Using Effective Teaming & Multi-team Systems to Optimize Patient Safety and Quality

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Undoubtedly healthcare is recognized as a team endeavor...
## Table 2. Patient Safety Strategies Ready for Adoption Now

### Strongly encouraged
- Preoperative checklists and anesthesia checklists to prevent operative and postoperative events
- Bundles that include checklists to prevent central line-associated bloodstream infections
- Interventions to reduce urinary catheter use, including catheter reminders, stop orders, or nurse-initiated removal protocols
- Bundles that include head-of-bed elevation, sedation vacations, oral care with chlorhexidine, and subglottic suctioning endotracheal tubes to prevent ventilator-associated pneumonia
- Hand hygiene
- The do-not-use list for hazardous abbreviations
- Multicomponent interventions to reduce pressure ulcers
- Barrier precautions to prevent health care–associated infections
- Use of real-time ultrasonography for central line placement
- Interventions to improve prophylaxis for venous thromboembolisms

### Encouraged
- Multicomponent interventions to reduce falls
- Use of clinical pharmacists to reduce adverse drug events
- Documentation of patient preferences for life-sustaining treatment
- Obtaining informed consent to improve patients’ understanding of the potential risks of procedures
- **Team training**
- Medication reconciliation
- Practices to reduce radiation exposure from fluoroscopy and CT
- The use of surgical outcome measurements and report cards, such as those from ACS NSQIP
- Rapid-response systems
- Use of complementary methods for detecting adverse events or medical errors to monitor for patient safety problems
- Computerized provider order entry
- Use of simulation exercises in patient safety efforts

ACS = American College of Surgeons; CT = computed tomography; NSQIP = National Surgical Quality Improvement Program.
Lack of communication = most frequent ‘behavioral failure’ cited in closed malpractice claims¹

Teamwork failures correlate strongly with technical clinical errors ($r = .57-.67$)²,³

+10% in perceptions of “teamwork in my unit” → +37% increase in HCAHPS composite score on average⁴

Systematic efforts to improve teaming (e.g., team-training) linked with significant improvement in acute and outpatient settings:

- 60% reduction in med-surg fall rates⁵
- 93% reduction in missing orders in outpatient oncology⁶
- Reduction of 0.5 deaths/1000 procedures per each quarter teamwork intervention in place⁷,⁸
We are starting to do a better job of preparing healthcare providers to team effectively and reinforcing good teamwork in clinical practice.
40+ years of evidence about high performing teams

- Hold shared mental models
- Have clear roles and responsibilities
- Have clear, valued, and shared vision
- Optimize resources
- Have strong team leadership
- Engage in a regular discipline of feedback & self-correction
- Develop a strong sense of collective trust and confidence
- Create mechanisms to cooperate and coordinate
- Manage and optimize performance outcomes
- Encourage divergent views & sharing of unique information
- Proactively manage task conflict
But opportunities remain...

- 157 million with chronic conditions by 2020¹
- Avg. 6-7 unique physicians care for a single Medicare beneficiary per year²
- 57% of clinicians: “Things fall between the cracks…”³

$74 Million
Est. excess costs of uncoordinated care from 2000-2006⁴

$240 Billion
Est. savings associated with well coordinated care from 2010-2018⁴

“Nobody is [clearly] responsible for coordinating care...that is the dirty little secret about healthcare” (by Lucian Leape)
>40 definitions of care coordination & 96 measures¹

“Activities that involve 2 or more healthcare professionals that share patient goals and interact on a continuum from consultative to integrative, varying according to the extent and nature of interaction, degree that decision making is shared, and the scope of patient management (holistic vs. medical)”²

- Contextualized, emergent process³,⁴
- Unfolds across time
- Three key components of coordination⁵:
  1. Coordination of interests
  2. Coordination of understanding
  3. Coordination of action
Meaningful movement toward care integration & population health is a team-of-teams endeavor.
In your organization (or health system)...

How many different teams are you part of right now?

