Making Causal Claims

Workshop on Impact, Learning and Innovation
Institute of Development Studies, Brighton (UK)
March 26-27, 2013

John Mayne, Ph D
Advisor on Public Sector Performance
Adjunct Professor, University of Victoria
john.mayne@rogers.com
The Context

• Development impacts result from a mix of actions and context:
  – the actions of the intervention
  – other events and conditions at play
  – other interventions at work
  – other relevant contextual factors

• We want to know what the intervention accomplished? Did it make a difference?
Improving education outcomes for girls

Intervention operates through raising the knowledge, skills and awareness of teachers.

Other relevant factors here might be:

• the willingness of teachers to support the education of girls
• the support of parents for their daughters to attend schools and study at home
• the ability of girls to get to the schools
• the adequacy of the schools to accommodate girls
Conceptualizing Causality

What kind of causal relation exists then between a development intervention (X) and an impact (Y)?

- Can we say X causes Y? No
- Is X necessary for Y? No
- Is X sufficient for Y? No

But we clearly want to make some causal link between the intervention and the impact
Conceptualizing Causality

- An intervention works as part of a broader **causal package**. And if it works, then this causal package is indeed sufficient to bring about the impact.
- Further, if the intervention is 'working', then it is an essential part of this causal package
- An INUS cause
Intervention Causality

• Thus, an intervention “made a difference” when:
  – The *intervention causal package* was sufficient to bring about the impact, and
  – The intervention was a necessary component of the causal package

• The intervention in this case is a *contributory cause*. On its own it is neither necessary nor sufficient.
The Intervention as Trigger

Intervention is one among several ‘causes’. But is that all? We probably expect more, that the intervention:

• acts as a trigger to start the causal chain (the spark that lights the fire)
• and may act as sustaining support for change along the way (gasoline to keep the fire going)

A principal contributory cause
Meaningful Causal Questions

1. Has the intervention *made a difference*?
   - Is the intervention a contributory cause?

2. Why has the impact occurred?
   - How did the causal factors bring about the result?
   - What was the context and the mechanisms?
   - What role did the intervention play?
Demonstrating Contributory Cause

How then to show that the intervention made a difference?

1. Connecting to theory-based approaches
2. Sufficiency through generative (process) causality theory-based approaches, such as contribution analysis
A Generic Theory of Change

Activities and Outputs
- Reach & Reaction
- Capacity Changes
- Behaviour Changes
- Direct Benefit Changes
- Impact

Impact Assumptions & Risks
- Other Explanatory Factors

Direct Benefits Assumptions & Risks
- Other Explanatory Factors

Behavioural Change Assumptions & Risks
- Other Explanatory Factors

Capacity Change Assumptions & Risks
- Other Explanatory Factors

Reach Assumptions & Risks
- Other Explanatory Factors

External Influences

Supporting Activities and Outputs
Theories of Change and Causal Packages

• *Theories of change are causal packages,* and more:
  – ToC identify supporting factors (assumptions) and confounding factors (risks)
  – ToC set out the relationship between the supporting factors and the intervention

• *ToC is a model of the intervention as a contributing (INUS) cause*
Four approaches to causal attribution

• *Regularity frameworks* that depend on the frequency of association between cause and effect - basis for statistical approaches

• *Counterfactual frameworks* that depend on the difference between two otherwise identical cases - basis for experimental and quasi experimental approaches

• *Comparative frameworks* that depend on combinations of causes that lead to an effect - basis for ‘configurational’ approaches, such as QCA

• *Generative frameworks* that depend on identifying the causal links and ‘mechanisms’ that explain effects - basis for ‘theory based’ and ‘realist’ approaches.
Contribution Analysis

Using a generative perspective on causality, CA shows that an intervention is a contributory cause:

• The expected result occurred
• The causal package is sufficient
  – supporting factors (assumptions) occurred and any other supporting factors have been included in the ToC
  – plausible rival explanations have been accounted for
• The intervention is necessary for the package to be sufficient
• And can explore the role the intervention played, such as a trigger
Main Messages

• We expect most interventions are **principal contributory causes**
  – The intervention causal package is sufficient & the intervention is essential to the package

• Want to also know **why** the impact occurred; to be able to explain

• **ToC are models** of the intervention as a contributory cause

• Contribution analysis and other T-B approaches can be used to explore and **demonstrate** contributory causes
Some References


