

The Timeline to Diagnostic Safety

SIDM - Research as a Priority

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SOCIETY^{to}
IMPROVE
DIAGNOSISⁱⁿ
MEDICINE

Better Outcomes Through Better Diagnosis

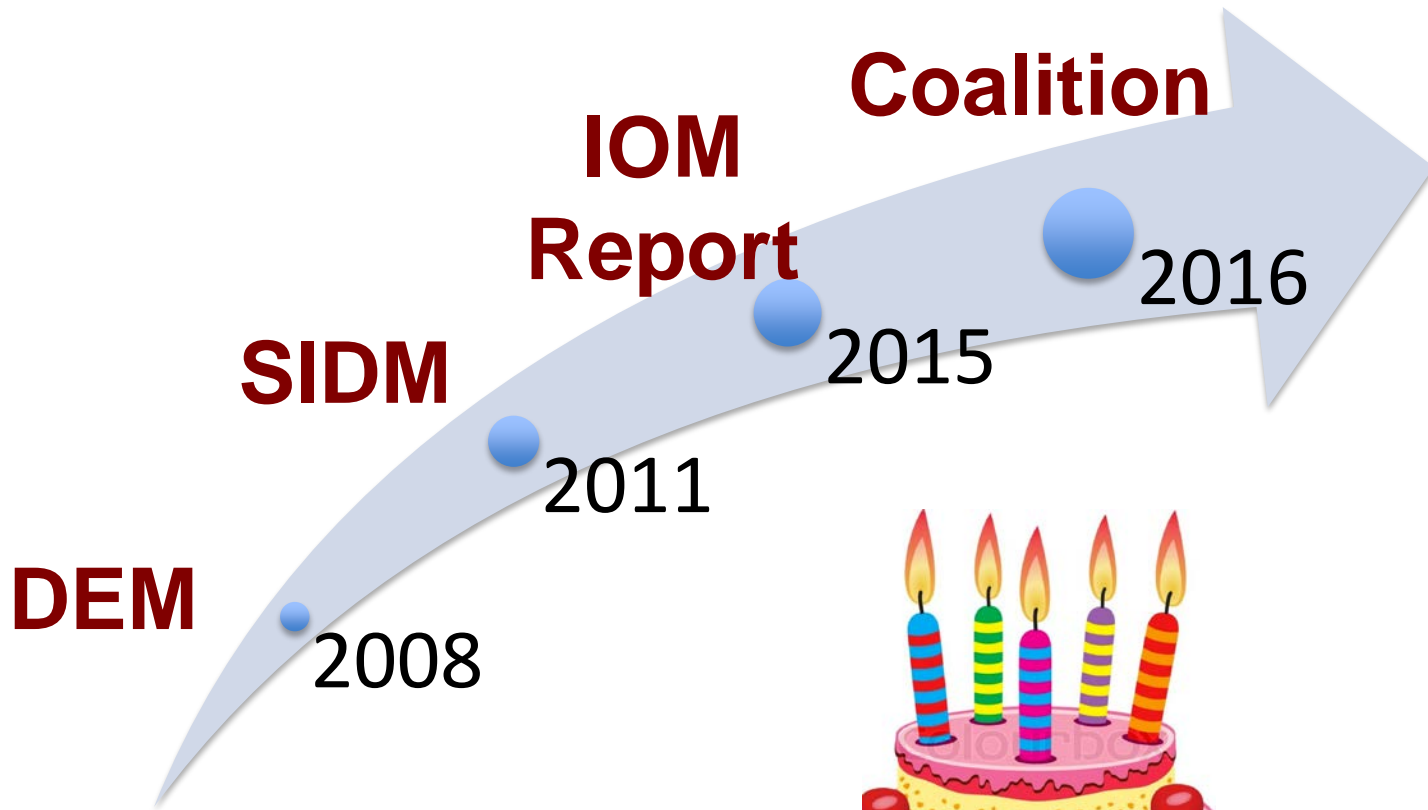
**Society to
Improve
Diagnosis in
Medicine**

