Surgery Team Voice and Response:

Toward an Integrated Model for Improving Patient Safety and Clinician Well-being

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Patient Safety Issues in Healthcare and Surgery

- Institute of Medicine (IOM) – *To Err is Human: Building a Safer Health System* (1999)

- Estimates of **patients dying every year in US hospitals alone from medical error** have ranged from 44,000 to 98,000 (IOM, 1999) to **250,000 to 400,000 or more** (Makary & Daniel, 2016), **most often in surgery**.

- Other harms include **10-20 times more serious injuries**, emotional and psychological harms for patients and families, **second victims** (clinicians), damaged reputations (clinicians and hospitals), financial costs, and lost opportunity costs

- **It is a global issue.**

- You are safer, by far, in a domestic jet airliner than you are in a hospital. A passenger would have to "fly around the clock for more than **438 years** before being involved in a fatal crash" (IOM, 2000, p. 42).

- Reported preventable harms in surgery most frequently result from: (1) **unintentionally retained foreign objects**, and (2) **wrong-patient, wrong-site, wrong-procedure surgeries**.

- **Leadership, communication, and human factors** are interrelated leading causes (The Joint Commission, 2004-2017).

- **One type of communication breakdown is in collaborative voice and response** – surgery team members speaking up about safety concerns, and surgeons responding to concerns that are voiced.

- Difficulties in collaborative voice and response are **common across a wide range of industries and organizations**.

Clinician Well-being

- **"Fear of committing clinical errors in perioperative care has a negative impact on the psychological well-being** of **surgical team members and ultimately on patient care"** (Bognár et al., 2008, p. 1374).

- Physicians and nurses have **alarming rates of burnout**: emotional exhaustion, depersonalization in relationships, and reduced personal accomplishment … increasing rates of depression, suicide, alcohol abuse, and nursing staff turnover; annual lost physician productivity equal to "eliminating the graduating classes of seven medical schools" (Dyrbye et al., 2017, p. 2)

- A **"burgeoning body of evidence that burnout is endemic and affects patient outcome*s"*** (Brigham et al., 2018, p. 1).

- The ECRI Institute (2016) – **"Burnout in healthcare workers has become the proverbial elephant in the room."**

- The **National Academy of Medicine** launched the **Action Collaborative on Clinician Well-being and Resilience** in 2017.

- Just as the Institute of Medicine's *To Err is Human* (2000) was **a call to action** for a national priority to improve patient safety – **"To Care is Human**: Collectively Confronting the Clinician-Burnout Crisis" (Dzau, Kirch, & Nasca, 2018) was a call to address the silent epidemic of clinician burnout, and **to establish clinician well-being as a new national priority**.

- The **Institute for Healthcare Improvement (IHI)** established the widely-adopted **Triple Aim to simultaneously improve** healthcare **quality, costs, and patients' experiences** (Berwick, Nolan, and Whittington, 2008). However, the IHI has since resisted ongoing calls for a **Quadruple Aim to simultaneously improve caregivers' experience of providing care** (Feeley, 2017); despite those calls describing the fourth aim as a **phantom limb, an imperative, and a prerequisite** for the first three aims (Bodenheimer & Sinsky, 2014; Dyrbye et al., 2017; Sikka, Morath, & Leape, 2015; Spinelli, 2013).

Conceptual Framework

KEY to theory acronyms:

