Leveraging Interorganizational Sensemaking to Improve Patient Safety

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Conflict of Interest Disclosure

Nikki Vande Garde, BSN, RN-BC reported no relevant financial relationships or relationships she has with ineligible companies of any amount during the past 24 months.

Agenda

Brief overview of patient safety at Oracle Health

Safety thinking at a high level

Rules of the road utilized by our team

Learning review method of incident investigation

Shared sensemaking within the organization and across organizations

Shared sensemaking can help us with shared responsibility

Possibilities for increasing interorganizational sensemaking & share responsibility to improve patient safety

Patient Safety at Oracle Health

Quality Management System

Each area of the organization has responsibilities related to the quality and safety of products and services.

Complaint Handling

As a manufacturer of medical devices (software can be considered a medical device), we have a formal complaint handling process. We report both required and voluntary reports to the FDA and other regulatory authorities.

System Safety Investigations

Beyond the root cause analysis, we utilize the “learning review” investigation method. Inter and intra organizational sensemaking is at the core of this investigation method.

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Oracle Health and CHPSO

In 2020, Cerner became a member of CHPSO

Utilize to practice shared responsibility with our health system and external partners

Patient Safety Organizations (PSOs) Brief History

2005 Patient Safety Quality Improvement Act (PSQIA) – AKA the "Patient Safety Act"

Encourage and enable patient safety work without fear of litigation

2008 AHRQ Formalized PSOs

Monitor patient safety work and enable safety event reporting to facilitate industry learning

2016 Cures Act Extended PSQIA to HealthIT Vendors

Safety Thinking

Apply safety science theory in practice

Utilize various theories within investigations including High Reliability Theory, Systems Thinking, Resilience Engineering, and Normalization of Deviance.

Shared Sensemaking

Approach investigations with ***shared sensemaking*** as a goal to holistic understanding by collaborating with internal and external customers to gather details regarding reported concerns, patient safety events, and software defects.

Avoid Blame at the Sharp End of Practice

Assess all events from a systems thinking perspective recognizing that blame at the sharp end of practice will not identify blunt end systems factors.

System Safety Investigations

Beyond the root cause analysis, we utilize the “learning review” investigation method. Inter and intra organizational sensemaking is at the core of this investigation method.

Rules of the Road

For Safety Thinking & Incident Investigation

Recognize and control our natural reactions to failure

View ‘human error’ as a symptom versus a cause

Recognize that complex systems are not linear AND they are not tractable

Walk forward through an incident, not backward

Seek to understand how an action was reasonable to the user(s) involved

Explore contributors versus constructing causes

Look for weak signals

Recognize defensiveness and restore an environment of mutual collaboration

Involve appropriate expertise

Be cognizant of the tendency to find blame at the sharp end of practice and seek blunt end factors

“Work as Done” versus “Work as Imagined”