**VISION: Creating a world
where no patients are
harmed by diagnostic error**

The Veiled Man -- Irene Vilar



		Safety Starting Point	Progress to Date
Aviation	1930's: 1 crash/1000 flights. Of first 24 air mail pilots, half died	1974 (ASRS)	<One crash per 10,000,000 flights.
Lab Medicine	1950: Half of lab results not credible	1967 (CLIA)	On automated labs: <1 defect/100,000
Patient Safety	180,000 deaths/yr	1999 (To Err..)	100,000 lives? 5,000,000 lives?
Diagnostic Safety	40,000 – 80,000 deaths/yr	2008 (DEM)	???



Evidence of Progress



IOM Report

Downloaded 15,000 times

**Evidence of action from:
AHRQ, CDC**

<http://nas.edu/improvingdiagnosis>

Evidence of Progress

Increased awareness:

**Papers, Grand Rounds, Radio, TV,
Webinars**

Susquehanna Health - 4th Grand Rounds on Dx Error

Evidence of Progress

Diseases with successful campaigns:

Kernicterus

Sepsis

Evidence of Progress

HCO's\PSO's starting to DO something

Intermountain - New team

Maine Medical Center – Communicating tests

MMIC, MCIC – New collaborations

Midwest Alliance for Safety – PSO project

Atrius Health – Funded research project

KP Southern California - SureNet trigger tools

Evidence of Progress

Education

New texts: Teaching Clinical Reasoning

New Fellowship program: Diagnostic medicine

6 new Med-U modules on dx error

New courses: Critical thinking @ Dalhousie

New CME modules on dx error, with ACP

On the AAMC meeting program – 2016

AAMC – Newest member of Coalition

Evidence of Progress

International Progress

DEM – EU 2016

DEM - Australia 2017

**John Ely's checklists – Translated into French,
Turkish, and Indonesian**

Interest groups in: Romania, Japan, China

WHO discussions

Australia CEC: Red Team – Blue Team

Take 2: Stop and Do

Coalition to Improve Diagnosis (CID)

American Board of Internal Medicine and the ABIM Foundation
American Board of Medical Specialties
American College of Emergency Physicians
American College of Physicians
American Society of Healthcare Risk Managers
Consumers Advancing Patient Safety
Leapfrog Group
National Patient Safety Foundation
National Partnership of Women and Families
National Association of Pediatric Nurse Practitioners
Society to Improve Diagnosis in Medicine
Department of Veterans Affairs

Collective action
Individual action

And a dozen more

Advisory: AHRQ, CDC



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Better Outcomes Through Better Diagnosis

Research Priorities

IOM suggestions

SIDM suggestions

My suggestions

Your suggestions

IOM Report

Research Recommendations

HHS, DOD, VA: Develop a coordinated and funded research agenda by 2016

41 specific research recommendations:

Patient & family engagement – 6

Educating healthcare professionals – 5

Health IT – 7

Finding, analyzing, reducing Dx error – 15

Work system improvements – 4

Policy and finance - 4

Definition of Diagnostic Error

The failure to:

(a) establish an **accurate** and **timely** explanation of the **patient's** health problem(s)

