

Improving patient safety and health care: How do we know what works?

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Success!



The NEW ENGLAND JOURNAL of MEDICINE

An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU
Peter Pronovost, et al December 2006

Conclusions: An evidence-based intervention resulted in a large and sustained reduction (up to 66%) in rates of catheter-related bloodstream infection that was maintained throughout the 18-month study period.



Large scale organisational intervention to improve patient safety in four UK hospitals: mixed method evaluation

Amirta Benning et al

BMJ 2011 ;342 doi: <https://doi.org/10.1136/bmj.d195>

Conclusions The introduction of SPI1 was associated with improvements in one of the types of clinical process studied (monitoring of vital signs) and one measure of staff perceptions of organisational climate. There was no additional effect of SPI1 on other targeted issues nor on other measures of generic organisational strengthening.



The NEW ENGLAND JOURNAL of MEDICINE

Introduction of Surgical Safety Checklists in Ontario, Canada

David R. Urbach, M.D., Anand Govindarajan, M.D., Refik Saskin, M.Sc., Andrew S. Wilton, M.Sc., and Nancy N. Baxter, M.D., Ph.D.

N Engl J Med 2014; 370:1029-1038 | March 13, 2014

Conclusions: Implementation of surgical safety checklists in Ontario, Canada, was not associated with a significant reductions in operative mortality or complications.



Health Affairs **Blog**

Health Care Reform And The Trap Of The “Iron Law”

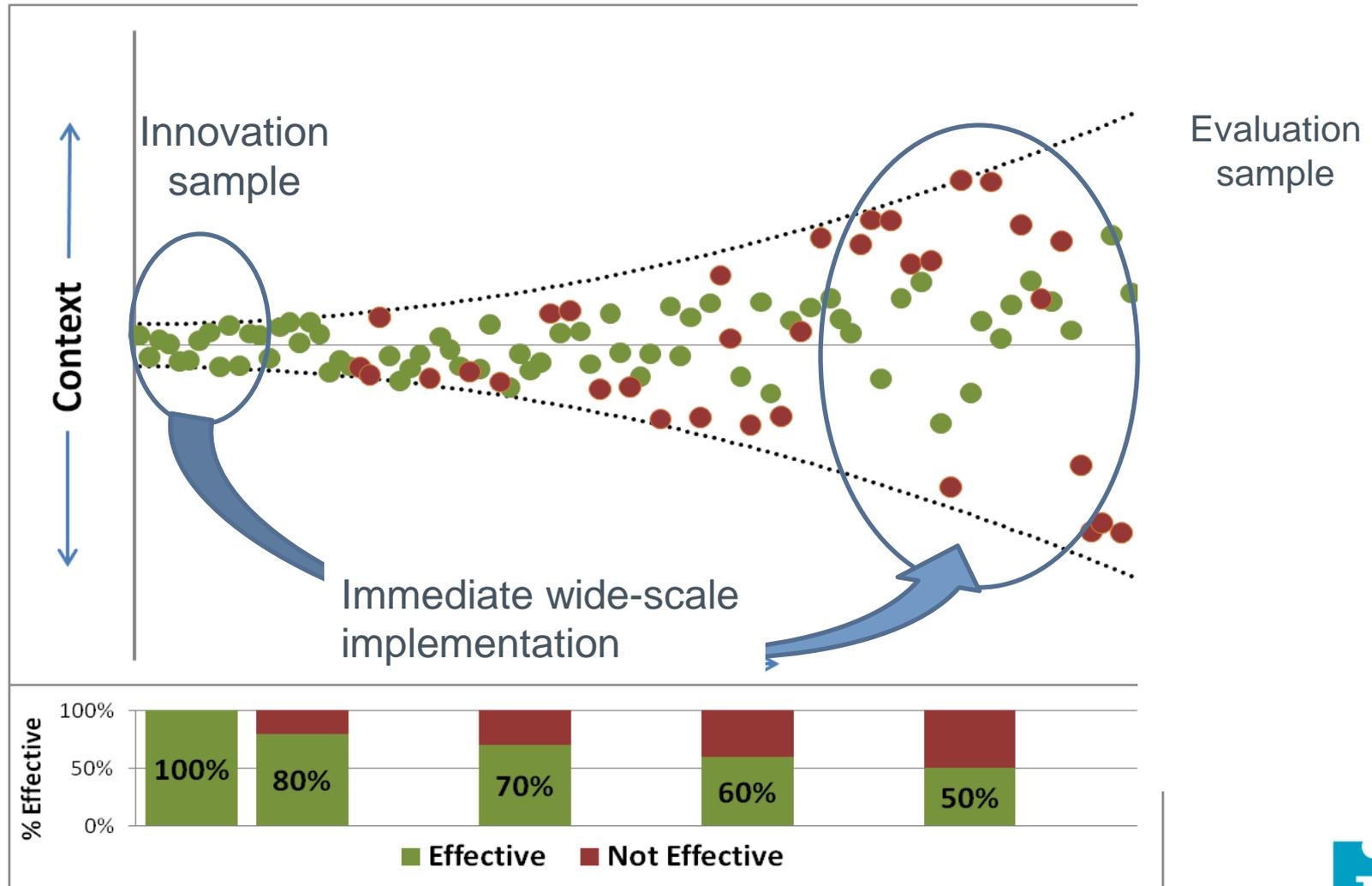
Rocco Perla, Amy Reid, Sandy Cohen, and Gareth Parry