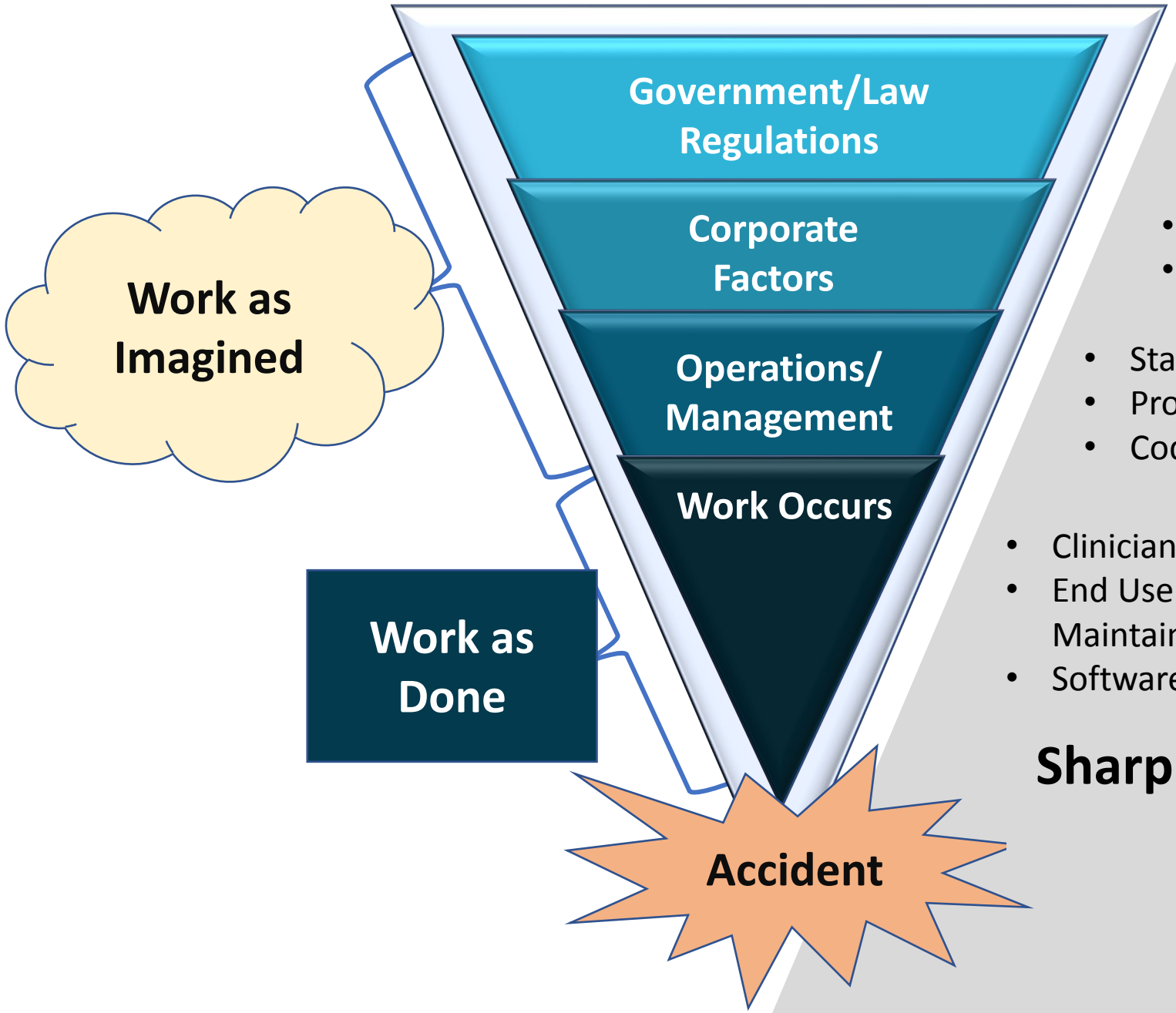
3 Natural Reactions to Failure

1. Retrospective
   - Hindsight Bias
   - Outcome Bias
2. Proximal
   - Focus on “sharp end” versus the “blunt end”
3. Counterfactual reasoning or descriptions
   - “Should have” or “could have”
   - Description of a “parallel universe”

According to Sidney Dekker:

Understand and contain your reactions to failure.

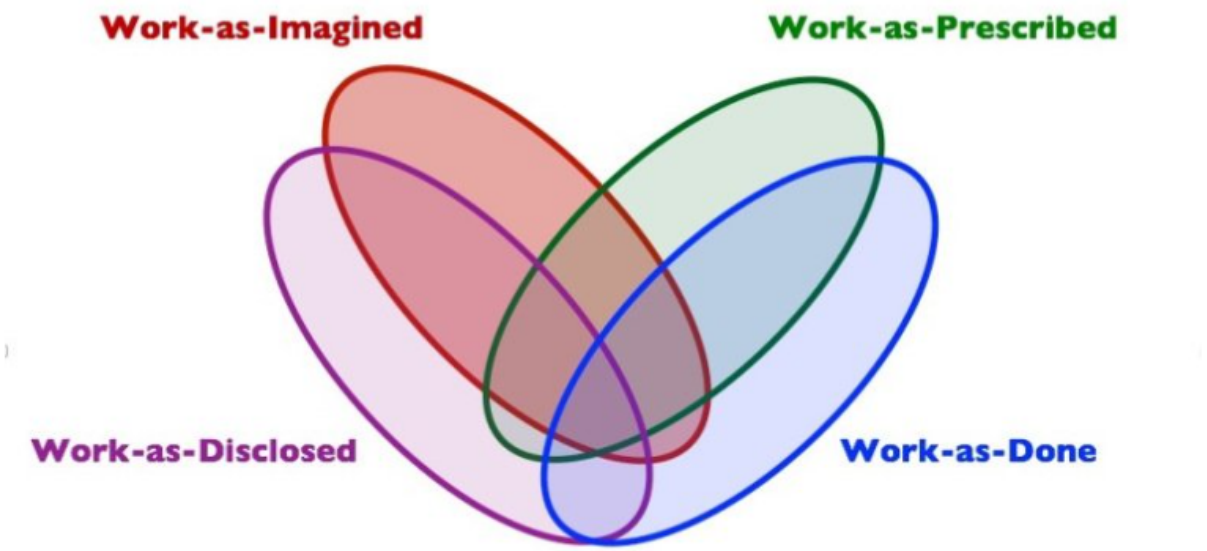
Reactions to failure get in the way of understanding failure.