or

(b) **communicate** that explanation to the **patient**

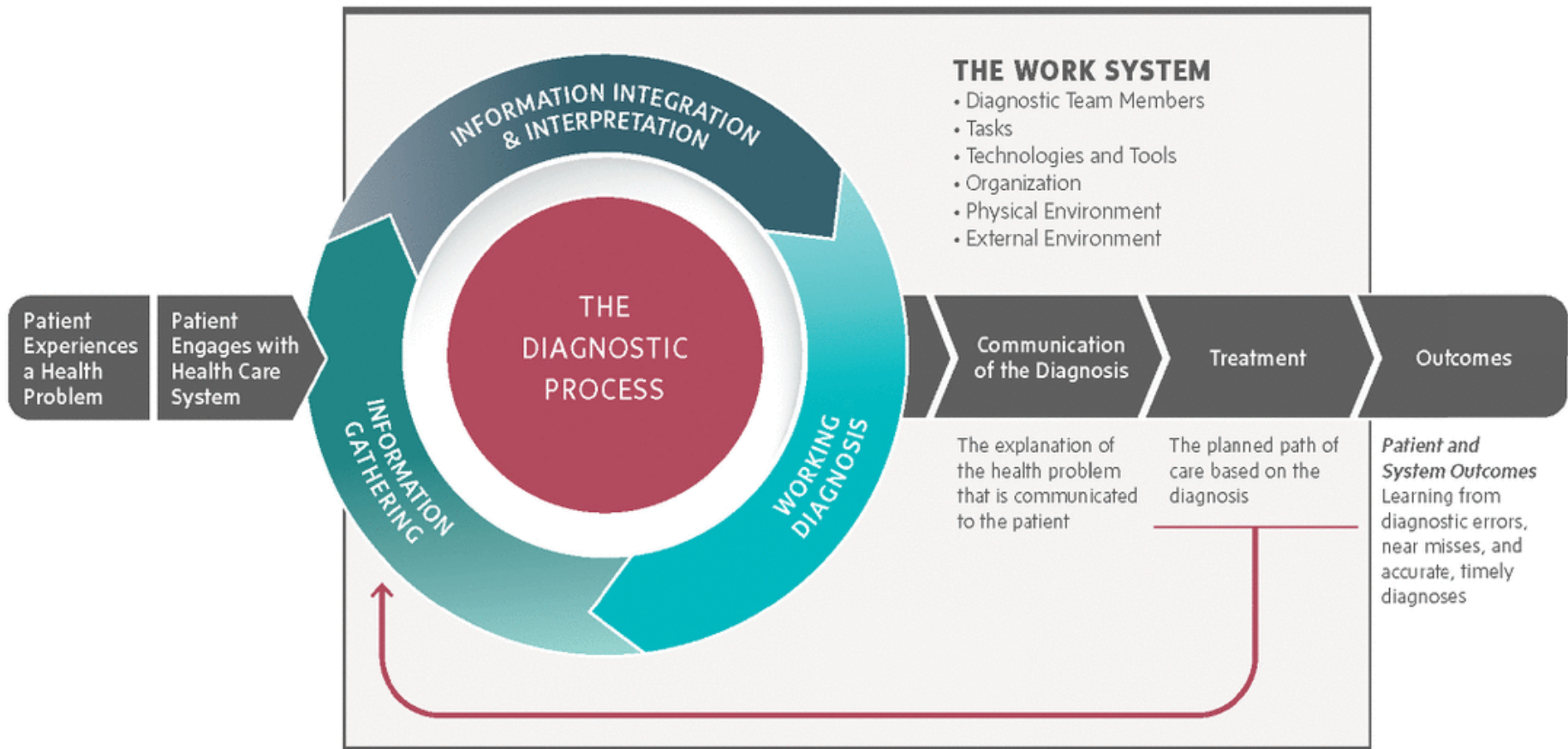
The single biggest problem in communication is the illusion that it has taken place. *George Bernard Shaw*

Measuring Diagnostic Errors

Failure of Engagement

Failure in Information Gathering
Failure in Information Integration
Failure in Information Interpretation

Failure to Establish an Explanation for the Health Problem
Failure to Communicate the Explanation