- What goal(s) do all of these teams share?
- Are these teams similar in....?
  - How they get work done?
  - Tempo?
  - How they make decisions?
  - How they deal with differences of opinion?
- Will some go on for long periods while others disperse once their mission is accomplished?
In your organization (or health system)…

How many other teams are you NOT part of right now?

- How do you learn about what they are working on?
- Is it easy to describe how their work aligns with, complements, or supplements your daily work?
Our teams don’t function in a bubble

- Multiteam systems (MTS)
  - A network of teams
  - “Team-of-teams”
- Common organization structure in dynamic, complex environments

“Two or more teams that interface directly and interdependently in response to environmental contingencies towards accomplishment of collective goals”\(^1\)

- Component teams or elements = individual teams that are interdependent and make up the larger MTS
Traditional organizations vs. multi-team systems

Traditional organizing

- **Self-contained** work units (relatively); **Most connections are at management level**
- Members **identify with their team**, not the system
- **Variation** in practices, routines, tools, technology
- **Loosely coupled accountability / reward systems**

MTS organizing

- Units are **interdependent** & membership is diffuse
- Members have a **sense of identity rooted in the system**
- **Boundary spanning** necessary for alignment and integration of practices and routines
- **Tightly coupled accountability** (shared)
- Function through **hierarchy of goals that makes it clear how local, proximal goals - when accomplished - combine to realize higher order system goals**
MTSs provide care within a single organization

- Pre-Admissions Testing
- Pre-op Nursing Team
- Anesthesia Team
- OR Team
- PACU Team
- Intensive Care Team
- Central Sterile Team
- Lab & Pathology Team

Days Before Surgery
- Surgery Scheduler
- PAT Scheduled
- Pre-registration
- PAT Visit
- Chart Prep

Day of Surgery
- Patient Prep
- Surgery
- Recovery

Pre-Admit Testing (PAT)
- Nurse Interview
- Anesthesia Interview
- Labs
- Other Tests
- Imaging
- Med Orders
- Patient Education
- Chart Prep

Ambulatory Care Unit (ACU)
- ACU
- Chart Review
- Patient Dresses
- Surgeon Visit
- Anesthesia Visit
- Drugs and Meds Secured

Surgery
- Surgeon In House
- Room Prepped
- Wheels In
- Induction
- Cut

Post Anesthesia Care Unit (PACU)
- PACU
- Patient Recovers
- Goes Home
- Admitted to Floor
MTS concept recognized in the TeamSTEPPS curriculum

(TeamSTEPPS 2.0 Curriculum, AHRQ, 2014)
MTSs provide care across multiple organizations

- Primary Care Team
- Outpatient Specialist Care Team
- Acute Care Team
- Emergent Care Clinic Team
- Home Care Team
- Patient & Support Team
MTSs reduce preventable harm locally

Multi-team system designates role clarity and accountability for reducing patient fall risk

Patient & Family
Role(s): Ask questions

Core Team
Direct Patient Care
Physician, Nursing, Pharmacy, Rehab Therapies, etc.
Role(s): Dx/treatment plan, conduct fall risk assessment, implement fall reduction interventions, medication review, mobility assessment, report and learn from falls

*Contingency Team*
Conduct Post-Fall Huddle
Core and Fall Risk Reduction Team members
Role(s): Review and learn from fall, improve fall risk reduction interventions

Fall Risk Reduction “Coordinating” Team
Interprofessional Coordinating Team
Nursing, Quality Improvement, PT/OT, Pharmacy, etc.
Role(s): Implement fall risk reduction program, educate staff, audit processes, analyze and learn from falls, hold core team accountable

Ancillary & Support Services Team
Task Based Patient Care and Support
Radiology, Lab, Respiratory Therapy, Dietary, Speech Therapy, Tech Support, Housekeeping, etc.
Role(s): Know fall program policies, patient transfer rules, execute fall risk reduction role

Administration/Management Team
CEO/President, Director of Nursing, Members of Senior Leadership/Management Teams, etc.
Role(s): Create and visibly support safety culture, aware of strengths and performance gaps, establish clear vision with goals and provide feedback, support and provide resources for Fall Risk Reduction Team and Core Team, hold Fall Risk Reduction Team accountable for implementation and evaluation of fall risk reduction program
MTSs reduce preventable harm system-wide\textsuperscript{1}