Blunt End

- Regulations & Laws Defined
- Policies Defined
- Budget Constraints
- Staffing Constraints
- Procedures Defined
- Code & Systems Designed
- Clinicians Provide Care
- End Users Configure & Maintain Systems
- Software Coded

Sharp End



The Varieties Of Human Work

Steven Shorrock 2 March, 2017 1 Comment 10 6.7k

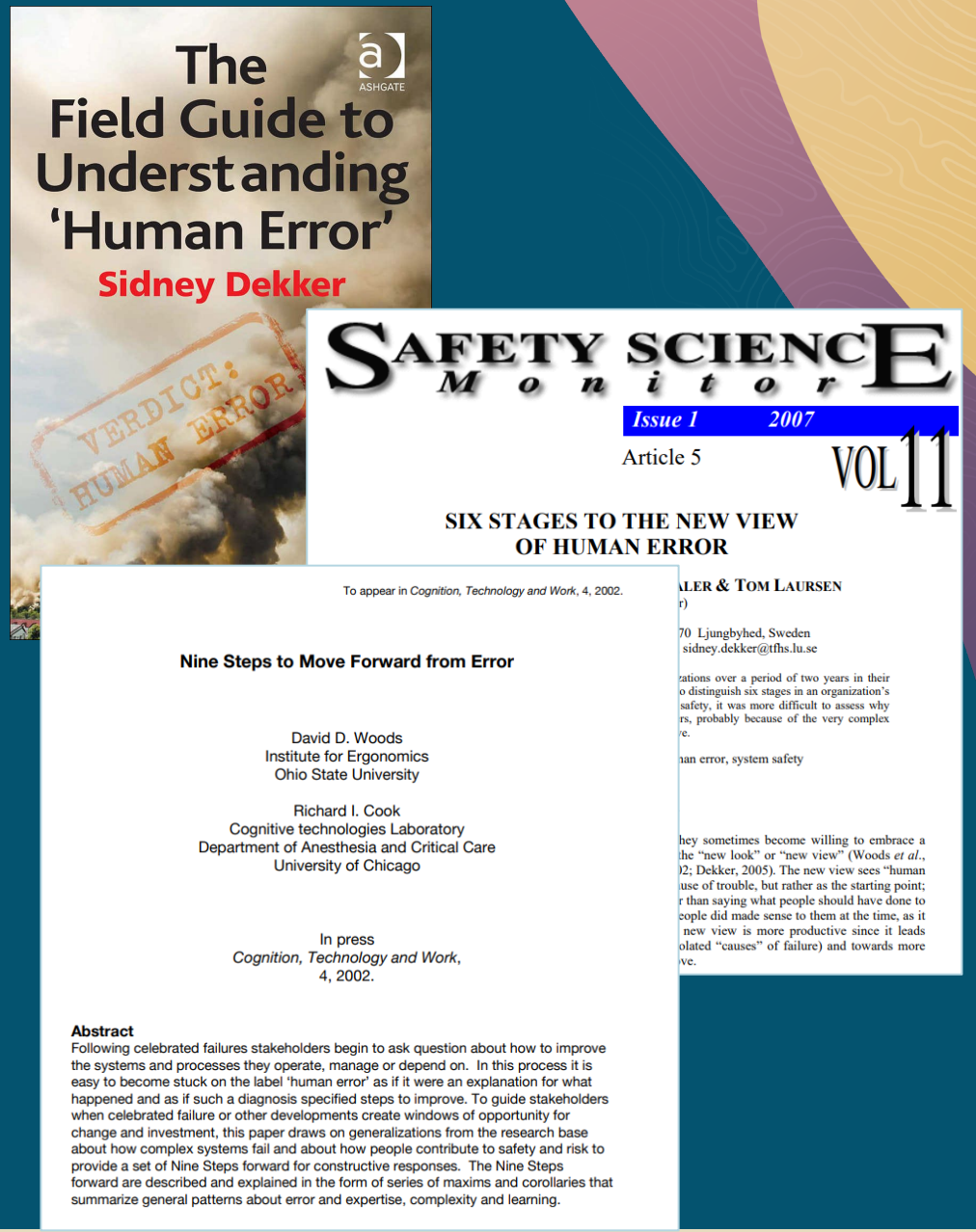
Understanding and improving human work is relevant to most people in the world, and a number of professions are dedicated to improving human work (e.g. human factors/ergonomics, quality management, industrial/work/organizational psychology; management science). The trouble with many of these professions is that the language and methods mystify rather than demystify. Work becomes something incomprehensible and hard to think about and improve by those who actually design and do the work. Recently, some notions that help to demystify work have gained popular acceptance. One of these is the simple observation that how people *think* that work is done and how work is *actually* done are two different things. This observation is very old, decades old