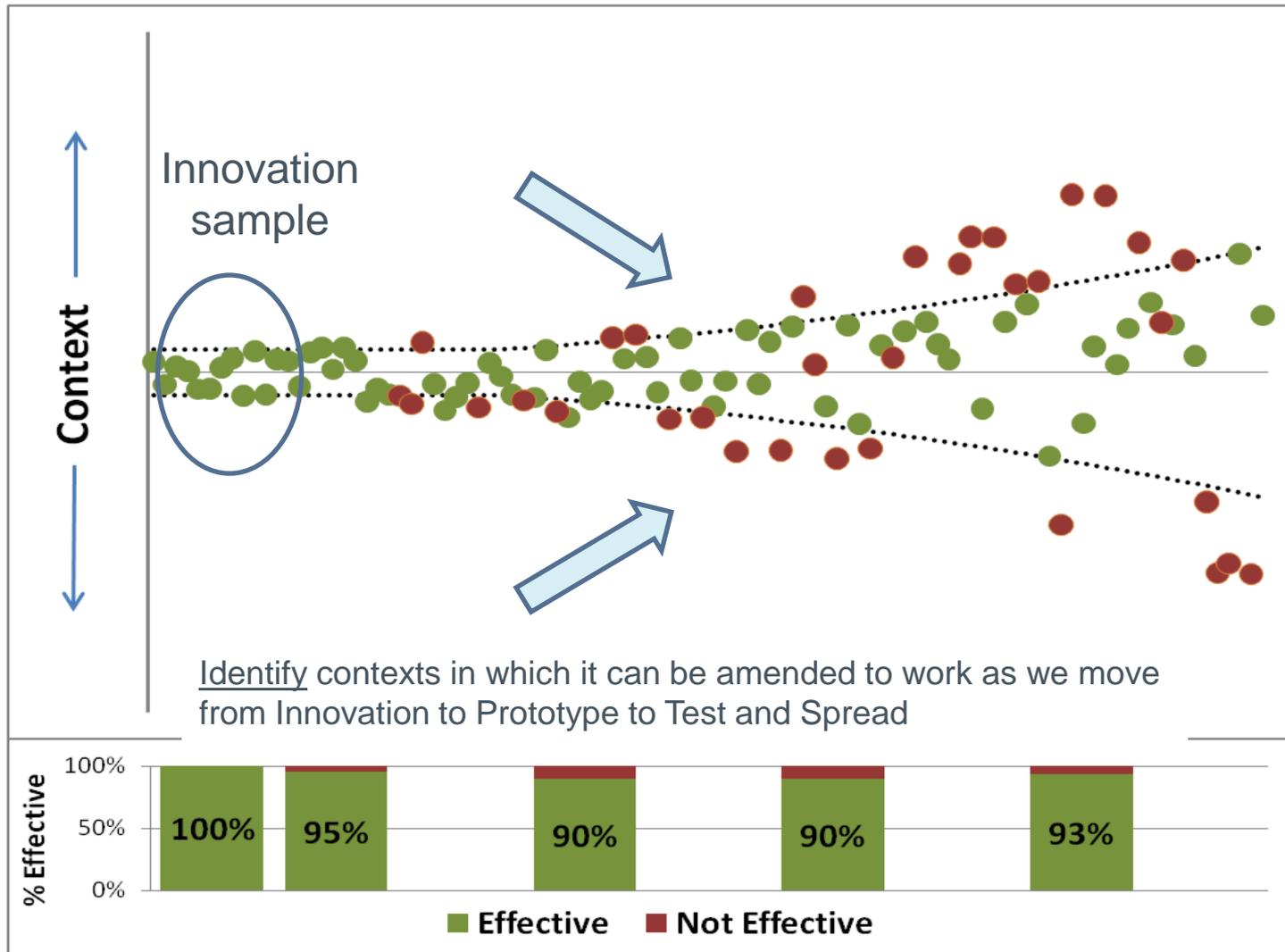
“..described in the 1980s by American program evaluator Peter Rossi as the “Iron Law” of ... arguing that as a new model is implemented widely across a broad range of settings, the effect will tend toward zero.”



Reduction in Effectiveness from Applying Same Fixed-Protocol Program in Different Contexts



Where Can a Model Be Amended to Work?



Core Concepts & Detailed Tasks

Core Concepts

Use a reliable method to identify deteriorating patients in real time.

When a patient is deteriorating, provide the most appropriate assessment and care as soon as possible