HRT – High reliability theory

RCT – Relational coordination theory
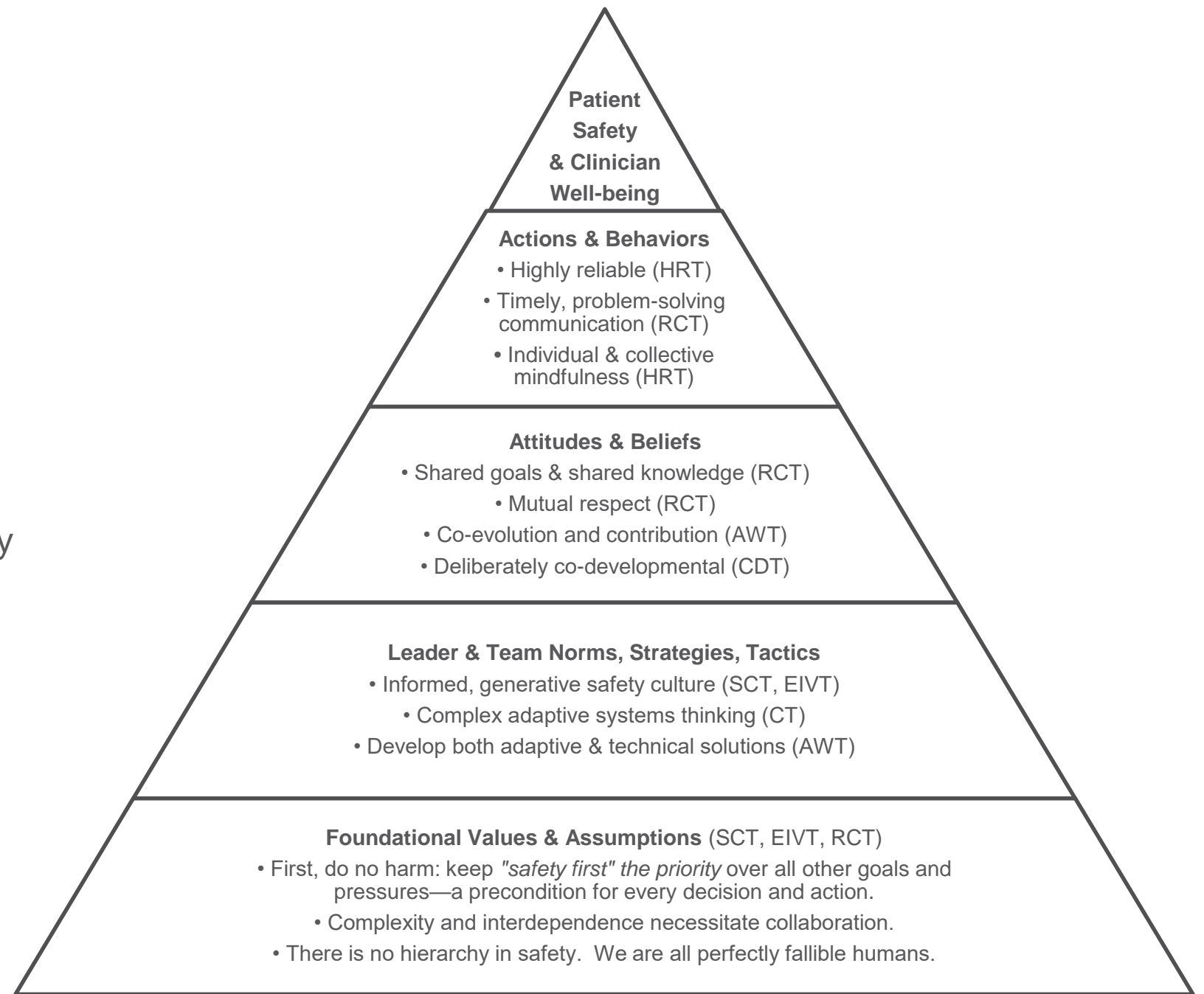
CDT – Constructive-developmental theory

CT – Complexity theory

AWT – Adaptive work theory

SCT – Safety culture theory

EIVT – Explicit and implicit voice theories

Adapted with permission from *Safety Culture: Building and Sustaining a Cultural Change in Aviation and Healthcare* (Patankar, Brown, Sabin, & Bigda-Peyton, 2012).

Patient Safety & Clinician Well-being

Actions & Behaviors
• Highly reliable (HRT)
• Timely, problem-solving communication (RCT)
• Individual & collective mindfulness (HRT)

Attitudes & Beliefs
• Shared goals & shared knowledge (RCT)
• Mutual respect (RCT)
• Co-evolution and contribution (AWT)
• Deliberately co-developmental (CDT)

Leader & Team Norms, Strategies, Tactics
• Informed, generative safety culture (SCT, EIVT)
• Complex adaptive systems thinking (CT)
• Develop both adaptive & technical solutions (AWT)

Foundational Values & Assumptions (SCT, EIVT, RCT)
• First, do no harm: keep *"safety first" the priority* over all other goals and pressures—a precondition for every decision and action.
• Complexity and interdependence necessitate collaboration.
• There is no hierarchy in safety. We are all perfectly fallible humans.