Reference: The varieties of human work. Steven Shorrock. https://safetydifferently.com/the-varieties-of-human-work/

Old versus New View of Human Error

Directly quoted from "The Field Guide to Understanding 'Human Error'"

Old View	New View
Asks *who* is responsible for the outcome	Asks *what* is responsible for the outcome
Sees '*human error*' as the *cause* of trouble	Sees '*human error*' as a *symptom* of deeper trouble
'*Human error*' is random, unreliable behavior	'*Human error*' is systematically connected to features of people's tools, tasks and operating environment
'*Human error*' is an acceptable *conclusion* of an investigation	'*Human error*' is only the *starting point* for further investigation
Says what people failed to do	Tries to understand why people did what they did
Says what people should have done to prevent the outcome	Asks why it made sense for people to do what they did



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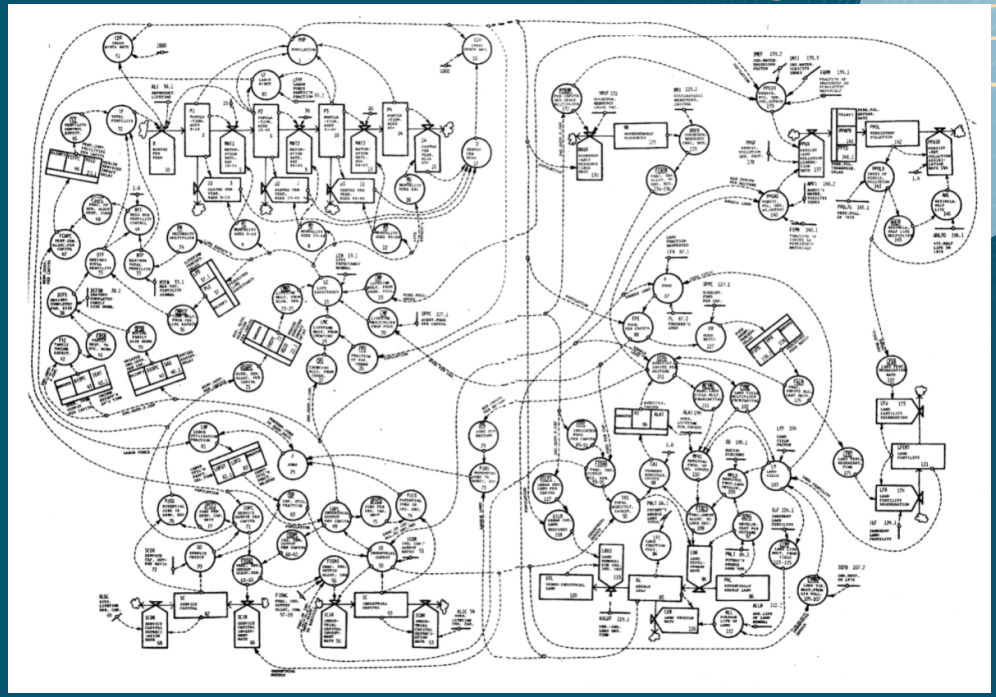
http://csel.eng.ohio-state.edu/productions/pexis/readings/submod4/nine%20steps%20CTW2002.pdf

Learning Reviews

An investigation method that strives to understand how “normal work” within the complex adaptive (and intractable) sociotechnical system contributed to an outcome.



Seeks to understand how the actors involved walked FORWARD through this (non-linear) system.

What twists and turns occurred?

What tools and resources were available and utilized (or not available)?

What processes were utilized and how did each actor understand the process?

The investigator seeks to understand *how did the actions taken make sense to those involved at the time .*

The investigator resists our natural reactions to failure (hindsight and outcome bias; proximal logic; and counterfactual statements).

Learning Reviews strive to generate insights and seek performance improvements which together drive organizational learning.

Learning Reviews

Overview of How

Gather data (facts, log files, audits, support tickets, screen shots)

Individual interviews (end users, support associates, engineers)

Compile “stories”

Build timeline

Present findings

Improvements may or may not be found

Themes emerge → Double-loop learning (don’t apply just to specific incident)

Build adaptive capacity (resilience engineering)

Seeing what one believes and not seeing that for which one has no beliefs are central to sensemaking.