Theory

Detailed Tasks and Local Adaptations

MEWS ≥ 5

MEWS ≥ 4

2 Nurses
1 Physician

1 Nurse
1 Physician

1 Physician

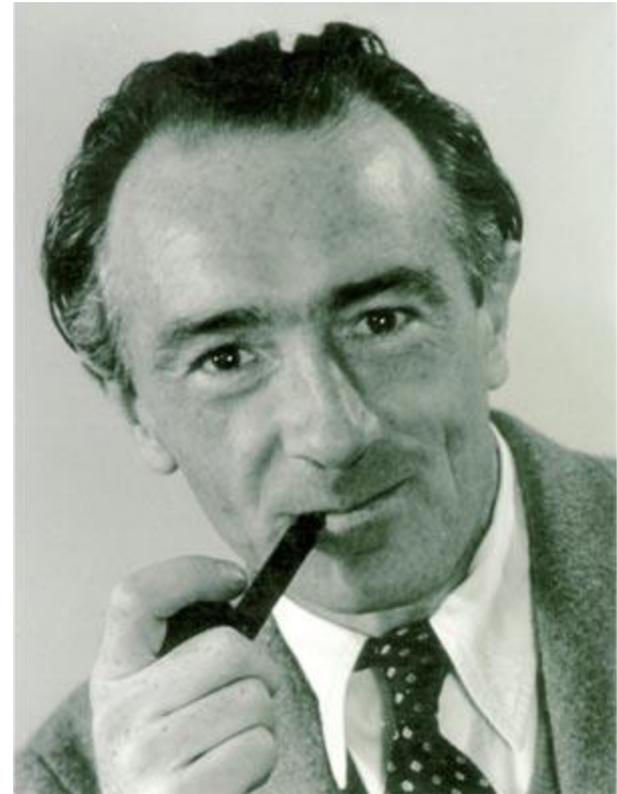
Action



Degree of Belief



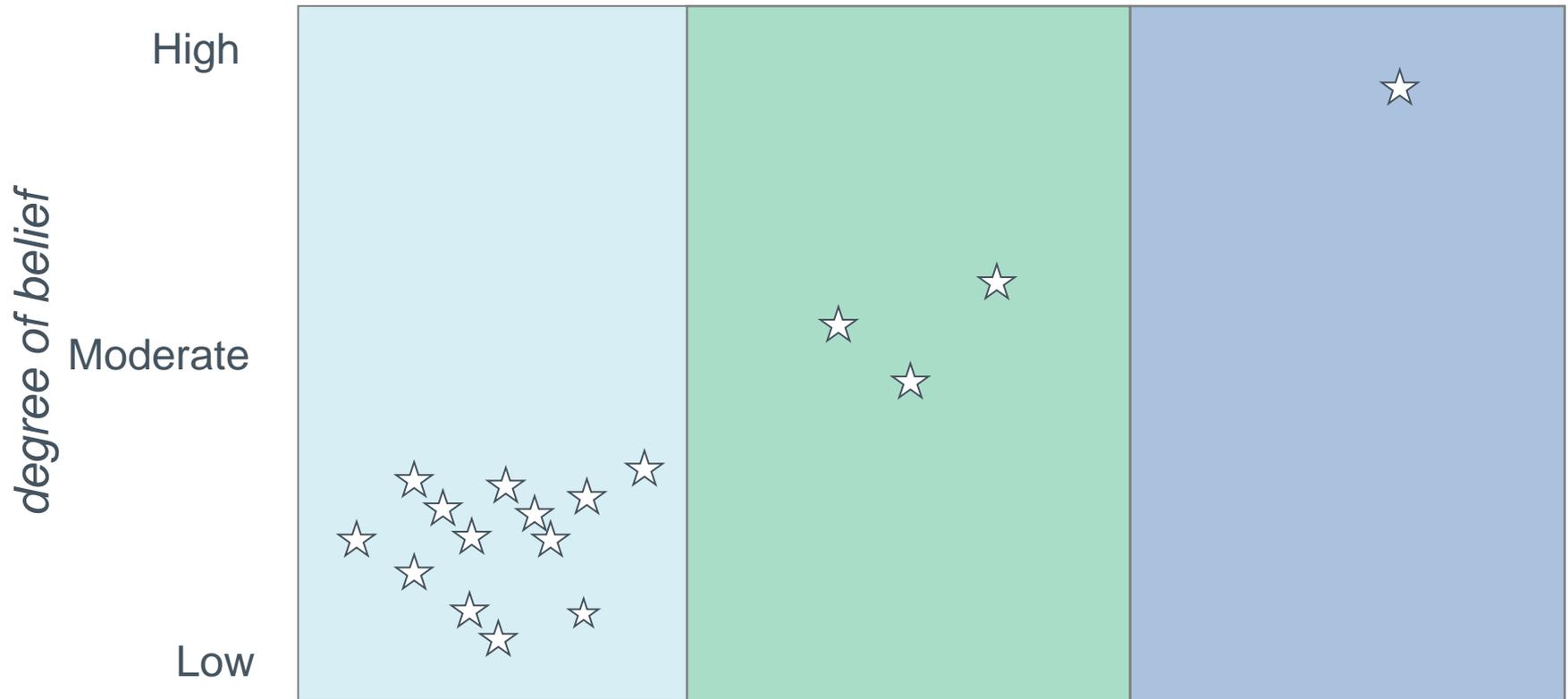
Evidence



Act



Degree of Belief in Change Ideas



Innovation

Generate/discover new models of care with evidence of improvement in a small number of settings.

Testing

Test whether a model works or can be amended to work in specific contexts.

Scale up and Spread

Implementation of models shown to apply in a broad range of contexts.



The scientific basis of improvement?

<1950s

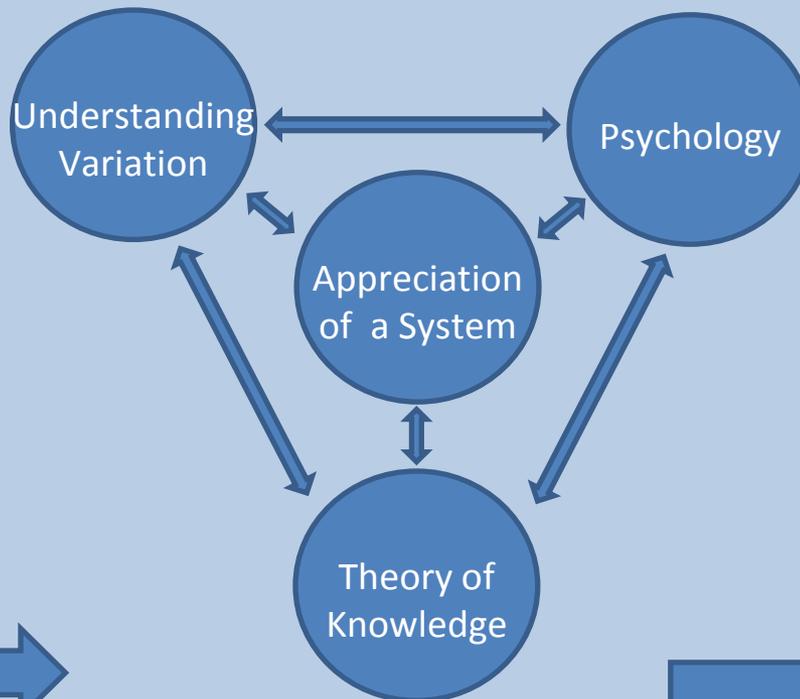
History of
Science

The Scientific
Method
Epistemology

CI Lewis
Plato
Carl Popper
Foucault
Etc...

Deming 1900-1993

System of Profound
Knowledge



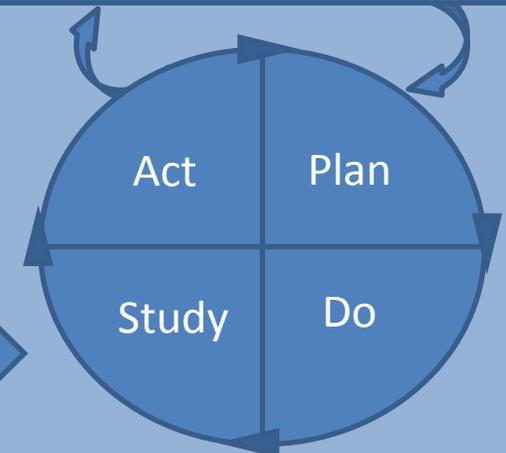
Langley et al 1997

The Model for
Improvement

What are we trying to
accomplish?

How will we know that a
change is an improvement?

What change can we make that
will result in improvement?



THE
MILBANK QUARTERLY

Explaining Michigan: Developing an Ex Post
Theory of a Quality Improvement Program

MARY DIXON-WOODS, CHARLES L. BOSK, EMMA
LOUISE AVELING, CHRISTINE A. GOESCHEL,
and PETER J. PRONOVOST

Conclusions: Updating program theory in the light of experience from program implementation is essential to improving programs' generalizability and transferability, although it is not a substitute for concurrent evaluative fieldwork. Future iterations of programs based on the Michigan project, and improvement science more generally, may benefit from the updated theory present here.

