HIT Safety Committee Web-Meeting

Open Forum: Patient Safety and HIT
Experiences, Challenges, and Best Practices

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July 21, 2015

NATIONAL QUALITY FORUM

Purpose of this Call

- Update the HIT Safety Committee and other stakeholders on the preliminary conceptual framework for measurement of HIT safety
- Provide an opportunity for stakeholders and the public to share experiences, best practices, and challenges with respect to measurement and prevention of HIT-related safety issues

Agenda

- Introduction
  - Andrew Lyzenga, MPP, Senior Project Manager, NQF
- Background on HIT and patient safety
  - Hardeep Singh, MD, MPH (co-chair)
- Project goals
  - Andrew Lyzenga, MPP, Senior Project Manager, NQF
- Overview of preliminary conceptual framework
  - Andrew Lyzenga, MPP, Senior Project Manager, NQF
- Discussion of measurement in a shared risk environment
  - Elisabeth Belmont, JD (co-chair)
- Open forum

Background on Measurement of HIT and Patient Safety

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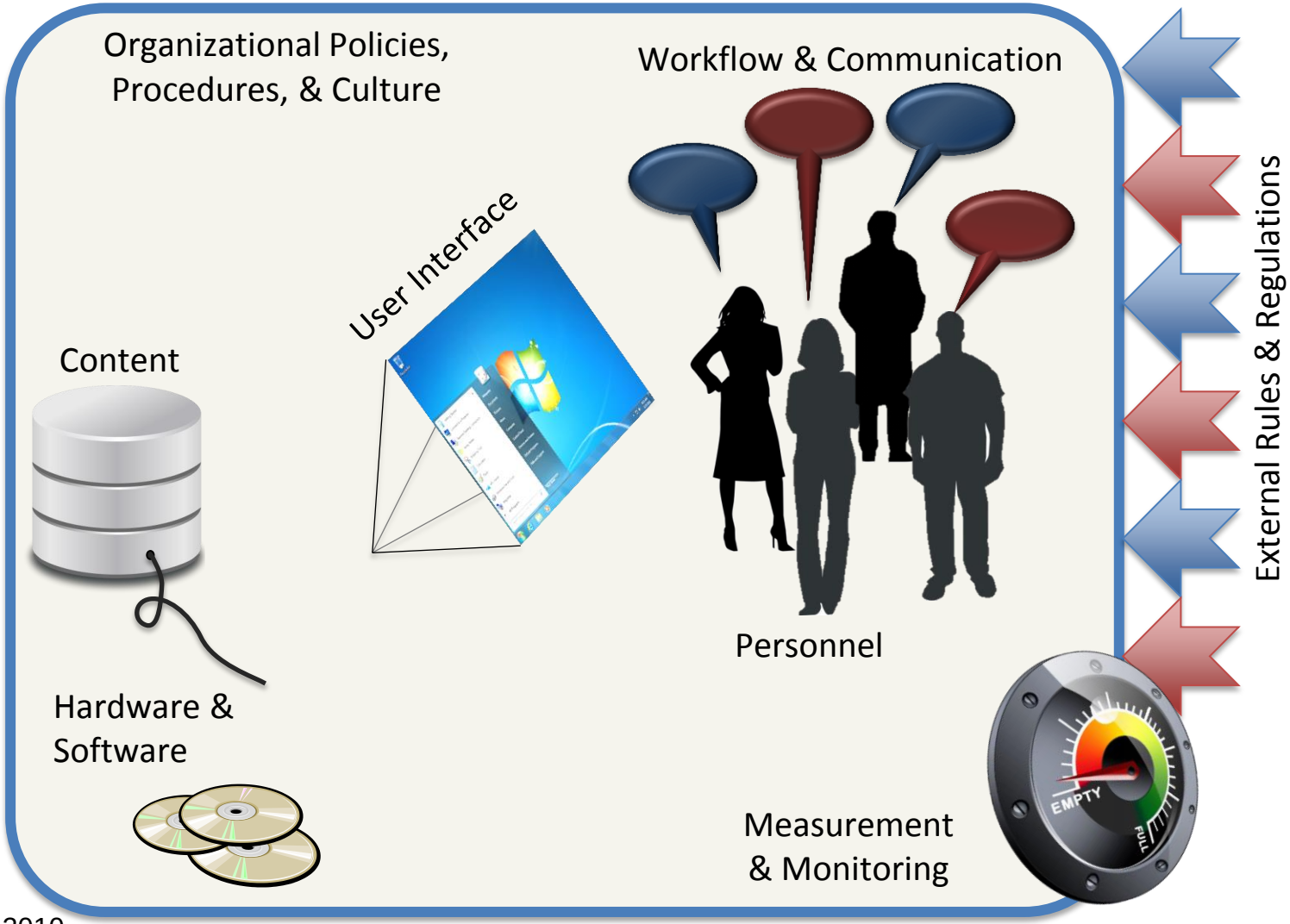
Hardeep Singh, MD, MPH (co-chair)