Karl E. Weick, Sensemaking in Organizations

Sensemaking

The key to sensemaking is to approach with a mentality that "your understanding of reality is wrong" ~ Dr. Loren Hochstein

Our individual models of reality shape the way each of us sees the world.

We also make sense of the world with our own "ontology". What does this mean to you? "The pharmacy service wasn't available on Saturday which caused the incident."

What is in your ontology impacts how you understand the world, including incidents, including patient safety events.

Causality models, linear versus complex, contains interactions, history, multiple contributing factors, local rationality, uncertainty, goal conflicts (be safe, but perform with given resources on time), production pressure, workarounds (how "work as done" occurs with the presences of goal conflicts and production pressure), expertise, and coordination.

"If you're arguing, you're losing."

"Identify meaningful patterns." ~ hard to do because few are trained to do it, and we don't share across organizations.

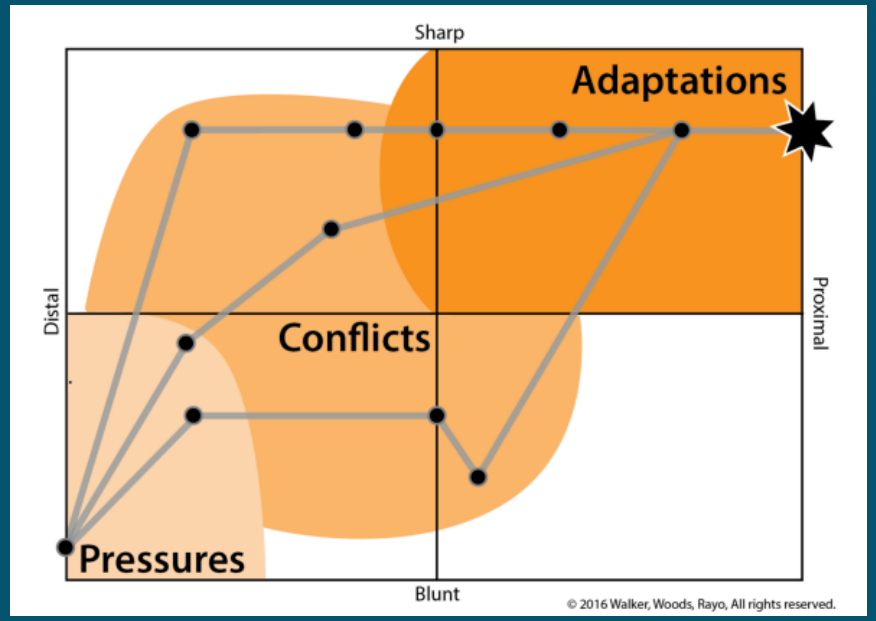
Adaptive Behavior

“How practitioners adapt what they do to meet changing demands, challenge, and surprise in their work.” ~ Christine Jeffries, MSN, RN, CNL – PhD Candidate

We know that complex adaptive sociotechnical systems are always changing.

Pressures → Conflicts → Adaptations = Accident OR Success

Need to monitor adaptations and utilize for proactive safety versus find-and-fix whack-a-mole reactively.



Intra and Interorganizational Sensemaking

Sensemaking within a single organization

Teams
Departments
Facilities

Sensemaking across organizations

Healthcare systems, PSOs, Health IT Vendors, Policy makers

How can we…

… work collaboratively to make sense of patient safety risks or incidents?
… share learnings and create (or remember existing) evidenced based practice?
… recognize when _____ cannot be solved by individual organizations?

Sensemaking + Shared Responsibility

Shared responsibility

According to Sittig, Belmont, and Singh, we must practice shared responsibility as an industry to make meaningful progress to improve patient safety.

Shared responsibility across organizations

Healthcare systems, PSOs, Health IT Vendors, Policy makers

How can we…

… work collaboratively to make sense of patient safety risks or incidents?
… share learnings and create (or remember existing) evidenced based practice?
… recognize when _____ cannot be solved by individual organizations?
… work together to simplify the system versus adding to it as we determine preventative actions?

