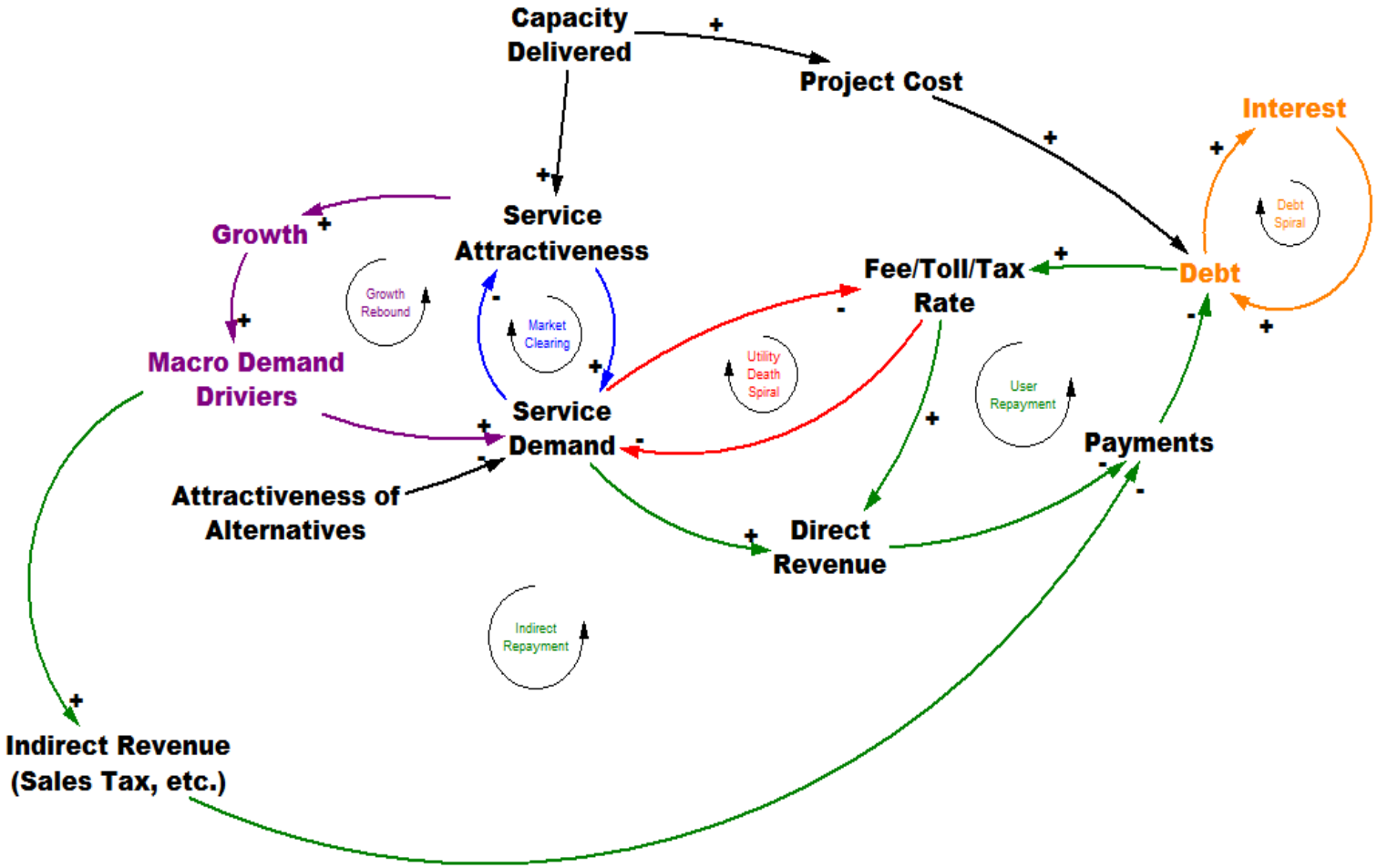
3. Formulating system interventions –workers, children and parents involved in collaborative system design

Example: Prescriptive social work practice



Source: Munro (2010)

Example: Systems analysis of variations in children in care



Example: Systems analysis of variations in children in care

- Relatively simple representation of very complex underlying set of equations
- Allows simulation of proposed changes and identification of differences between systems
- Development of interventions for key points within the system
- Ongoing evaluation of difference that they can make

Example: using existing data linkage

- Social care data can be linked with health, education, crime and many other datasets
- Provides feedback on some "outcomes" and long-term follow-up
- Rich resource for research
  - Allows much lighter touch evaluation
- How can areas use it to improve their practice?
- How can we use it to inform wider systemic changes?

Conclusions

- Do not know the "answer" to making practice better through evidence
- But I believe the starting place is by immersing ourselves in the reality of practice and THEN trying to build evidence for what might help children and their families
- This is neither a new nor a revolutionary insight… but it is nonetheless certainly not what currently tends to happen in the development of "evidence based practice".

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