

Day 2, Break Out Session E: Quality Engineering

Research Goals

1. Create processes that are:
 - Highly reliable
 - Safe; and
 - Minimize unnecessary variation in outcomes, practices, and processes
2. ISyE-Enabled continuity of care for internal quality improvement/creating a 'learning system'
3. More work in prevention: forcing functions and advanced reliability methods/What does reliability science look like in healthcare?
4. Closing knowing/doing gap
5. Exploratory work in novel methods
6. Rigorous analysis of quality improvement in healthcare (Simply what works and doesn't work?)

Significant Challenges to Be Addressed

1. No consistency among health systems
2. 'Receptor Sites' for new research are increasing, but still limited
3. Discontinuity in discussion surrounding quality. There needs to be a an annual meeting of the same people to provide continuity between meetings (continuity in people, focus, and mission)
4. There is a need to think about how we can facilitate a research agenda about creating a 'learning organization' or a learning system
5. Insufficient comprehension on part of healthcare organizations as to 'what it takes' (i.e. Need REAL investment for REAL return)
6. No 'Czar' for healthcare quality improvement

1.

Recommended Approaches to Be Addressed

1. Through NIH or other agency, government should create 50 health systems research centers (based on clinical research center structure), funded at \$3-5 million a year
2. Future conferences should be organized around problem-specific meetings (ie traumatic brain injury)
 - Purpose of meeting is to immerses engineers in healthcare providers' world, create relationships, and layout calendar/milestones
 - Create bridge to action – After meeting, specific work assignments are distributed and work is completed
 - Budget \$340,000 for initial meeting, \$2+ million to solve problem
3. Push for the reintroduction of small-scale SUGAR-type grants
4. Require current CTSA's to have health systems research program.
 - Cross-committee structure is there (Akin to CRC's)
 - Downside: constrained to programs operating CTSA's
5. Organize an informal council of leaders driving improvement of healthcare through ISyE
6. Utilize the Robert Wood Johnson, Pursuing Perfection Model
 - Create a demo program
 - Go through Military and/or VA (both closed systems with discrete boundaries)
 - Create a set of hospitals 'did it' so we can hold it up and say "This is totally possible!" as opposed to attempting to improve healthcare throughout the country (focus vs. diffusion)
7. Create Joint Study Section with AHRQ/NSF and separate Joint Advisory Board to drive agenda
 - Study section makes reports to advisory board
 - Board responsible for interacting with HRQ/NSF and driving agenda

Resources

Financial

Great need for high-level funding, not incremental

Require infrastructure grants which will give institutions ability to invest in this area
(space, people, research)

Human

“This needs to be somebody’s full-time job.” Need to define FTE put into quality improvement activities to get passed tipping point