Study Participants and Research Questions

Participants in this qualitative study will be surgery team members – **perioperative nurses, technologists, anesthesiologists, and surgeons – from two large hospitals in the western United States**.

Research questions may evolve or change as a qualitative study progresses. The initial research questions are:

- What ***claims*** do participants make about what **supports** collaborative voice and response, what ***concerns*** do participants have about what **inhibits** collaborative voice and response, and what do participants perceive as **ambiguous or debatable** ***issues*** surrounding collaborative voice and response?

- From the identified claims, concerns, and issues of participants and from the literature surrounding collaborative voice and response—what do participants perceive as ***essential* to preserve** and what do they perceive as ***expendable* to discard** for collaborative voice and response?

- In appreciative inquiry of surgery teams at their best—what ***values, attitudes, beliefs, and behaviors*** would surgery teams co-construct to consistently practice collaborative voice and response toward the goals of **highly reliable patient safety and clinician well-being**?

Explicit and Implicit Voice Theory

- "Often, **health care professionals** hesitate to voice concerns … [and] **often prefer silence to speaking up when patient safety is at stake**" (Okuyama, Wagner, & Bijnen, 2014, pp. 1-2).

- "Operating rooms are among the most complex political, social, and cultural structures that exist, full of ritual, drama, hierarchy, and too often conflict" (Pronovost & Freischlag, 2010, p. 1721).

- **Voice is influenced by clinical ambiguity** in healthcare and across a wide range of industries by **culture, hierarchy, status and power differentials, leadership styles** (inclusiveness, openness, transformational-transactional, etc.), **perceived psychological safety, and perceived efficacy** (Detert & Edmondson, 2011; Edmondson, 2003; Edmondson & Lei, 2014; Nembhard & Edmondson, 2006; Morrison, 2014).

- **People consciously and subconsciously calculate these psychosocial factors, and "engage in voice only when the motivators or driving forces are stronger than the inhibitors or restraining forces"** (Morrison, 2014, p. 185).

- **Less is known about what influences leaders' openness to and encouragement of voice.**

- Souba and colleagues (2011) surveyed all **254 surgical and medical department chairs** at the 127 U.S. institutions granting medical degrees in 2010. Of **139 respondents, 69 percent reported** that their organizations contained **widespread elephants in the room** – those big things everybody sees but nobody wants to talk about.

- The tragic disasters of **Tenerife, Challenger, Columbia, and Kegworth illustrate that effective voice and heedful response are strikingly difficult, even with other people's and one's own safety and lives at stake.**

Safety Culture Theory

The International Nuclear Safety Advisory Group (INSAG) of the International Atomic Energy Agency introduced *safety culture* in their investigative report on the 1986 Chernobyl nuclear power plant accident.

- INSAG defined safety culture as "that assembly of **characteristics and attitudes in organizations and individuals which establishes that, as an *overriding priority* … safety issues receive the attention warranted by their significance**" [emphasis added] (INSAG-4, 1991, p. 4).

- Importantly, INSAG reported that "**safety culture has two general components … the necessary framework within an organization and is the responsibility of the management hierarchy** … [and] **the attitude of staff at all levels in responding to and benefiting from the framework**" (INSAG-4, 1991, p. 5).

- Decades-long global safety pioneer **James Reason** theorized that safety culture could be socially engineered by attending to five subcomponents. The central component is an *informed culture.*

- An *informed culture* is "one in which **those who manage and operate the system have current knowledge about the human, technical, organizational, and environmental factors that determine the safety of the system as a whole**. **In most important respects, an informed culture *is* a safety culture**" [emphasis in original] (Reason, 1997, p. 195).

Complexity Theory

The Institute of Medicine – *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001)

- F. W. Taylor's and Henry Ford's *industrial era* **mechanical systems design** advanced production processes through specification and standardization; however, ***in its worst manifestations,*** mechanical design has **disrespected and dehumanized people as cogs in the machine** (Edmondson, 2012; IOM, 2001; Suchman, Sluyter, & Williamson, 2011).

