



Measuring Outcomes: *Avoiding Wasteful Data Collection*

Sonya Osborne, RN PhD

Implementation Scientist

Australian Centre for Health Services Innovation (AusHSI)



Key Learnings

By the end of the session, learners will be able to:

1. Explain what we want to measure in implementation projects (and why and how)
2. Choose some appropriate outcomes for their own implementation project
3. Identify appropriate data to collect and data collection methods to measure identified outcomes

Assumptions

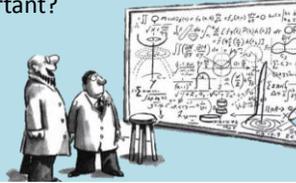
- evidence based practice and identifying the clinical problem (1st webinar)
- critical appraisal and interpreting systematic reviews and meta analyses (2nd webinar)
- implementation science: five things to know before you start, including theoretical frameworks for implementation (3rd webinar)



Stop the show!

In groups or on your own, answer the following:

1. Thinking about your own project, what are some of your key outcomes?
2. Why are these important?



When ready, re start the presentation.

Five Reasons Implementation Fails



SUMMARY

Five Things to Know Before You Start



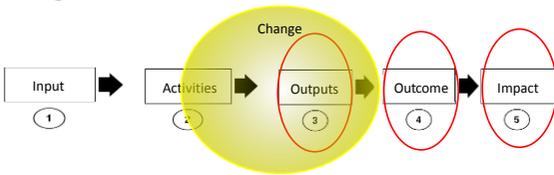
- 1 Be clear about your aim and innovation
- 2 Understand the context
- 3 Engage people throughout the process
- 4 Develop a clear, logical plan for change
- 5 Build support for sustainability



6 Choose the outcomes needed to conceptualise and evaluate success

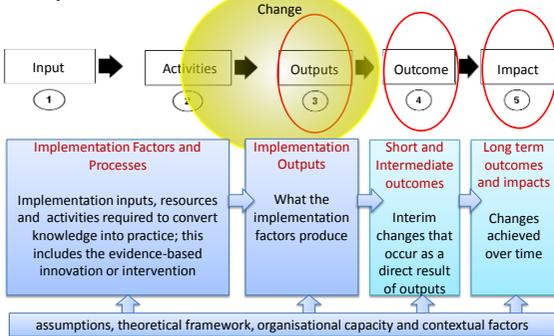
- Need to first be clear about your aims
- Measure outcomes of interest to your stakeholders
 - clinicians
 - patients
 - administrators
 - funders
- Avoid a narrow focus on outcomes which do not consider non-scientific factors or process

Logic Model



- a **logical** framework, theory of change, or program matrix used by funders, managers, and evaluators of programs to evaluate the effectiveness of a program
- can also be used during planning and implementation.

Logic Model through an Implementation Science lens



Intervention or Implementation Failure

“Intervention or treatments will not be effective if it is not implemented well...”

“When such efforts fail... it is important to know if the failure occurred because the intervention was ineffective in the new setting (intervention failure) or if a good intervention was deployed incorrectly (implementation failure).”

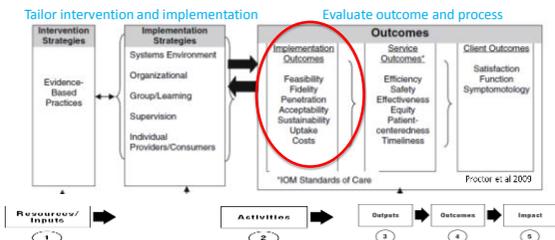


What do we want to measure?



<p>WHAT</p> <p>Outcomes</p> <p>Outcome evaluation-</p> <ul style="list-style-type: none"> • Provides decision makers with the tools to assess whether a project has achieved its objectives • Appropriate measures demonstrate changes in health conditions, quality of life, knowledge, attitudes, skills, and behaviors. 	<p>WHY</p> <p>Processes</p> <p>Process evaluation</p> <ul style="list-style-type: none"> • Can help identify strategies to improve the quality and delivery of a program. • Assesses the types, quantity, and quality of activities or services provided. • Assists in identifying if implementation has impacted on achievement of outcomes 	<p>HOW</p>
---	--	-------------------

Service, outcome, implementation process measures



Implementation Outcomes



- **Acceptability** is the perception among implementation stakeholders that a given treatment, service, practice, or innovation is agreeable, palatable, or satisfactory.
- **Adoption** is defined as the intention, initial decision, or action to try or employ an innovation or evidence-based practice.
- **Appropriateness** is the perceived fit, relevance, or compatibility of the innovation or evidence based practice for a given practice setting, provider, or consumer; and/or perceived fit of the innovation to address a particular issue or problem.
- **Cost** (incremental or implementation cost) is defined as the cost impact of an implementation effort.
- **Feasibility** is defined as the extent to which a new treatment, or an innovation, can be successfully used or carried out within a given agency or setting
- **Fidelity** is defined as the degree to which an intervention was implemented as it was prescribed in the original protocol or as it was intended by the program developers.
- **Penetration** is defined as the integration of a practice within a service setting and its subsystems.
- **Sustainability** is defined as the extent to which a newly implemented treatment is maintained or institutionalized within a service setting's ongoing, stable operations.