(4) *Milbank Quarterly*, 2011

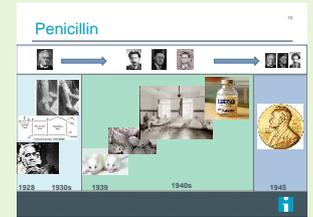
- 1) Generating the pressure (will) for ICUs to take part
- 2) A networked community
- 3) Re-framing BSIs as a social problem
- 4) Approaches that shaped a culture of commitment
- 5) Use of data as a disciplinary force
- 6) Hard edges



From an Improvement Perspective:

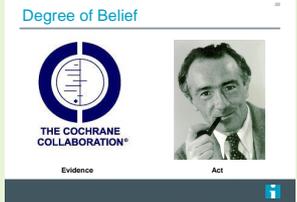
Learning

Learn what it takes to bring about improvement.



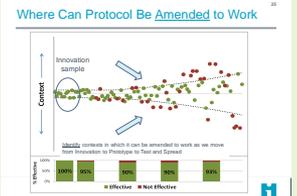
Social Change

Improvement requires social change and that people are more likely to act if they believe.



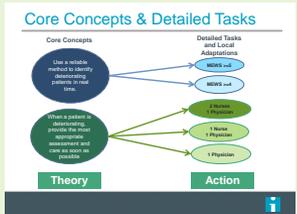
Context Matters

Interventions need to be amended to local settings (contexts).



Initial Concepts

Concepts rather than fixed protocols are a good starting point for people to test and learn whether improvement interventions can be amended to their setting.

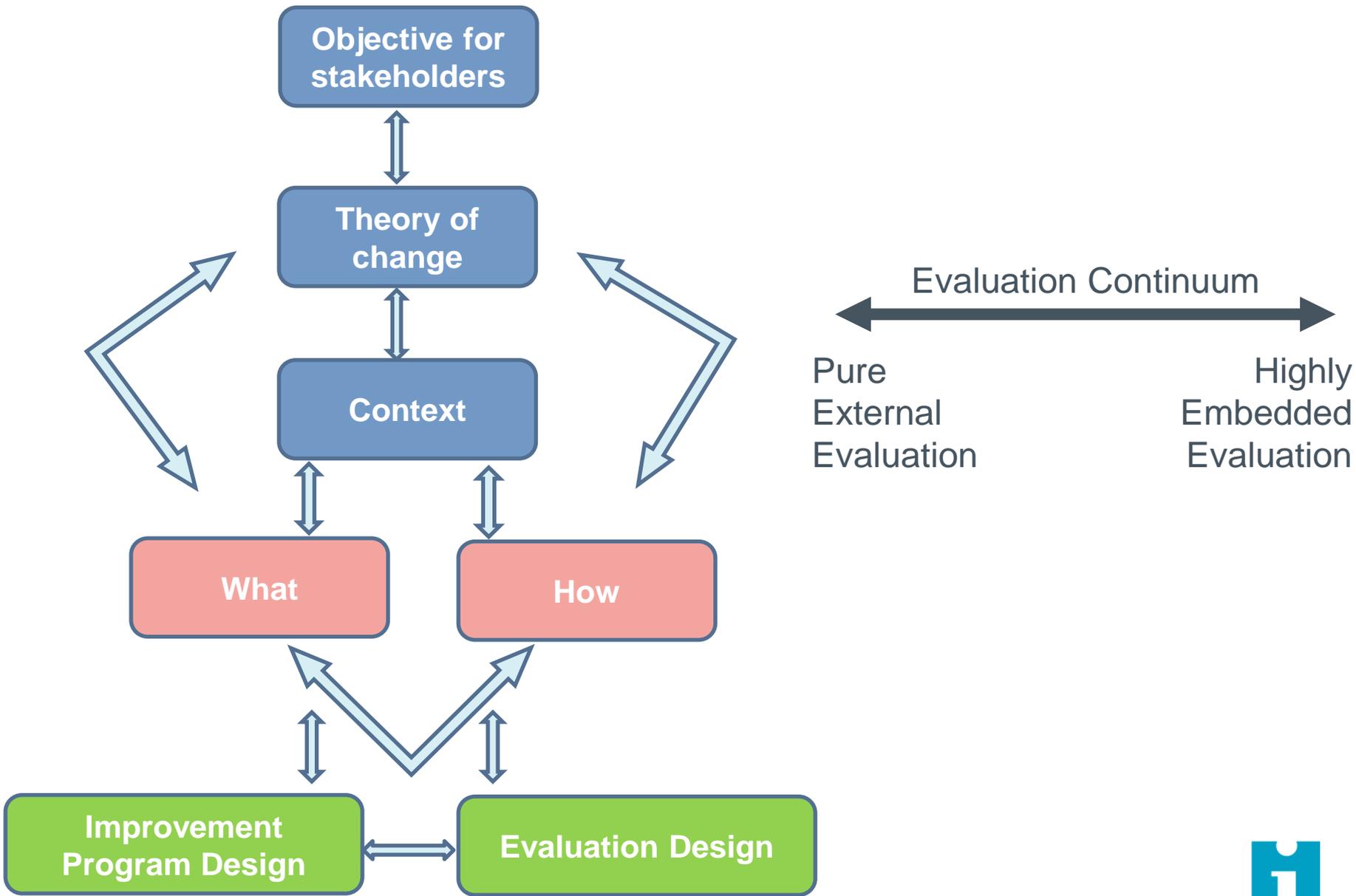


We need: 'Theory-driven rapid-cycle formative evaluation'

Salzburg Global Seminar Session 565



Framework for learning about improvement

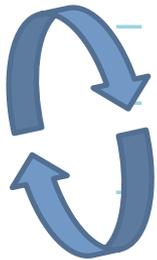


Improvers and Evaluators as best friends

Evaluability Assessment

With all key stakeholders:

- Agree the Theory of Change
 - Five Core Design Components
- Agree the evaluation design, including:
 - Agreeing on the evaluation questions
 - Formative and/or summative approaches
 - Availability and Use of Data
 - Available human and financial resources