Patient Experiences a Health Problem

Patient Engages with Health Care System

THE DIAGNOSTIC PROCESS

Communication of the Diagnosis

Treatment

Outcomes

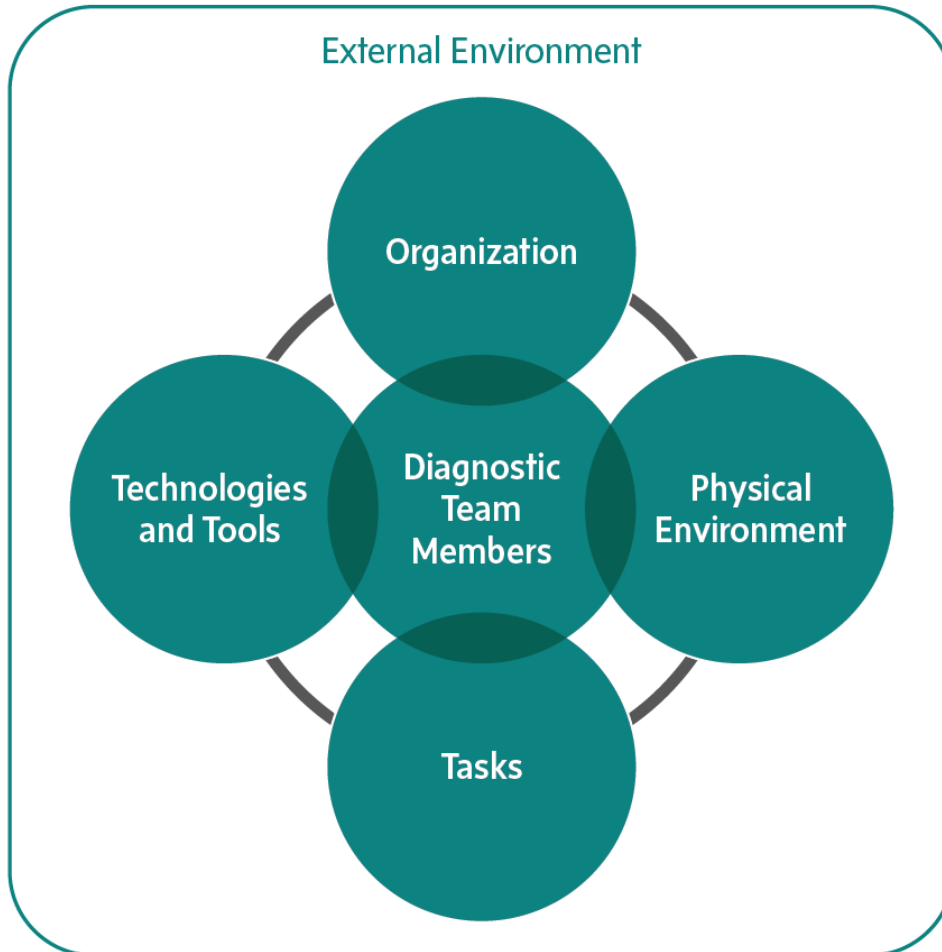
The explanation of the health problem that is communicated to the patient

The planned path of care based on the diagnosis

Patient and System Outcomes
Learning from diagnostic errors, near misses, and accurate, timely diagnoses

TIME

The Work System



Human Factors

**What factors make dx easier
\ harder?**

**What is the impact of
distractions?**

How much time is 'enough'?

**What is the impact of
culture?**

SIDM – Research Priorities

2011 - SIDM Research Committee (Chairs David Newman-Toker, Laura Zwaan, Rob El-Kareh)

2012 - SIDM Research Summit at DEM

2015 - SIDM input into IOM report and recommendations

2016 - SIDM-lead Coalition: Research funding is one of the 3 selected collective action items (along with raising awareness and collecting useful tools)

SIDM – Research Priorities

Downloaded from qualitysafety.bmj.com on September 9, 2013 - Published by group.bmj.com

BMJ Quality & Safety Online First, published on 13 August 2013 as 10.1136/bmjqs-2012-001624

NARRATIVE REVIEW



OPEN ACCESS

Advancing the research agenda for diagnostic error reduction

Laura Zwaan,¹ Gordon D Schiff,^{2,3} Hardeep Singh^{4,5}

Prioritization of Diagnostic Error Problems & Solutions: Concepts, Economic Modeling, & Action Plan

David E. Newman-Toker, MD PhD, Associate Professor, The Johns Hopkins University School of Medicine

Report presented to the IOM Committee on Diagnostic Error in Healthcare, August 7, 2014

MG: Research Priorities

How can we measure diagnostic performance ??