Contents lists available at ScienceDirect

Healthcare

journal homepage: www.elsevier.com/locate/healthcare

Opinion paper

Improving the safety of health information technology requires shared responsibility: It is time we all step up☆

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ABSTRACT

In 2011, an Institute of Medicine report on health information technology (IT) and patient safety highlighted that building health-IT for safer use is a shared responsibility between key stakeholders including: "vendors, care providers, healthcare organizations, health-IT departments, and public and private agencies". Use of electronic health records (EHRs) involves all these stakeholders, but they often have conflicting priorities and requirements. Since 2011, the concept of shared responsibility has gained little traction and EHR developers and users continue to attribute the substantial, long list of problems to each other. In this article, we discuss how these key stakeholders have complementary roles in improving EHR safety and must share responsibility to improve the current state of EHR use. We use real-world safety examples and outline a comprehensive shared responsibility approach to help guide development of future rules, regulations, and standards for EHR usability, interoperability and security as outlined in the 21st Century Cures Act. This approach clearly defines the responsibilities of each party and helps create appropriate measures for success. National and international policymakers must facilitate the local organizational and socio-political climate to stimulate the adoption of shared responsibility principles. When all major stakeholders are sharing responsibility, we will be more likely to usher in a new age of progress and innovation related to health IT.

Learning Review in Progress

Surescripts + Oracle Health Investigating Prescription to Product Mismatches

Problem Statement

Health systems using Oracle Health products, as well as other vendors, may be sending electronic prescriptions that don't match exactly to the product the provider intended for the patient. This may result in subsequent phone calls from the pharmacist to the provider to determine the correct product to dispense. It might also be possible for the patient to receive an unintended formulation of the correct medication.

Learning Review Plan

Intra and interorganizational **sensemaking** is key.

One-on-one interviews conducted (may include CHPSO, our patient safety organization); gathering objective data (service tickets, log files, audits); group discussions; and determine next interviews needed.

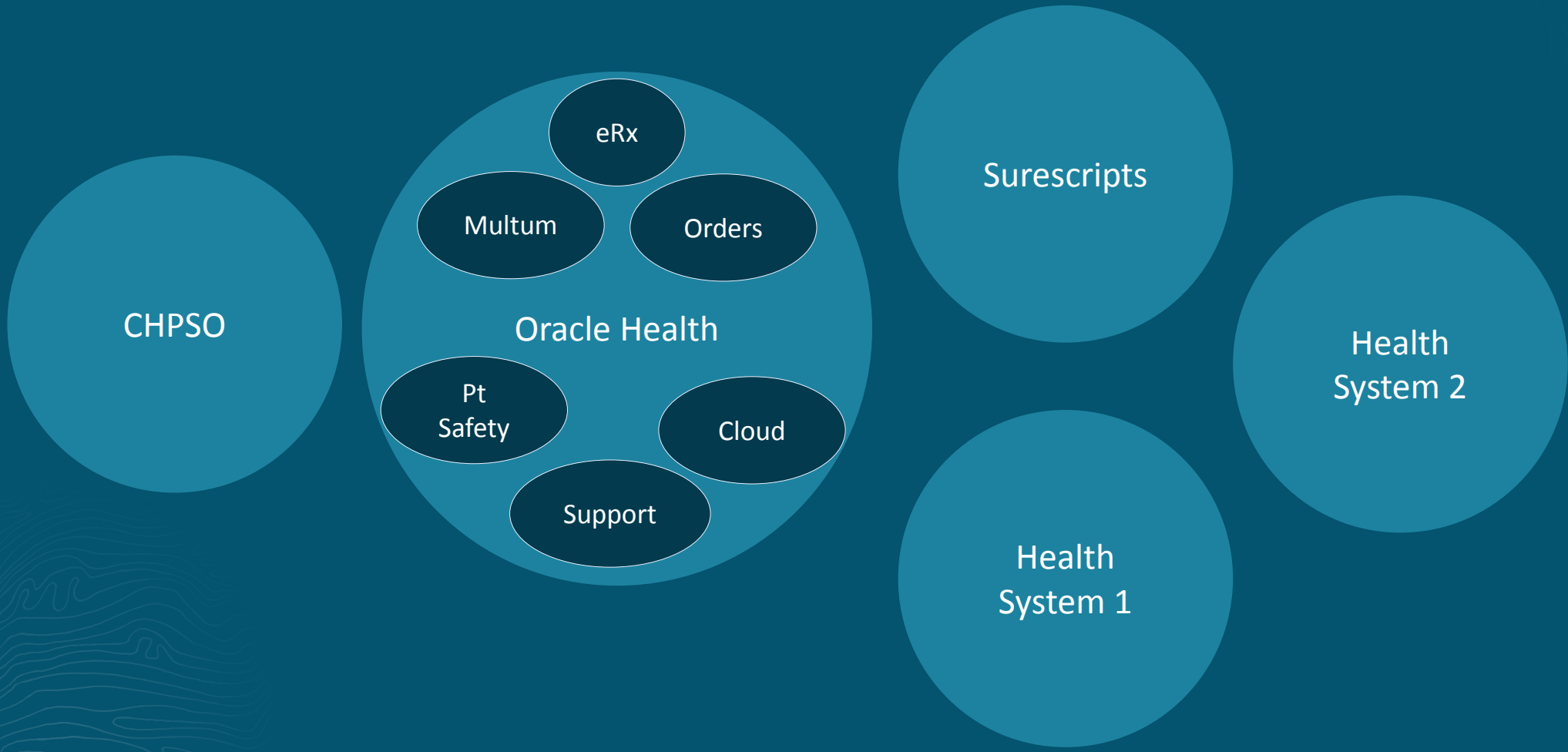
Report is written and reviewed with all interviewed.