- **Knowledge era healthcare systems and microsystems (units, teams, individual clinicians, hearts and minds) should be redesigned as complex adaptive systems – sets of interdependent agents that have the capacity to learn and adapt from within.**

- Actions in complex adaptive systems are guided by *simple rules*:

  First, do no harm. We are all perfectly fallible human beings. We work in perfectly fallible human systems.

  There is no hierarchy in safety. Safety is a system property.

  Complexity and interdependence require collaboration — all three influence patient safety and clinician well-being.

Adaptive Work Theory

Ronald Heifetz – *Leadership Without Easy Answers* (1994)

- **It is necessary to distinguish between technical problems and adaptive challenges.**

- **Technical problems** are those for which people already have the current or readily obtainable knowledge, skills, resources, and authority—at any level, including the frontlines—to solve.

- **Adaptive challenges** are the "hearts and minds" *values*, *attitudes, beliefs*, and *behaviors* that are often more difficult both to confront and to solve.

- **Adaptive work is based on biological evolution** and its concepts of variety, consequences, and adaptation.

- **Adaptive work requires people and groups—in this study, surgery teams—who are facing adaptive challenges to first respect and explore different points of view (variety).**

- **From that, people and groups determine what is essential to preserve and what is expendable to discard—and often *must* be discarded as barriers—to meet individual and group goals (consequences).**

- **From that, people and groups preserve or make adaptive changes (adaptation) in their *values*, *attitudes, beliefs*, and *behaviors* so they can better succeed in their goals and thrive in their co-evolution.**

Constructive-developmental Theory

Robert Kegan – *In Over Our Heads: The Mental Demands of Modern Life* (1994)

- Subject-object theory is a *constructive-developmental* approach to human experience …it looks at the growth or transformation of how we construct meaning" (p. 199) through orders of development.

- The ***socialized* mind (developed adolescents and 70-80% of adults)** – people look for direction from, take meaning from, and attend to the people and groups in their social environment.

- The ***self-authoring* mind (20-30% of adults)** – people are well-socialized and also can step back from their social environments and generate meaning for themselves through personal authority to self-direct, take stands, and independently evaluate the expectations of others

- The ***self-transforming* mind (3-6% of adults)** – people have self-authored meaning maps and also construct meaning from being willing to consider information from other people that could transform their own minds to fuller and more complete frameworks for living

- Robert Kegan & Lisa Laskow Lahey – *An Everyone Culture: Becoming a Deliberately Developmental Organization* (2016). "**Taylor's watchword was, of course, *efficiency*. Ours is *development***" (p.83).

High Reliability Theory

Karl Weick (2002) – The Reduction of Medical Errors Through Mindful Interdependence in Rosenthal & Sutcliffe (Eds.), *Medical Error: What Do We Know? What Do We Do?* (pp. 177-199)

Karl Weick & Kathleen Sutcliffe (2015) – *Managing the Unexpected: Sustained Performance in a Complex World*

- "When individuals experience **emotional ambivalence [a joint feeling of doubt and hope] and prosocial motivation [seeing their actions as contributions to a system and subordinating their personal interests to those of the system and its constituents]**, it induces the broad thinking and other-orientation that undergird mindful organizing and high reliability" (Vogus, Rothman, Sutcliffe, & Weick, 2014, pp. 592-594).

- **Mindfulness is "a rich awareness of discriminatory detail"** (Weick, 2002, p. 191) **that arises from:**

  Heedful attending to the three high reliability principles of **anticipating and preventing errors** – preoccupation with avoiding failure, reluctance to simplify interpretations, and sensitivity to operations; and the two principles of **containing errors that still occur** – commitment to resilience and deference to expertise, not the expertise of hierarchy, but of the team member with the greatest current knowledge of the presence or absence of safety.

  Heedful interrelating "to enact their actions **as *contributions* to a system rather than** … their as simply tasks in their **autonomous individual jobs … subordinating their idiosyncratic intentions to the effective functioning of the system** (Weick, 2002, p. 193).