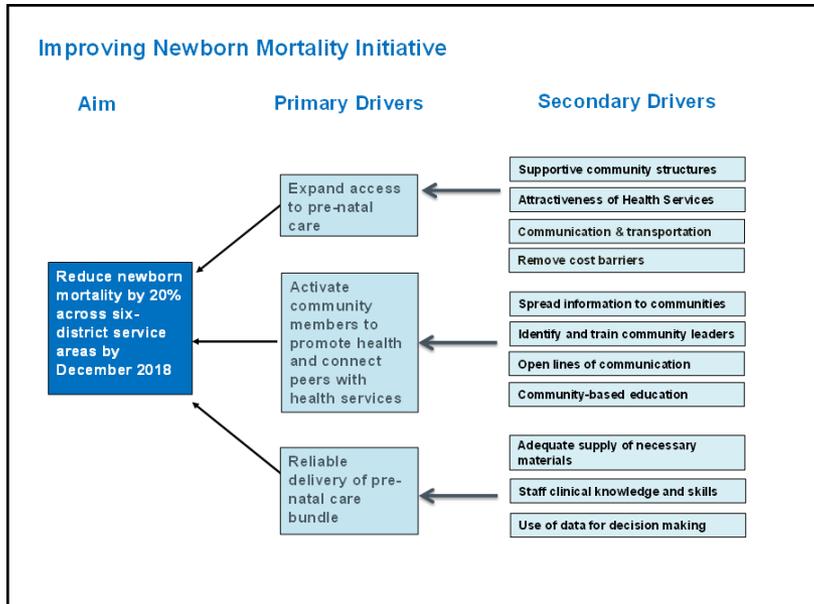


Leviton LC et al Evaluability assessment to improve public health policies, programs, and practices. Annual Review of Public Health. 2010 Apr 21;31:213-33.