How will you know change has occurred?

- Measure. Measure. Measure.
 - Choose appropriate measures
 - Identify measurement sources and/or tools
 - Select data collection methods
 - Determine how often to measure



Types of data



Quantitative methods

- Answer who, what, where, and how much.
- Emphasizing numbers, they are more structured and standardized (this means the same exact procedure is used with each person) than qualitative methods.

Qualitative methods

- Answer why and how and usually involve talking to or observing people.
- Emphasizing words instead of numbers, they present the challenge of organizing the thoughts and beliefs of those who participate into themes.

Data collection methods and measurement tools



Quant - numbers

- main purpose the quantification of data
 - Surveys
 - Counting frequencies
 - Collection of monthly metrics
 - Self report measures
 - Fidelity measures

Qual – not numbers

- suitable for gaining an in-depth understanding of underlying reasons and motivations
 - Interviews
 - Focus groups
 - Observation

Examples of Impact/outcome indicators:



- changes in awareness, knowledge, skills
- increases in the number of people reached
- policy changes
- changes in behaviour
- changes in community capacity
- changes in organisational capacity (skills, structures, resources)
- increases in service usage
- improved continuity of care

How often to measure



- Collect data:
 - Before (baseline)
 - During (formative evaluation)
 - End (summative evaluation)
 - Ongoing (sustainability after initial implementation)
- Don't collect more than you need
- Build in evaluation and monitoring so it becomes part of routine
 - The area has to accept responsibility for this

Data Collection Matrix

Outcomes	Indicators (data to collect)	Data source/ tools	Instrument	When	Who
Reach	No. of pts w/COPD seen by each GP	PEN CAT data	-	12 mo. before and 12 mo. after change to services	Practice nurses
Effectiveness	No of ED presentations for COPD exacerbation	EDIS	-	12 mths pre and q3 mths for 12 mths after start	ED team
Patient Satisfaction	Measure of patient satisfaction	Self report survey of all pts	RAND PSQ-18	Baseline, 6, 12 mths	External facilitator
Barriers	Staff perceptions	Staff focus groups	CFIR guide	Pre implementation	External facilitator

Stop the show!

- On your own or in small groups, have a go creating a rough draft of your data collection matrix.
- Use your networks in the discussion to identify existing sources of data or data collection tools.



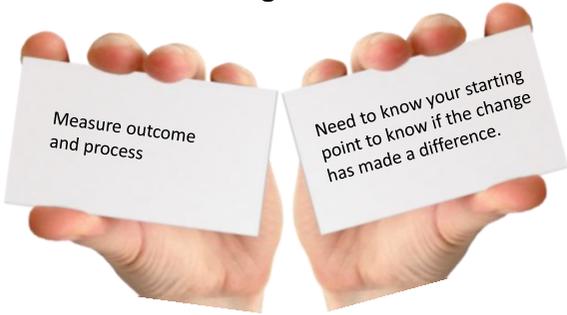
When ready, re start the presentation.

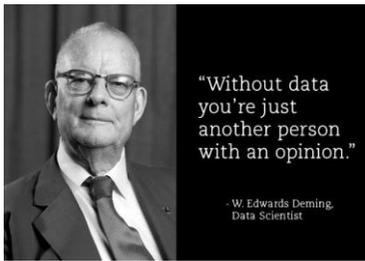
Prepare for implementation

- *Describe* the outcomes you want to achieve (aim)
- *Turn* the identified outcomes into a quantitative or qualitative measures/indicators, as appropriate
- *Confirm* that your desired outcomes are actually linked to your outputs or activities.
- *Implement* these measures and *track* them over time.



Take home messages





References

- Proctor E, Landsverk J, Aarons G et al. Implementation research in mental health services: an emerging science with conceptual, methodological and training challenges. *Adm Policy Ment Health* 2009; 36:24-34. DOI 10.1007/s10488-008-0197-4
- Proctor E, Silmere H, Raghavan R. Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health* 2011; 38:65-76. DOI 10.1007/s10488-010-0319-7
- Lewis CC, Fischer S, Weiner BJ et al. Outcomes for implementation science: an enhanced systematic review of instruments using evidence-based rating criteria. *Imp Sci* 2015; 10:155. DOI 10.1186/s13012-015-0342-x



Images

- Quant v qual cartoon: <https://goo.gl/5DVkhk>
- Scientist cartoon: <https://goo.gl/jv6GDm>
- Measuring success: <https://goo.gl/Wkixpe>
- W. Edward Deming: <https://goo.gl/xVGPMr>
