CREATING CHANGE IN HEALTHCARE ORGANIZATIONS

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My Lens on Change in HCOs
- My understanding of change in healthcare organizations (HCOs) emanates from:
  - Research on Change Implementation in HCOs:
    - My background is in Health Management & Policy. I’m a health services researcher with a special interest in applying organizational theory to address issues related to healthcare quality & safety.
    - Over past 9 years at AU, I’ve received funding from AHRQ to conduct research on implementation of change & innovation at AU Health.
  - Practical Work Experience in HCOs:
    - Prior to joining AU, I worked 8 years in the healthcare industry; first in a State Hospital Association, then in a small Community Hospital, with responsibilities in the area of healthcare quality & safety.
    - In research & practice, I’ve found the “systems lens” to be most meaningful for understanding change in HCOs.

A “Systems Lens” on Change in HCOs

Complex Systems (CS) theory
- An organization is not a linear sum of its parts but a composite of parts that interact with one another to adapt a changing environment.
  - Interactions produce non-linear effects making course unpredictable.
  - Key role for senior managers is to create effective mechanisms for knowledge sharing to manage interaction among parts and facilitate effective adaptation to a changing environment.

Professional Complex Systems (PCS) theory
- PCSs exhibit features of professional organizations (POs) and CS.
  - POs, e.g., HCOs contain multiple professional subgroups with multiple value systems and “sub-goals” that may not be aligned with organizational goals.
  - Key role of senior managers is to proactively and periodically intervene to create cognitive linkages between sub-goals and organizational goals, by creating effective mechanisms for knowledge sharing, to enable collective learning, change, and adaptation.
Role of Knowledge Sharing in CS and PCS

- Key distinction between "Explicit" and "Tacit" Knowledge
  - Explicit knowledge: formal, systematic knowledge that can easily be communicated (e.g., rates of CLABSIs in a hospital unit).
  - Tacit knowledge: knowledge embedded in practice that is difficult to communicate (e.g., scrubbing hub of central venous catheter reduces risk of CLABSIs).
- Collective tacit knowledge is the most strategically important type of organizational knowledge.
- Creating effective structures for tacit knowledge exchange is crucial for enabling practice change.
- What are the structural characteristics of effective tacit knowledge sharing networks for change implementation, in CS and PCS?

Effective Structures for Tacit Knowledge Sharing and Practice Change in CS vs. PCS

Complex Systems

Professional Complex Systems

Project 1

Knowledge sharing networks among hospital administrators, physicians and coders in a new era of hospital quality reporting

(2005-2007)
Public reporting of hospital quality by stakeholders using inpatient administrative databases, traditionally used for reimbursement.

**Old World of Quality Reporting**
- Limited public accountability

**New World of Quality Reporting**
- Accountability for value and patient outcomes

**Policy Context:** Start of Public Hospital Quality Reporting Movement (Circa 2000)

- **Quality=Medical Peer Review**
  - Limited public accountability

**Problem of Interest**
- Present on Admission (POA) indicator helps determine if Secondary Diagnoses (Sdx) was present on admission or not.
- If POA is marked YES, then Sdx is a "comorbidity." If NO, it is a "complication." If UNCERTAIN, then there was insufficient documentation for classifying Sdx.
- Hospital coders input data for POA indicator, based on physician documentation. Inadequate documentation of comorbidities, leads to inadequate risk adjustment of hospital outcomes (e.g., mortality rates), resulting in adverse hospital quality ratings in public report cards.

**Study Aim**
- How do knowledge sharing networks related to hospital quality reporting (among administrators, physicians, and coders) differ between "good coding" hospitals and "poor coding" hospitals?

**Comparing Hospital Outcomes: Role of POA Indicator in Enabling "Apples-to-Apples" Comparisons**

**Category 1:** Knowledge exchange on broad and conceptual topics related to quality measurement
- "Good-Coding" Facilities: High brokerage & hierarchy; moderate density
- "Poor-Coding" Facilities: Low brokerage & hierarchy; high density

**Category 2:** Knowledge exchange on topics related to federally mandated "core measures"

**Category 3:** Knowledge exchange on esoteric topics related to quality measurement

**Knowledge Sharing Networks in “Good-coding” vs. “Poor-coding” Facilities**
- "Good-Coding" Facilities: Senior administration proactively coordinated knowledge exchange on hospital quality reporting across subgroups and between subgroups and the external environment.
- "Poor-Coding" Facilities: Sparse networks, with minimal interaction between senior administrators and professional subgroups, in hospital quality reporting.
Project 2
Effective Communication Networks Structures for Hospital Infection Prevention
(2010-2012)