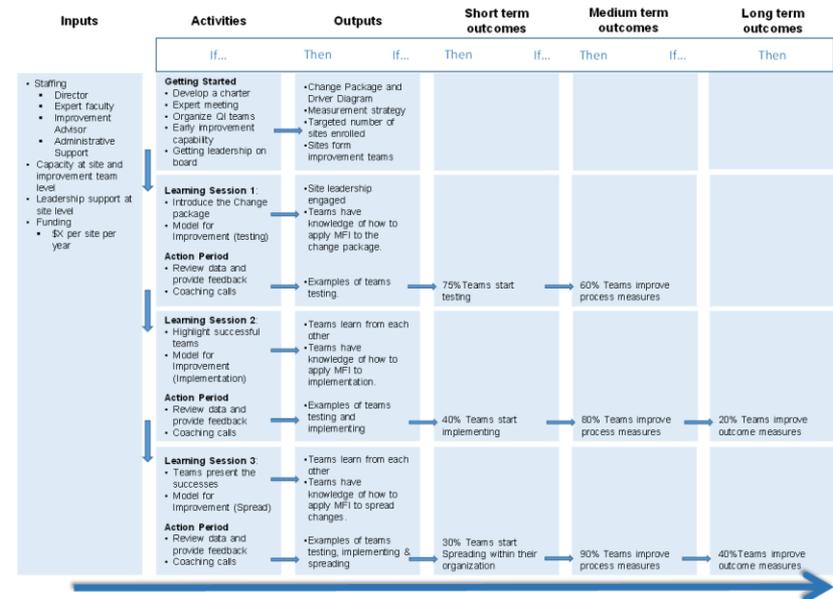


Agreeing on the Theory of Change

The What

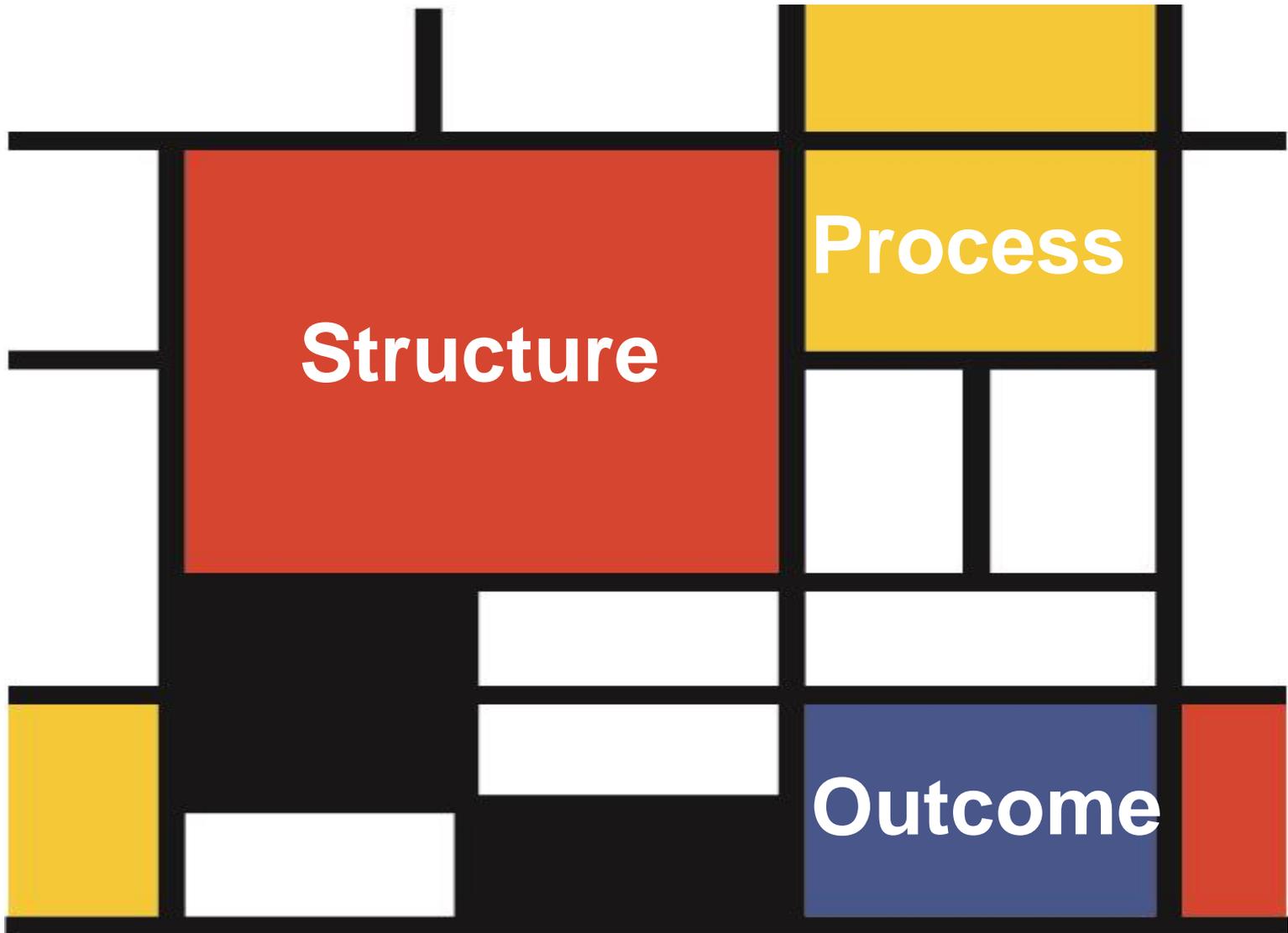


The How



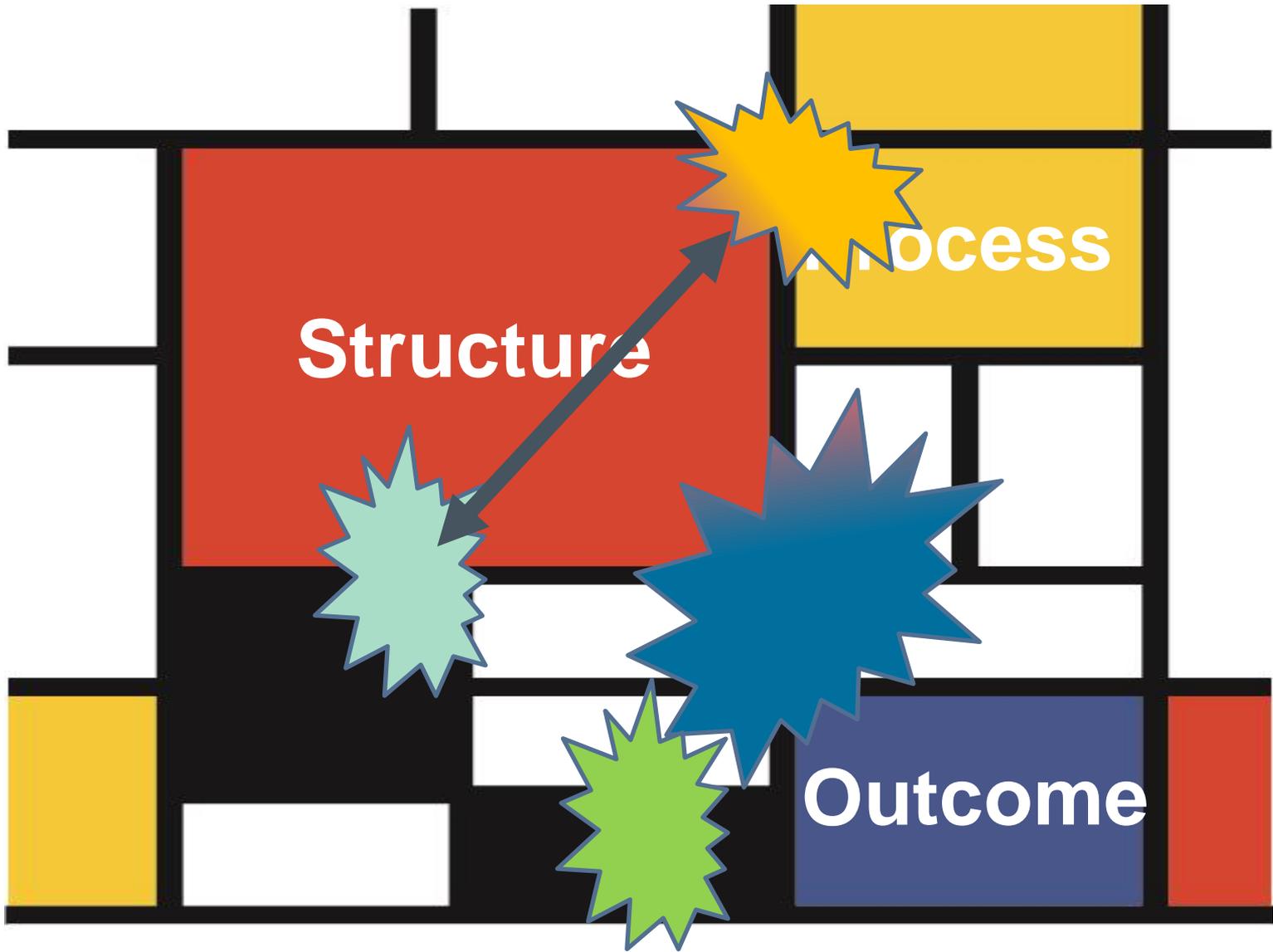
The Context





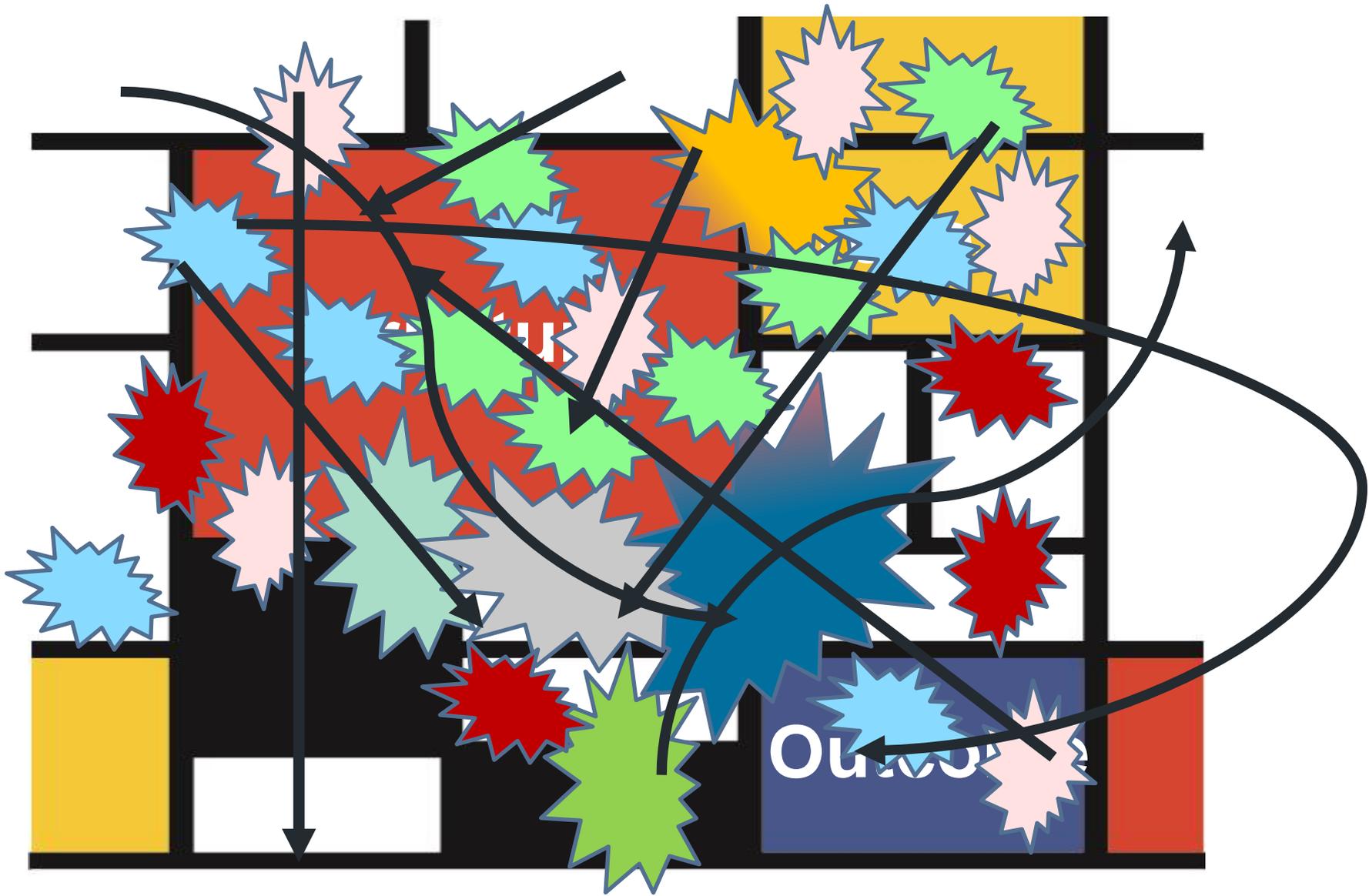
M O N D R I A N
FUNDAMENTOS GRAFICOS | NATALIA LUNA





