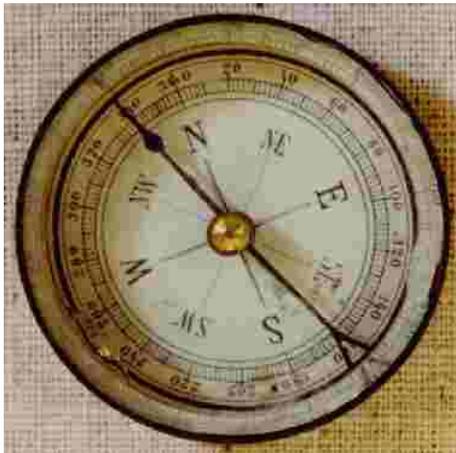


# Rapid Response Systems: navigating the minefields of culture change



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# Rogers' Diffusion of Innovation

- Sociologic theory that helps explain why some things are successfully implemented and others are not.
- Definitions:
  - Innovation: and idea, practice that is perceived as new by an individual or organization
  - Diffusion: process whereby the innovation is communicated through members of a social system

- Diffusion of the any Innovation is challenging;
- healthcare and social innovations most challenging
  - Complex
    - Multiple Stakeholders
    - Multiple agendas
    - Significant process and culture change
    - Make difficult to evaluate from medical paradigm

# Innovation Qualities that improve utilization and acceptance

- Relative Advantage
  - Must offer significant improvement over current practice
- Complexity
  - Least complex, more likely to be accepted
- Observability
  - If the end user can actually see the process work

***“Be not the first by who the new is  
tried, nor the last to lay the old  
aside.”***

***Alexander Pope***

# Characteristics of those within organizations and their response to innovation

## Early Adopters

- Well integrated, the opinion leaders, often thought as role models for peers
- Often innovators

## Early Majority

- Frequent interactions with Peers, tend to deliberate

## Late Majority

- Skeptical, cautious, motivation comes from pressure

Laggards – isolated, often with reference point in the past.

# Innovation-Culture Dynamic

- Healthcare innovations act upon healthcare culture; and vice versa
- Implementation and evaluation are thus inherently complex and dynamic
- RRS's are an innovation that will result in significant process and culture change

# Barriers to large scale Healthcare Policy change

- Historically not rooted in extensive scientific evidence
  - Use of evidence in health sector particularly weak
  - “Politics” of policy change –
    - decision makers often more interested in financial implications or views of particular groups
- Barriers between decision makers and frontline workers –
  - language used, means of communication, definitions etc
- Evidence against, gains acceptance easier –as it reinforces the status quo

**Hospital-wide Code Rates and Mortality Before and After Implementation of a Rapid Response Team Paul S. Chan, MD, MSc; Adnan Khalid, MD; Lance S. Longmore, DO; Robert A. Berg, MD; Mikhail Kosiborod, MD; John A. Spertus, MD, MPH**

***JAMA. 2008;300(21):2506-2513.***

- Hypothesis – previous studies that demonstrated a reduction in cardiac arrests after implementation of RRS were flawed – as did not take into account the number of cardiac arrests that occurred in the ICU

# Why this conclusion?

**Table 3.** Summary of Study Outcomes Before and After Rapid Response Team Implementation

Outcome	No. (Rate per 1000) <sup>a</sup>		P Value
	Preintervention	Postintervention	
Hospital-wide admissions	24 193	24 978	
Codes	271 (11.20)	188 (7.53)	<.001
Ventricular fibrillation	62 (2.56)	48 (1.92)	.13
Asystole or pulseless electrical activity	175 (7.23)	122 (4.88)	.001
Respiratory	34 (1.40)	18 (0.72)	.02
Deaths from code, No. (%) <sup>b</sup>	211 (77.9)	143 (76.1)	.65
Hospital bed type			
Intensive care unit	124 (5.13)	111 (4.44)	.27
Non-intensive care unit	147 (6.08)	77 (3.08)	<.001
No. of deaths	780	773	
Mortality rate per 100 admissions	3.22	3.09	.41
Ratio of deaths to hospital-wide codes	2.88	4.11	.001

<sup>a</sup>Unless otherwise indicated.

<sup>b</sup>Indicates case fatality rate for codes.

# Analysis

- The cardiac arrest rate in his institution was 4 – 10 times greater than any other published rates.
- Bottom line: the patients were being scooped up and taken to an unsafe place within the hospital
- Yet the study attributes “failure” to reduce codes to effectiveness of a RRS. Not the safety of the processes within this institutions ICU
  - ? Open structure
  - Mandated Primary Care Physician
  - No requirement for critical care physician participation
- Easier to get status quo data published

# Successful system or policy change

- Need to first focus on the diffusion of the innovation – in our case the innovation is a RRS
- Create an environment that will allow the innovation to thrive
- Program Acceptance and Utilization of RRS is the first goal

# Diffusion of RRS in Ontario

- 27 Adult and 4 Pediatric
- Strong Local Champions, with Central Support
- Developed Implementation Tool Kit

# Set timeline

May 06	Jun 06	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Feb 07
1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3

**Phase I: Design, Implementation, Marketing. Long Phase of 6 months**

1. Meet with Stakeholders
2. Identify Innovators, Early Adopters, Laggards etc. Meet with these extensively
3. Explain the **Relative Advantage & decrease the complexity** of RRS
4. Training the team
5. Team Culture

# Set timeline

May 06	Jun 06	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Feb 07
1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3

## Phase II: Initiation phase – limited hours of service

- 1.Reinforce RRS innovation, benefits with stakeholders. Immediately deal with dissention
- 2.The phase when the innovation demonstrates **Observability.**

# Set timeline

May 06	Jun 06	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Feb 07
1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3

## Phase III: Full Service

1. If utilization falls below expectation.
  1. Re-evaluate – relative advantage, complexity and observability.
  2. This is the job of the administrative limb of the RRS

# Wrap up

- RRS is a sociologic phenomenon
- The approach to implementation should follow sociologic principles as set out by Rogers et al.
- A structured and planned approach that focuses on diffusion concepts will help increase utilization of your team.

# Thank you

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