July 28, 2015

Health IT Safety Measurement

- Paucity of research despite emerging evidence
- Need a robust foundation and conceptual approach for understanding
  - We cannot improve what we cannot measure
  - We cannot measure what we cannot define

8-dimensional Socio-Technical Approach for Safe & Effective Health IT Use



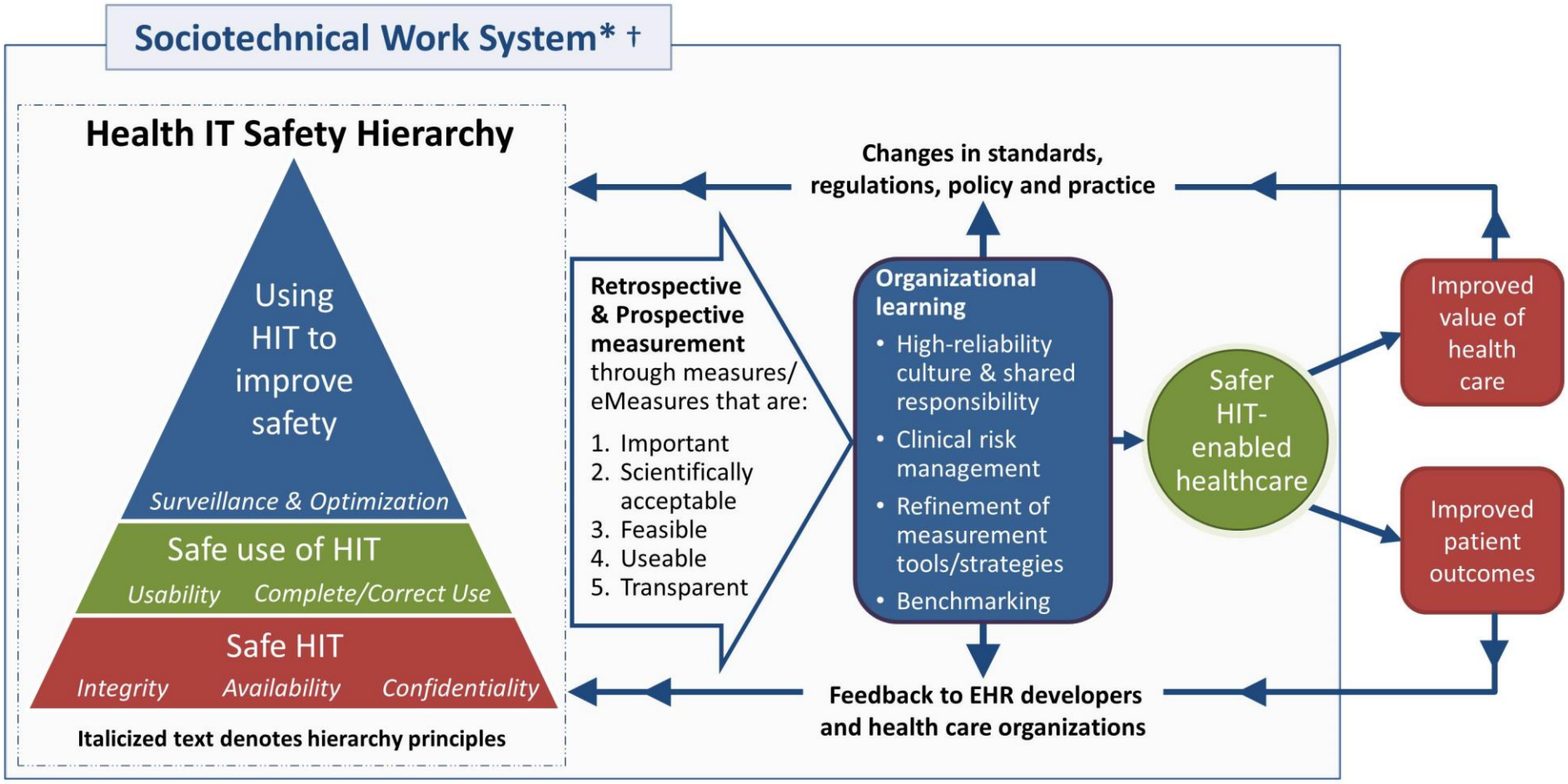
Sittig Singh *QSHC* 2010

Health IT Safety Hierarchy – 3 Steps

- Step 1: Safe health IT :
  - Events unique/specific to EHRs
- Step 2: Using health IT safely:
  - Unsafe or inappropriate use of technology
  - Unsafe changes in the workflows that emerge from technology use
- Step 3: Using health IT to improve safety
  - Leveraging health IT to identify unsafe care processes and potential patient safety concerns before harm

Sittig & Singh N Engl J Med. 2012 Nov 8;367(19):1854-60

Health Information Technology Safety Measurement Framework (HITS Framework)



* Includes 8 technological and non-technological dimensions.

† Includes external factors affecting diagnostic performance and measurement such as payment systems, legal factors, national quality measurement initiatives, accreditation, and other policy and regulatory requirements.

Defining Major types of HIT-related Safety Concerns

Type of HIT-related safety concern	Examples