**JHM Clinical Communities**
- Led by local physicians (1 academic lead, 1 community lead) with interdisciplinary membership
- Use AI Improvement Framework & link to CUSP teams
- Work collaboratively doing things with rather than to people
- Standard measures and principles, local adaptation of practices
- Vertical support for project management, peer learning, analytics and robust process improvement
- Report transparently and ensure accountability
- Create sustainability plan
- Share results
- Conduct peer to peer review
A “Fractal” model of a multiteam system for quality and safety leadership and governance

- **System Level**
  - JHM Quality & Safety Committee
  - Armstrong Institute for Patient Safety & Quality

- **Organizational Level**
  - JHH Board of Trustees QI Committee
  - JHH QI Council

- **Department or Division Level**
  - ACCM Divisional Safety Committee

- **Unit Level**
  - Comprehensive Unit Based Safety teams (CUSP)
In these contexts...why is coordination so tough to do well?

Okhuysen & Bechky Coordination Framework

Coordinating Mechanisms (Inputs)

- Plans and Rules
- Objects and Representations
- Roles & role clarity
- Routines
- Proximity

Integrating conditions (emergent conditions)

- Accountability
- Predictability
- Common Understanding

Behaviors

Coordinated Action
“Idealized critical pathway for breast cancer screening”

(US Dept. Health & Human Services-Health Resources & Services Administration, module on breast cancer screening quality measure)
3. Shared decision making with patient based on risk

4. Screening mammogram ordered?
   - Yes: 4b. Mammography completed
     - Yes: 6a. Referral for appropriate care & treatment
     - No: 6. Positive findings?
   - No: 6. Positive findings?
Figure 1. Ms Young’s care path and its challenges.
Managing interdependence across boundaries is tough

- Coordination Neglect\(^1\)
  - We’re good at dividing work up
  - We’re bad (almost universally) at holding the pieces together

- Communication overhead\(^2\)
  - Mechanisms of coordination ‘cost’ something

Slide courtesy of Michael Rosen
What improvement strategies are used to strengthen teaming in healthcare?¹

- **Organizational interventions**: Structure for success

- **Structured tools**: Standardize critical interactions

- **Training & Coaching interventions**: Improve teaming processes
Key question:
How can we more effectively characterize coordination in multi-player/multi-team contexts in order to better understand relevant antecedents, processes, and outcomes?

Taplin, Weaver, et al., 2015
Strengthening your MTS

- Recognize & mindfully manage cross-team coordination demands
  - Work to ensure all members of component teams share a common mental model regarding overarching shared MTS goal(s)
    - Communicate MTS mission, strategy, plans, and progress to all component teams
  - Designate effort, resources to boundary spanning & integration
  - Monitor + proactively address issues related to sequencing, timing, and synchronization

- Build knowledge, skills, & attitudes that underlie effective teamwork & transdisciplinary decision making processes

- Seek out signals of + address role (or goal) confusion or conflict

- Leaders actively scan & analyze external environment
Strengthening your MTS –con’t-

- Encourage and role-model “pro-acting” + transparent communication
  - Mindfully anticipate when other teams (or team members) may need support
  - Offer & seek out back-up behavior
  - Developing a discipline of team self-correction
- Value boundary spanning, develop team members who excel at this
- Build and understand transactive memory systems
  - Who knows, has, can do what
- Mindfully align incentive structures to promote trust, cohesion, and perceptions of justice
  - 3 aspects of justice: procedural, interactional, & distributive
- Develop and promote a discipline of adaptation & resilience
In Sum

- Providing care is undoubtedly a team endeavor…continuous improvement is increasingly a team-of-teams endeavor
- There is a rich evidence base available to guide efforts in building effective teaming and multi-team systems
  - Defend against coordination neglect
  - Map out the MTS you practice or work in
  - Identify upstream and downstream interdependencies
- Instill (and role model) a respect for collective interdependence

Our humility [and professionalism] lives in recognizing our dependence on others.

- Edgar Schein
Thank you!

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References

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