Presentation to leadership.

System improvements implemented.

Learning Review in Progress

Surescripts + Oracle Health Investigating Prescription to Product Mismatches



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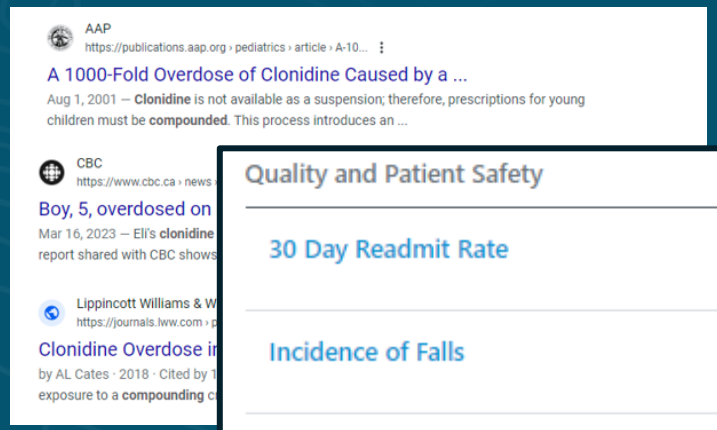
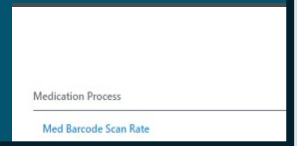
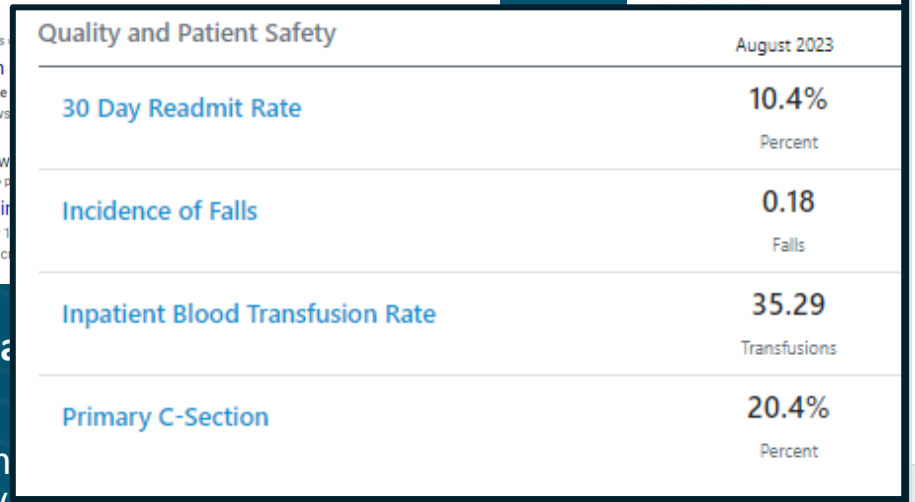
Possible Strategies







National sa

Tackle com
be solved (or should not be solved)
by individual organizations.

Discuss system level changes.

User deviation
practice

based practice.

Continuous pulse oximetry order while on sedative and analgesic medications.

Call to Action

Shared Sensemaking & Shared Responsibility

Compounded Prescriptions

Clonidine in the pediatric population –

Health system A pharmacist: "We made this safer by working with community pharmacies and agreed on standard concentrations for prescriptions."

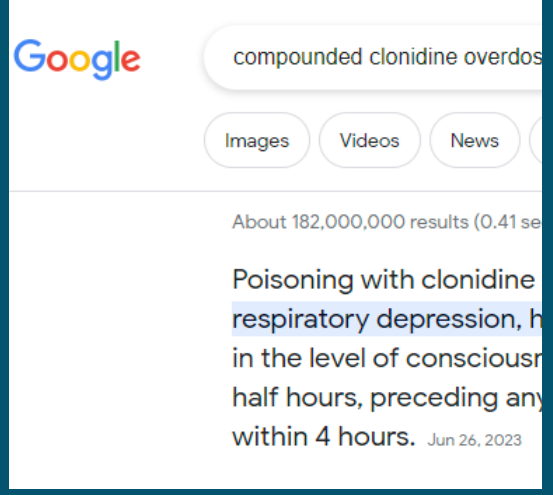
Health system B pharmacist: "We try to order in a way that we can ensure the printed instructions make sense to the parent, but sometimes the concentration filled might be different than the hospital."

