The Contribution of Social Sciences to Effective METs

Applying Social Science Theory to Develop a Rapid Response System

Anna Johansson, PhD
Director of Social Science Research
Divisional of Translational Research
Beth Israel Deaconess Medical Center

Prepared for the 5th International Symposium on Rapid Response Systems and Medical Emergency Teams
"Bridging the gap between patient needs and resources"
Copenhagen – May 18-19, 2009

RRS/RRTs as Complex Social Systems

- What makes developing and studying rapid response teams and systems difficult?
- What tools are available?
- How can we apply the available tools?

Complexity of Social Systems

- Multi-level
  - Individuals embedded in groups, embedded in organizations, embedded in a local and professional culture
- Multi-causal
  - The issue of control – is it possible?

- Multi-variate
  - Further complicated by how to construct variables to measure

Two Key Features

- Social Structure
  - The positions people occupy, how they come to organize themselves, the “incentives” involved (or disincentives)
  - Influences performance
- Structural Barriers
  - Sometimes training and education cannot overcome
  - Requires intervention to change the social structure

The Sociologist's Toolbox

- Theory
  - Concepts – theoretical, precisely defined, analytically distinct
  - Propositions – statements of relationships linking concepts
  - Scope Conditions – specify conditions under which propositions of the theory holds
- Methods
  - Instantiating Concepts
  - Operationalizing Variables
  - Measurement
  - Control
- A Fascinating Social "Laboratory"

Social Structure and Barriers: Some Concepts Relevant to RRTs

- *Status*
  - the position one occupies in a social structure
  - occupation, education, but also gender, race, age

- Front line responders are typically lower status providers – nurses, interns

- The quantity and quality of input that each member of the RRT offers to the decision making process is a function of their status

Social Structure and Barriers: Some Concepts Relevant to RRTs

- *Legitimacy*
  - social support for a position, a process, or an idea
  - Sources include individuals, groups, and organizations/institutions. BUT, groups can be especially powerful.

- Challenges with Respect to Legitimacy
  - RRSs and RRTs are generally an addition to, not a replacement of existing programs
  - Difficult to “practice” responses prior to implementation since calls are unplanned episodes, which might otherwise serve to garner buy-in (equivocal study findings add to the difficulty)

Social Structure and Barriers: Some Concepts Relevant to RRTs

- *Routines*
  - Most work in organizations is routine – at the individual, group and organizational level
  - Routines are followed even when a non-routine response is required.

- A rapid response system challenges established routines

Social Structure and Barriers: Some Concepts Relevant to RRTs

- *Institutional Rules (or, Decision Rules)*
  - what kinds of activities/decisions are permitted by the rule
  - who is permitted to use the rule (and who is not)
  - costs and benefits accruing from use of the rule

- Decision rules are designed (or should be), to intervene on the barriers created by status differentials, legitimacy, and routine decision making.

Where to Intervene?

- Individuals working in groups, embedded in organizations, embedded in a local culture – at each level, there are more similarities than differences

→ This is good news for interventions!

- To date we have focused a great deal on the individual and the organization (sometimes referred to as “the system”). That is, we pay attention and measure what individuals do, and how the organization responds.

- The group provides a powerful point of intervention. The group highlights the norms for individual decision making in medicine, and the norms for interactions between professions.

BIDMC “Triggers” Program

- Based on primarily quantitative criteria (6) and some qualitative criteria (marked nursing concern)

- RRT – floor nurse → intern and senior/resource nurse → supervising resident → attending

“Triggers” Implementation

- Implemented November 2005
- Implemented first on a floor characterized by lower nursing turnover/more senior nurses
- Difference in call rates when implemented broadly – for example, higher surgery mix floors, and neuro floors had lower call rates

“Triggers” Outcomes to Date

- Surveys of house staff
  - Themes around initial loss of autonomy, improving confidence, learning opportunities
- Semi-structured interviews
  - Themes around initial resistance, a “legitimized” protocol for calling, improved response times, improved communication/teamwork, clearer expectations
- Reduction in non-ICU, non-DNR deaths, as well as overall hospital mortality (Howell et al. under review)
- Simulation training for interns

“Triggers” Next Steps

- Patient and Family Triggers

- Phase 2 of simulation training – adding an experimental research component to manipulate group structure to examine decision making outcomes.

Unfinished Business

- Study designs – need for complementary qualitative data for RCTs or observational studies, beyond the survey

  → Qualitative comparative methods – case-oriented versus variable-oriented methodology to establish multi-variate causality.

- Undervaluing the collective intelligence of the group by relying on a few experts
  - Emphasis on Group process research – robust theory development and methodology

Thank You

- Anne Lippert, Belinda Taylor, John Ovretveit, Susan Scott
- My colleagues at Beth Israel Deaconess Medical Center, especially Michael Howell, MD, MPH