M O N D R I A N
FUNDAMENTOS GRAFICOS | NATALIA LUNA





M O N D R I A N

FUNDAMENTOS GRAFICOS | NATALIA LUNA





JACKSON POLLACK



NEVER MIND THE POLLACKS

HERE'S THE

MuSiQ ToOL

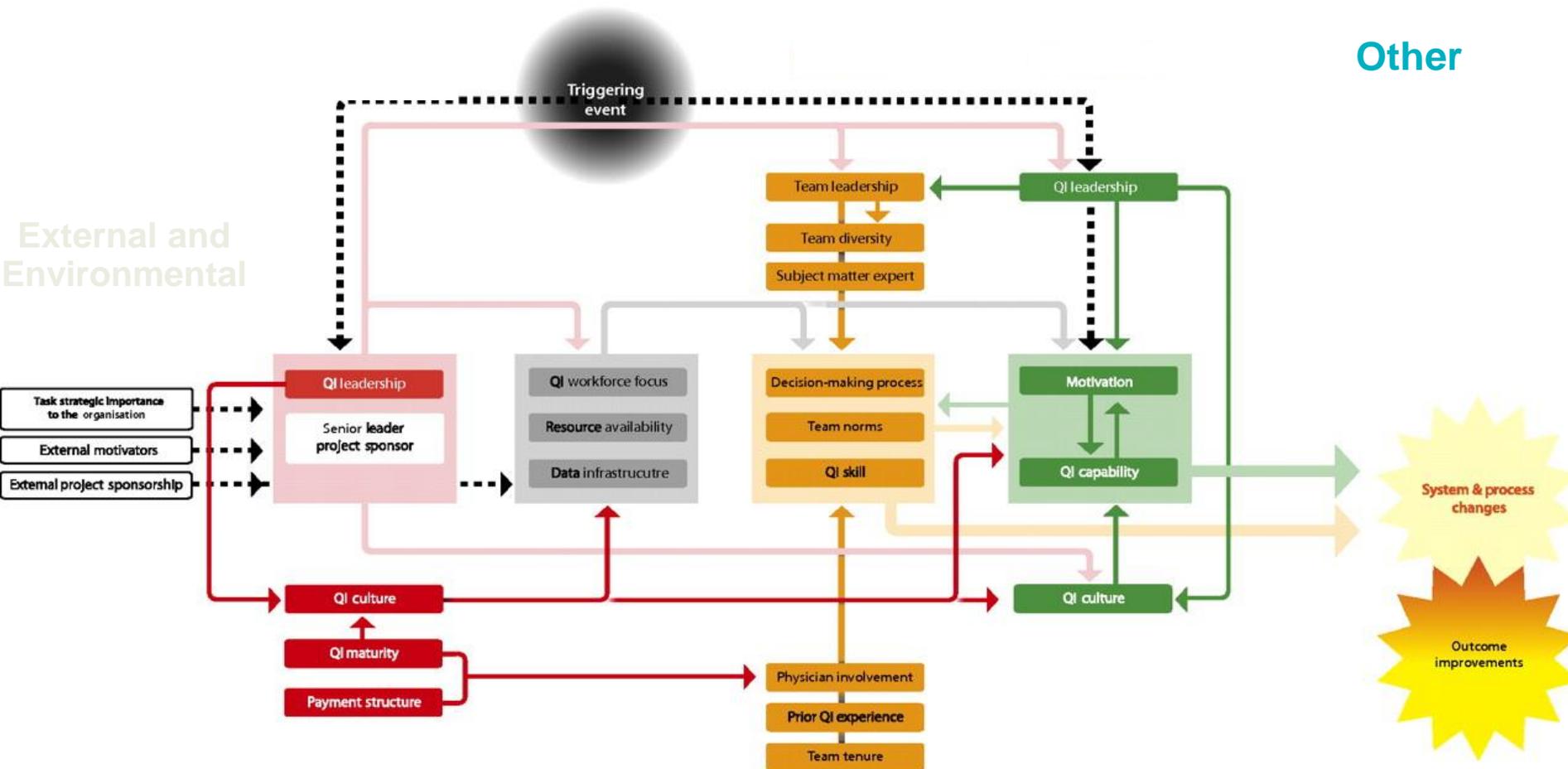


MUSIQ: Model for Understanding Success in Quality

Organization **QI Support & Capacity** QI Team Microsystem

Other

External and Environmental



.....
Dashed lines represent probabilistic relationships (consensus not obtained)

