Using SET to Evaluate a Cardiac System of Care
Renger- CES 2016

The Challenge
Systems Thinking, Systems, and Evaluation

• What is your understanding of systems thinking and how its being used in evaluation?

• There was no evaluation theory for evaluating systems.

System Evaluation Theory (SET)

• Catherine Courage: Innovative-Hired a Biologist
  • Grounded in system theory.

• Goal of SET is to evaluate system efficiency and effectiveness.
  • Cardiac Care Efficiency = time*
  • Cardiac Care Effectiveness = improved patient outcomes
What do you need to know before you can proceed to evaluate system efficiency?

• Need to define the system.

• Why?
  • You need to know how the system operates before you can develop an evaluation strategy to determine whether it is operating efficiently and effectively.
  • Establishes scope and budget.

• What is the definition of a system?
  • Parts, components working together toward a common goal.

SET Guiding Principle 1: Define System

• Start by defining boundaries
SET Guiding Principle 1: Define System

- Start by defining boundaries
- Define subsystems
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- Make within subsystem operating procedures and processes explicit
SET Guiding Principle 1: Define System

- Start by defining boundaries
- Define identify subsystems
- Define subsystem boundaries
- Make **within** subsystem operating procedures and processes explicit
- Make **between** subsystem operating procedures and processes explicit
How would you detail system processes and procedures?

- Detailed Process Flow Map
- Method will be published in next volume of CPJE.
- PFM process echoes Catherine Courage emphasis on immersion in client context.
What are some additional benefits of Process Flow Mapping?

• Ability to make meaningful recommendations
  • 60% of recommendation reports resulted in system change within one week of releasing the report.

• Trust, then leading to sharing of other important information
  • Falsifying patient records.
SET Principle 2: Evaluate System Efficiency

- Why do we need to evaluate system efficiency first?

SET: Factors affecting system efficiency

- System attributes
  - Leadership. How?
  - Information technology. How?
  - Competent/capable system actors. How?
- System feedback mechanisms*
- Subsystem interactions*
What characteristics of effective system feedback need to be evaluated?
How do you evaluate system feedback mechanisms?

• Examine whether system is monitoring efficiency.
  • If there isn’t any- then that is the first recommendation.
• If there is a system feedback mechanism, then evaluate whether the characteristics for effective feedback are being met.
  • Qualitative
    • Interviews with leadership and users (often shared during PFM process)
  • Quantitative
    • Analyses of databases for meaningful data elements, validity of data (Dr. Qin analysis)

What did we learn about feedback mechanisms?

• Not specific
  • Explicitly stated processes lacking
  • Data needed for CQI not clear
• Not credible
  • Data entry integrity
  • Urban biased benchmarks: CARES
• Not timely
  • Several months to get feedback
  • Often loop not closed at all
• Not sufficiently frequent
System changes resulting from the evaluation of feedback mechanisms

Evaluating efficiency: Subsystem interactions

• How do you locate interactions to evaluate?
  • Documented processes and procedures
    • During PFM you need to be aware of the need to understand and document how subsystems communicate with each other.
How do you evaluate system for possible cascading failures?
System changes resulting from evaluation of cascading failures

Summary

• SET is very practical
• Depending on size of system; evaluation could be expensive; more than what clients are expecting based on program evaluation experience
• Some system principles mirror program evaluation (e.g., efficiency = process implementation; effectiveness = outcomes)
• Most system principles require different thinking
  • SET helps direct this thinking
• Many of our evaluation methods can be used to evaluate systems
• The power of SET is spreading
  • Late adopting states want to move to systems evaluation
  • Australian anti-corruption
Evaluating Effectiveness

- System principles of interdependence, holistic, & synergy come into play

- Makes no sense to engage in cause-effect designs to evaluate a system
  - Can’t isolate effect of one system part
  - Isolation contradicts the system approach