1. Instances in which **HIT fails during use or is otherwise not working** as designed.	Broken hardware or software "bugs"
2. Instances in which HIT is working as designed, but the design **does not meet the user's needs or expectations.**	Usability issues
3. Instances in which HIT is well-designed and working correctly, but was **not configured, implemented, or used in a way anticipated or planned** for by system designers and developers	Duplicate order alerts that fire on alternative PRN pain medications

Sittig Classen Singh J Am Med Inform Assoc. 2014 Oct 20

5 Major types of HIT-related Safety Concerns

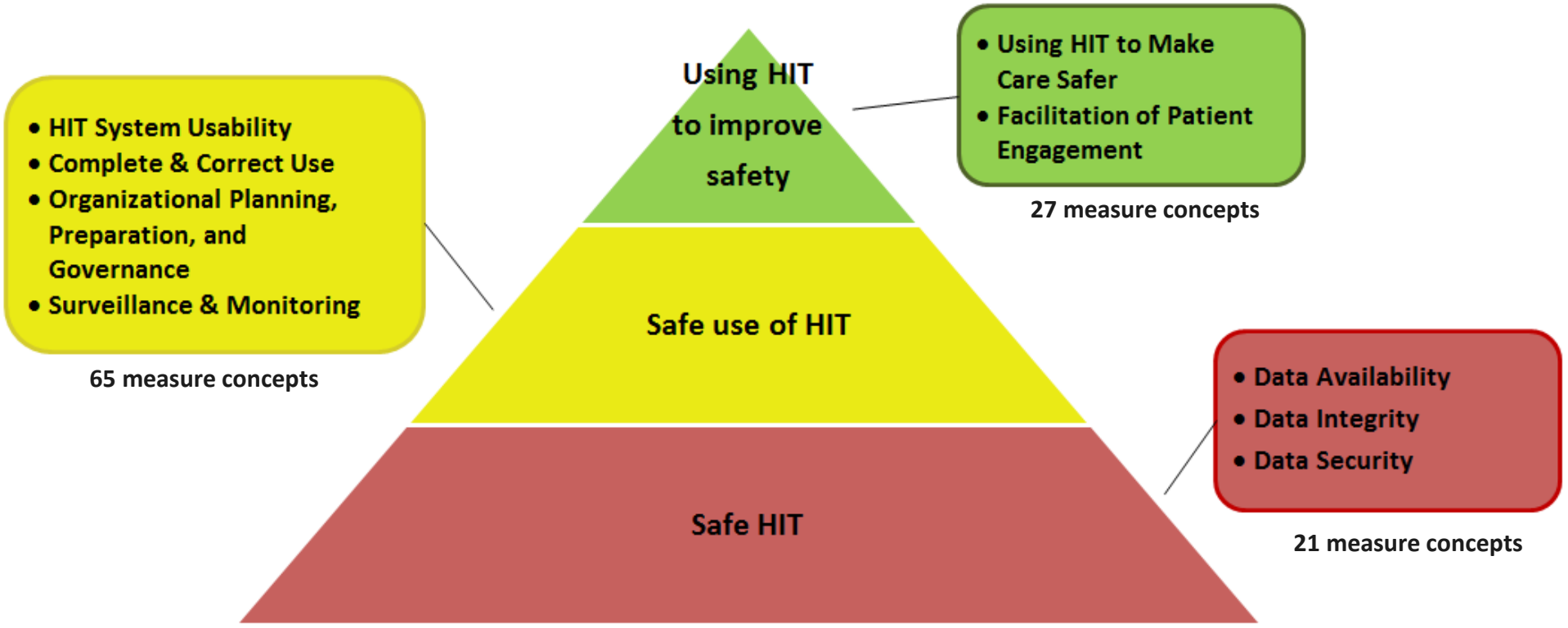
Type of HIT-related safety concern	Examples
4. Instances in which HIT is working as designed, and was configured and used correctly, but **interacts with external systems (e.g., via hardware or software interfaces) so that data is lost or incorrectly transmitted or displayed.**	Medication order for extended release morphine inadvertently changed to immediate release morphine by error in interface translation table
5. Instances in which specific safety **features or functions were not implemented or not available** (i.e., HIT could have prevented a safety concern).	Hospitalized patient inadvertently receives 5 grams of acetaminophen in 24 hours because maximum daily dose alerting was not available