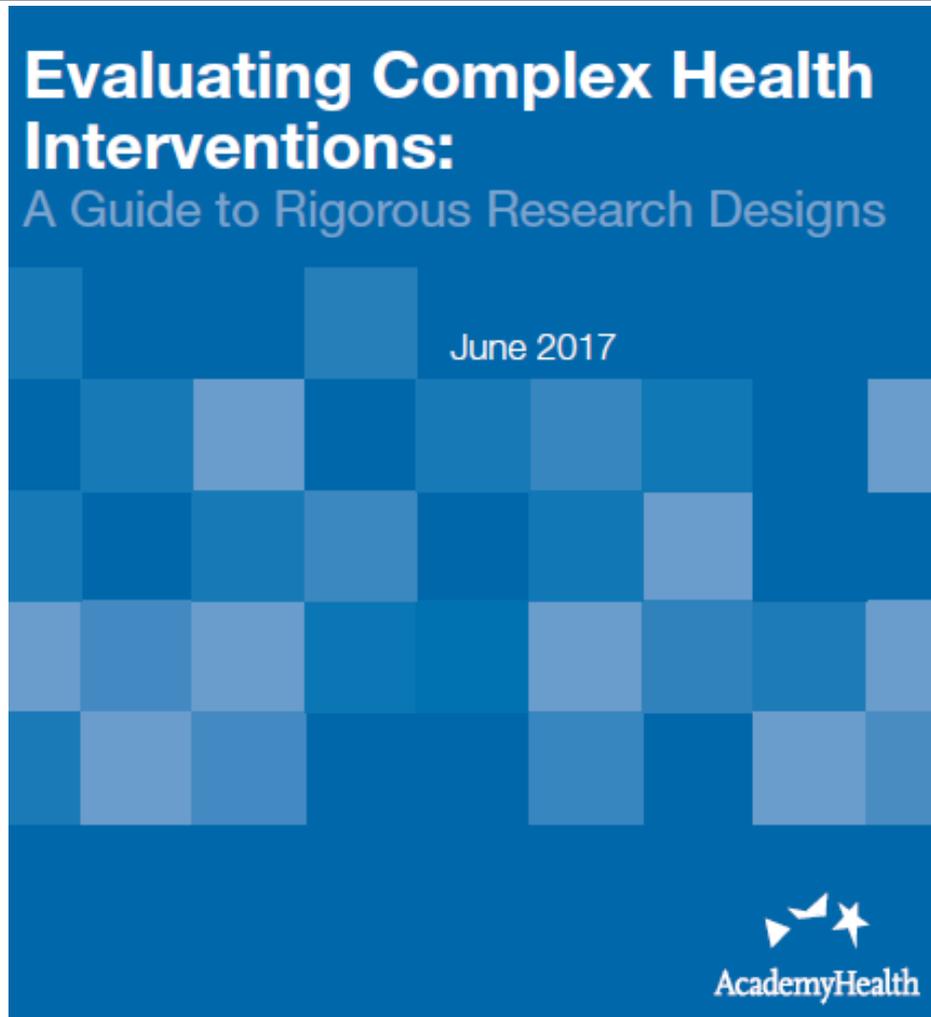
Other factors:
Organisation type, size, complexity, formalisation, teaching status, and system affiliation

Project phase, task scope and evidence for changes

Evaluation Design

The What	The How	The Context
Innovation phase: Model development typically takes place in a small number of settings, and evaluation questions should focus largely on The What		
Testing Phase: The model is tested to work. Hence, a focus on The Context will be important.	<ul style="list-style-type: none">• To what extent can all the changes be implemented?• What are barriers and facilitators to implementing the changes?	What is the overall impact of the model on patient outcomes? Which components of the model had the greatest impact on patient outcomes?
Spread and Scale-up Phase: The aim is to spread the model across a wider range of settings.		
<ul style="list-style-type: none">• To what extent can all the changes be implemented?• What are barriers and facilitators to implementing the changes locally?		<ul style="list-style-type: none">• Within what settings does the model work, or can be amended to work?• To what extent did the implementation of the model vary across settings?

Approaches to assess attribution

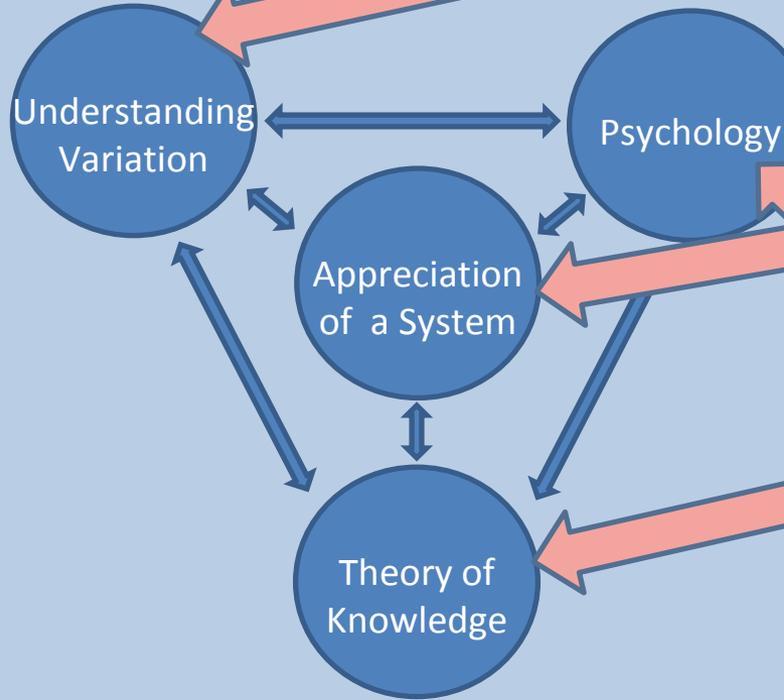


<http://www.academyhealth.org/evaluationguide>



Deming 1900-1993

System of Profound Knowledge



GIG
CYMRU
NHS
WALES

Arsyllfa Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory



GIG
CYMRU
NHS
WALES

Gwasanaeth
Gwybodeg
Informatics
Service



GIG
CYMRU
NHS
WALES



Canolfan PRIME **Cymru**
PRIME Centre **Wales**



Create A Learning Healthcare
System for Wales

Avedis Donabedian



- “Systems awareness and systems design are important for health professionals but are not enough. They are enabling mechanisms only. It is the ethical dimension of individuals that is essential to a system’s success. **Ultimately, the secret of quality is love.** You have to love your patient, you have to love your profession, you have to love your God. If you have love, you can then work backward to monitor and improve the system”.