POLICY CONTEXT: Spotlight on Hospital-Acquired Infections and Momentum towards Value-Based Reimbursement (Circa 2010)

- Problem of Interest
  - Nearly 2 million patients develop HAIs, contributing to 99,000 deaths and $28 - $33 billion in healthcare costs, each year (CMS, 2010).
  - Spotlight on substantial hospital-to-hospital variation in CLABSI rates and Central Line Bundle (CLAB) implementation in US.
- Aim
  - Examine communication network structures associated with successful implementation of evidence-based practices (i.e., CLAB for preventing CLABSI), at the unit level.
- Hypothesis
  - Communication network structures high in brokerage & hierarchy; and moderate density can enable tacit knowledge exchange, learning, and practice change at the unit level.
- Setting
  - Two intensive care units, MICU and PICU at AU Health (4th and 3rd quartiles respectively for CLABSI rates over 3 consecutive years).
- Intervention
  - Proactive periodic top-down communication, over a 52-week period on importance of implementing the central line bundle for preventing CLABSI and changing environment of hospital reimbursement.
  - Weekly communication logs at the unit level, to examine structure and content of communication related to CLAB among physicians and nurses.

RESULTS: Evolution of communication and knowledge exchanges at the unit level over 52-week period

- Communications changed from reactive protocol-based checks amongst nurses (wear mask before entering room) to proactive risk reducing communications (e.g., remove central line in favor of peripheral IV).
- Three phases of change
  - Emergence of change champions amongst frontline nurses
  - Physician engagement and collective learning
  - Culture change and emergence of culture of safety
Results: Impact on Outcomes

Significant & Sustained Decline in CLABSI and Central Line Catheter Days

Evidence-based management (EBM) strategies for successful change implementation

• Cumulatively, proactive, periodic, top-down communications over 52-week period, enabled tacit knowledge exchange across professional subgroups, collective learning, and practice change.
• Networks rich in brokerage and hierarchy and moderate density, were associated with learning and change at the unit level.
• EBM strategies for change implementation
  • Screen for change champions at unit level.
  • If champions do not exist, create champions using a top-down unit-wide approach to change implementation.
  • Use actionable process data to engage and physicians on the link between evidence-based practices and patient outcomes.
  • Emphasize importance of communication & teamwork to facilitate knowledge exchange and collective learning at unit level.

Project 3
Using Social Knowledge Networking (SKN) Technology to Enable Meaningful Use of EHR Technology

2016-2018  
(Currently Active Project)
CONTEXT: Growing momentum towards meaningful use of EHR Technology

- Problem of interest
  - Limited use of EHR Medication Reconciliation Technology due to low physician engagement and lack of consensus regarding roles and responsibilities of multiple providers of care in the medication reconciliation process.

- Aims
  - Implement an EHR-integrated Social Knowledge Networking (SKN) system to enable meaningful use of EHR Medication Reconciliation
    - 5 SKN Moderators; 70 SKN users
    - Am 1: Examine user engagement in SKN system
    - Am 2: Examine preliminary associations between SKN use and meaningful use of EHR (e.g., readmissions for heart failure associated with medication management)

- Rationale:
  - SKN system would bring together a diverse group of practitioners to enable tacit knowledge sharing on problem of interest, which in turn is expected to increase engagement; and enable collective learning and practice change (i.e., EHR Meaningful Use).

Progress with study (6 months)

- Phase 1 (6 months) completed
  - Two-stage Delphi Process on developing consensus from various AU Health practitioner subgroups on key issues related to EHR Medication Reconciliation
    - Eight categories of issues identified: 1) Ownership; 2) Process; 3) Care Coordination; 4) Patient Education; 5) IT-Related; 6) Resource; 7) Documentation; and 8) Workforce Training
  - Delphi helped develop SKN Reporting Tool, which together with SKN Discussion Tool constitutes the EHR-integrated SKN system.

- Phase 2 (12 months/52 weeks) underway
  - Just begun in April 2017 will continue through April 2018.
  - SKN user network: Cardiology; Family Medicine; Internal Medicine; and various hospital subgroups: Hospitalists, Residents, Pharmacy, nursing
  - SKN Moderator Network: CMO, CMIO, Physician Champions
  - Hypothesis is that proactive, periodic "top-down" efforts of SKN Moderators to promote EHR Medication Reconciliation would synergize with "bottom-up" exchange of tacit knowledge by SKN Users, to enable engagement, learning, and meaningful use.
  - If hypothesis holds, federal HER vendors could be encouraged to incorporate SKN features in EHR systems.