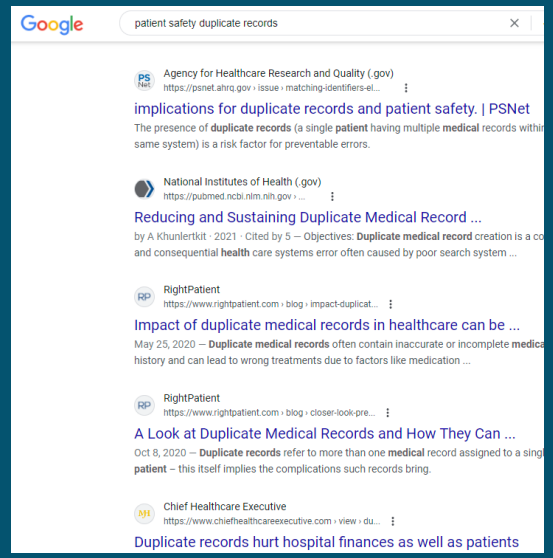
Health system C pharmacist: "We struggle with helping our physicians understand how to prescribe clonidine."

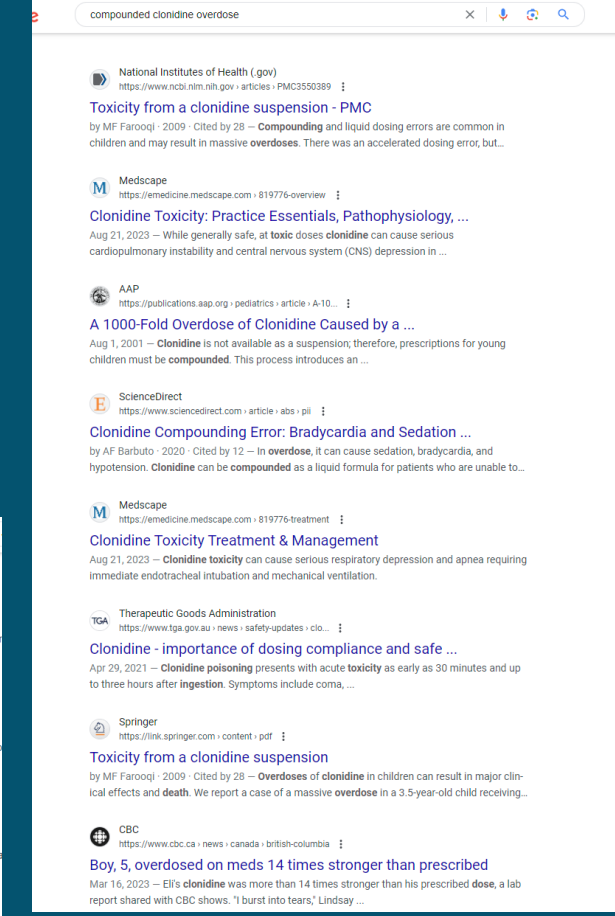
National patient identifier

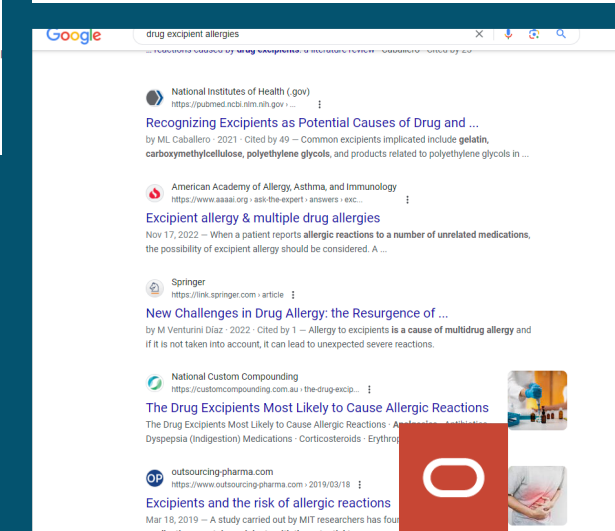
Drug excipients

System-level improvements









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Questions

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