Relational Coordination Theory

Jody Hoffer Gittell – *High Performance Healthcare: Using the Power of Relationships to Achieve Quality, Efficiency and Resilience* (2009) and *Transforming Relationships for High Performance: The Power of Relational Coordination (2016)*

- With surgery's inherent "**task interdependencies, uncertainties, and time constraints**, it is all too likely that a critical insight or piece of information will fall through the cracks … resulting in an error that jeopardizes patient well-being" (2009, p. 15).

- **Shared goals, shared knowledge, mutual respect, and frequent, timely, accurate, problem-solving communication** have proven to improve surgical performance, quality of care, clinical outcomes, and care provider job satisfaction.

- **Obstacles to relational coordination, coproduction, and leadership include workers and leaders who don't engage in or support teamwork**, because interactions with others who are different from themselves threaten their professional and personal identities identities, and/or their power. (2016, pp. 10-11).

- However, according to Curt Lindberg, **"a core principle of complexity – in a complex system, leadership should come from everywhere"** (as cited by Gittell, 2016, p. 187).

Constructivist Inquiry

Yvonna Lincoln & Egon Guba – *The Constructivist Credo* (2013)

- **Social realities are constructed subjectively in the hearts and minds of people,** from their own experiences, interpretations, and perspectives; plus their social relationships, interactions, cultures, and contexts.

- **Methodology**: the inquirers work together—importantly, as equals—in two stages of acquiring knowledge.

- First, **discovery***:* surfacing, identifying, interpreting, and explaining the various meanings *(hermeneutics)* people have made. In this study, discovery in **semi-structured, one-to-one interviews** will collect qualitative data.

- Second, *assimilation:* individual and collective meaning-making or sense-making accounts are "confronted, compared, and contrasted" (p. 40) through dialogue and argumentation *(dialectics)* among and between groups. This study will first use intact **focus groups** (MDs/nurses & techs) and then mixed groups to reach **appreciative co-constructions**, ideally by consensus; or to identify any areas of ongoing disagreement that need more work.

- **Axiological question: "Of all the knowledge available to me, which is the most valuable … most truthful … most beautiful … most life-enhancing?"** (p. 37). **Participants and the inquirer co-create knowledge and indeed new realities** by uncovering and making transparent each of **their own various value systems**, and also the **values of stakeholders, "for whom the research itself is important, or informs part of their work or their lives"** (p. 41).

Constructivist Inquiry's Fit With Adaptive Work Theory

Lincoln and Guba's (2013) criteria demonstrate the fit and pragmatic utility of constructive inquiry with adaptive work. The dialectic assimilation process and its product(s) should:

- be "**more informed** – inclusive of more and perhaps different meanings"

- be "**more sophisticated** – more complex, higher level and/or larger scale"

- "**fit** – subsume older and newer meanings"

- "**work** – explain what happens"

- "demonstrate **relevance** – enable the core problem to be resolved, ameliorated, or better defined," and

- "exhibit **modifiability** – be itself open to change" (pp. 62-64).

"**Personal and social progress … require that there be differences to explore, challenges to meet, conflicts to resolve, and ambiguities to clarify**" (Lincoln & Guba, 2013, pp. 73-74).

Appreciative Inquiry

David Cooperrider – A Contemporary Commentary on Appreciative Inquiry in Organizational Life (2013)

- "**Valuing the life-giving** in ways that serve to inspire our co-constructed future … then changes our lives" (p. 4).

- "The growth and application of Appreciative Inquiry … has been nothing short of phenomenal. It is **arguably the most powerful process of positive organizational change** ever devised" – Ken Gergen (as cited, p. 5).

- "An exciting **breakthrough**, one that signals a change in the way we think about change … **AI will be of enduring consequence and energizing innovation for the field**" – Richard Beckhard (as cited, p. 7)

- **Key concept – AI as a *generative theory building method* for the collaborative construction of reality** … in a world made up not of stable 'things' but of meanings and relationships" (p. 5). "**Good theory may be one of the best means human beings have for affecting change in a postindustrial world**" (p. 9).

- "**A continuing moral concern, a concern of social reconstruction** and direction. **The choice of what to study, how to study it**, and what to report implies some degree of responsibility. **Science**, therefore, instead of being considered an endpoint, **is viewed as one means of helping humanity create itself**" (p. 36).

Your Thoughts and Ideas …

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