Other Projects

- CURRENT RESEARCH - A framework for measuring pediatric asthma self-management effectiveness (for providers)
  - Measurement of pediatric asthma self-management effectiveness could enable hospitals & providers to play a proactive role in promoting ideal self-management and optimal healthcare use (including outpatient visit frequency).
  - Opportunity for asthma providers to promote population health through patient-and-family-centered care delivery.

- PAST PRACTICE - Creation of a Hospital Quality Clearinghouse at a Critical Access Hospital
  - Combined "top-down" and "bottom-up" approach to creating a Quality Clearinghouse to achieve the dual purpose of performance improvement and regulatory readiness.
    - List A – QI initiatives driven by regulatory compliance.
    - List B – Focus areas for department-level improvement efforts
    - Networks high brokerage & hierarchy; moderate density.
    - Provided several insights for CLABSI prevention study.
Key lessons learned

- Change was facilitated amidst existing resources/structures through a combined “top-down” and bottom-up approach (high brokerage & hierarchy; moderate density).
- Hospital senior leaders made proactive and persistent efforts over a 52-week period role in enabling tacit knowledge exchanges across professional subgroups, to promote collective learning and change.
- Practice change was closely associated with culture (“mindset”) change (e.g., shared understanding of importance of new infection prevention practices).
- Lessons learned on change implementation strategies could help hospitals achieve the Triple Aim of health care:
  - 1) Better Quality; 2) Population Health; 3) Lower Costs

A Population Health Model of Care

- In keeping with the Triple Aim, provider reimbursement systems are shifting focus to keeping populations well, rather than only caring for the sick.
  - Population Health: “The health outcomes of a group of individuals, including the distribution of such outcomes within the group.”
  - Focus on addressing “health disparities.”
  - Emphasis on tackling:
    - 1) Underlying healthcare system issues such as uncoordinated care and poor chronic disease management; and
    - 2) Unhealthy behaviors that can drive up utilization and costs.
- Highly relevant to rural areas since they face:
  - Socio-economic disparities
  - Disparities in health behavior
  - Access to care disparities
  - Disparities in mortality rates

Lessons directly applicable to Hospital Operations & Strategic Planning

- Lessons learned are echoed by the “Malcolm Baldridge Model” for performance excellence.
  - The Baldridge Model provides a structured framework to operationalize all essential components of organizational performance.
  - All component areas must be addressed to maximize effective transition to a “Population Health Model of Care.”
Lessons directly applicable to Hospital Operations & Strategic Planning

- Effective adaptation would require changing mindsets of hospital boards from an “Acute Care Model” of care delivery, to a “Population Health Model.”
- Per the Baldridge model, effective adoption of “Population Health” as internal strategy would require HCOs to:
  - Align leadership
  - Assess customer, community, and partner needs
  - Conduct meaningful strategic planning
  - Measure progress and review information to address problems
  - Engage and motivate staff
  - Streamline processes
  - Document outcomes

Rural hospital success in transitioning to “Population Health” model (examples)

- Community Needs Assessment, Collaboration, and Performance Improvement are key to promoting population health
  - Tri County Rural Health Network in Helena, Arkansas: Community Connector program to expand access to home and community-based services to increase quality of life for elderly with disability. http://cph.uiowa.edu/ruralhealthvalue/innovations/Profiles/CommunityConnectors.pdf
  - Essentia Health Fosston in Minnesota: Incorporating community health needs assessment findings to improve the health of the community and retaining a quality and viable agricultural industry. http://www.cph.uiowa.edu/ruralhealthvalue/innovations/Profiles/EssentiaHealthFosston.pdf
  - Mason District Hospital in Indiana is implementing a three tiered approach to a workplace wellness program to reduce employee healthcare costs. http://www.ruralcenter.org/tasc/resources/applying-community-health-assessments-rural-hospital-strategy
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  - Marcum & Wallace Memorial Hospital in Hazard, Kentucky has adopted the Performance Excellence Blueprint as indicators for their system strategies. https://ruralcenter.org/tasc/resources/marcum-wallace-memorial-hospital-performance-excellence

Two Peters on Change…

- The greatest danger in times of change is not the change — it is to act with yesterday’s logic
  — Peter Drucker (Management consultant)

- When people who are actually creating a system start to see themselves as the source of their problems, they invariably discover a new capacity to create results they truly desire
  — Peter Senge (Management researcher)