Sittig Classen Singh J Am Med Inform Assoc. 2014 Oct 20

Goals of This Project

- Develop a conceptual framework for measurement of HIT safety
- Identify gaps in measurement related to HIT safety and make recommendations for filling those gaps
- Identify the highest priorities with respect to HIT safety measurement
- Identify best practices and challenges around HIT safety measurement

Preliminary Framework for Measurement of HIT Safety



Measurement of HIT-related Safety Issues in a Shared Risk Environment

Elisabeth Belmont, JD (co-chair)

July 28, 2015

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Measure Concepts for a Shared Risk Environment

- Growing recognition that Health IT vendors and purchasers share responsibility for patient safety
  - Whichever party can best mitigate the risk is the one who should bear that particular risk
  - Measure concepts based upon HIPAA/HITECH regulations, ISO Standards, TJC Standards and IOM Recommendations

Measure Concepts for a Shared Risk Environment, Con't

- Allocation of Responsibility for Health IT and Converging Technologies Safety Among Participating Stakeholders
  - Culture of Safety
  - Responsibility Agreement
  - Software license and hardware purchase agreements contain contractual provisions which negatively affect patient safety efforts

Measure Concepts for a Shared Risk Environment, Con't

- Ensuring the Confidentiality, Integrity and Availability of EHR Data
  - Security risk analysis of the potential Health IT threats and vulnerabilities affecting patient safety
  - Implement security updates and correct identified security deficiencies
  - Health IT- focused Disaster Recovery Plan

Open Forum

- **Has your organization experienced:**
  - EHR system downtime?
  - HIT-induced/facilitated adverse medication events?
  - HIT-induced/facilitated incorrect lab or imaging (test) ordering and/or processing?
  - Other HIT-related safety issues?

Open Forum

- **Has your organization faced any barriers or challenges to ensuring patient safety in the context of EHR implementation?**
  - Were those barriers technological, personnel, resource, others, or a combination?
  - What were the root causes of those barriers?
  - What strategies have you developed, if any, as a result of these barriers?
  - What have been the results to date?

Open Forum

- **Has your organization developed strategies to ensure safe use of HIT and to avoid unintended consequences related to technology?**
  - What triggered the development of these strategies?
  - What results have you noticed due to this effort?
  - What type of specific actions did the organization take as a result of your patient safety strategy?
  - Has your organization ever had a "safety concern" such as a harm or potential harm to a patient as a result of HIT-related issues?

Open Forum

- **Is Your Organization Objectively Measuring the Effects of HIT on Patient Safety?**
  - What HIT-related patient safety issues are you prioritizing and how are you measuring them?
  - What areas do you see as the highest-priority areas in the future? (e.g., Physician Order Entry Behavior, Usability Issues, etc.)
  - Are you part of a community actively engaged in this area?
  - Would you be willing to share measures/concepts/best practices with the National Quality Forum?

Next Steps

- NQF will take the input provided today, incorporate it into the Committee findings, and revise the draft framework as needed
- HIT Safety Committee In-Person Meeting: **September 16-17, 2015**