How can we improve clinical reasoning ?

What interventions work ??

What's the cost of Dx error?

How can we measure diagnostic performance?

NO: Incident reports, occurrence screens, death reviews, Global Trigger Tool

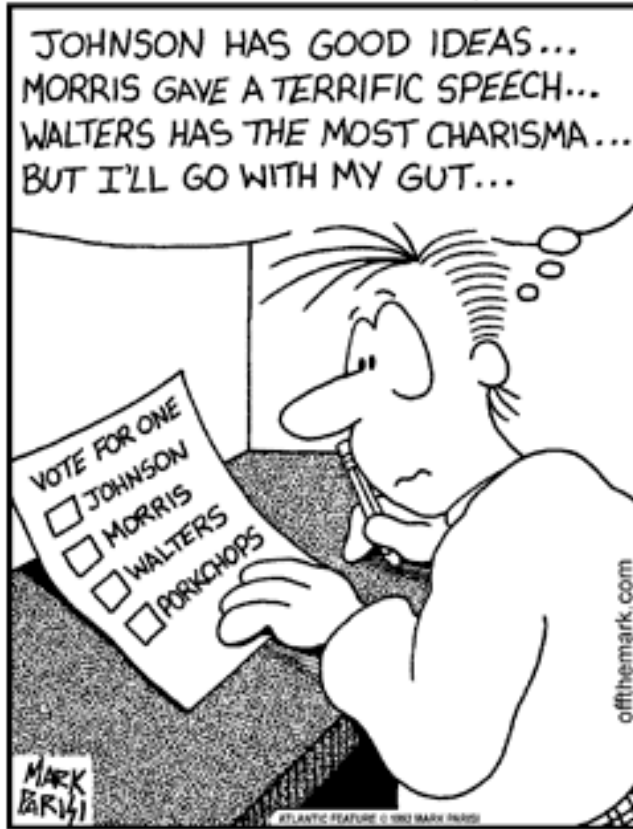
YES: Ask patients

Ask doctors

Use trigger tools

How can we improve clinical reasoning?

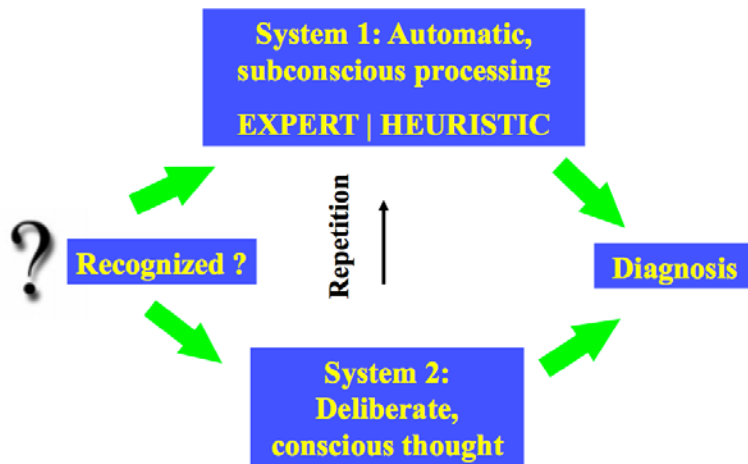
off the mark.com by Mark Parisi



SHOULD we use a normative approach ?

Why don't we ?

Which is more error prone – intuition or normative approach?



How do we teach people they are susceptible to bias?

How can we recognize it?

What can we do to minimize the adverse impact of bias?

Can we improve intuition?

Affective Bias
Cognitive Bias

What interventions work?

Decision support ?

Second opinions ?

Debiasing; education ?

Teams ?

Engaged patients ?

What's the Cost of Dx Error?

Understanding the costs of dx error would motivate

Policy makers

Payers

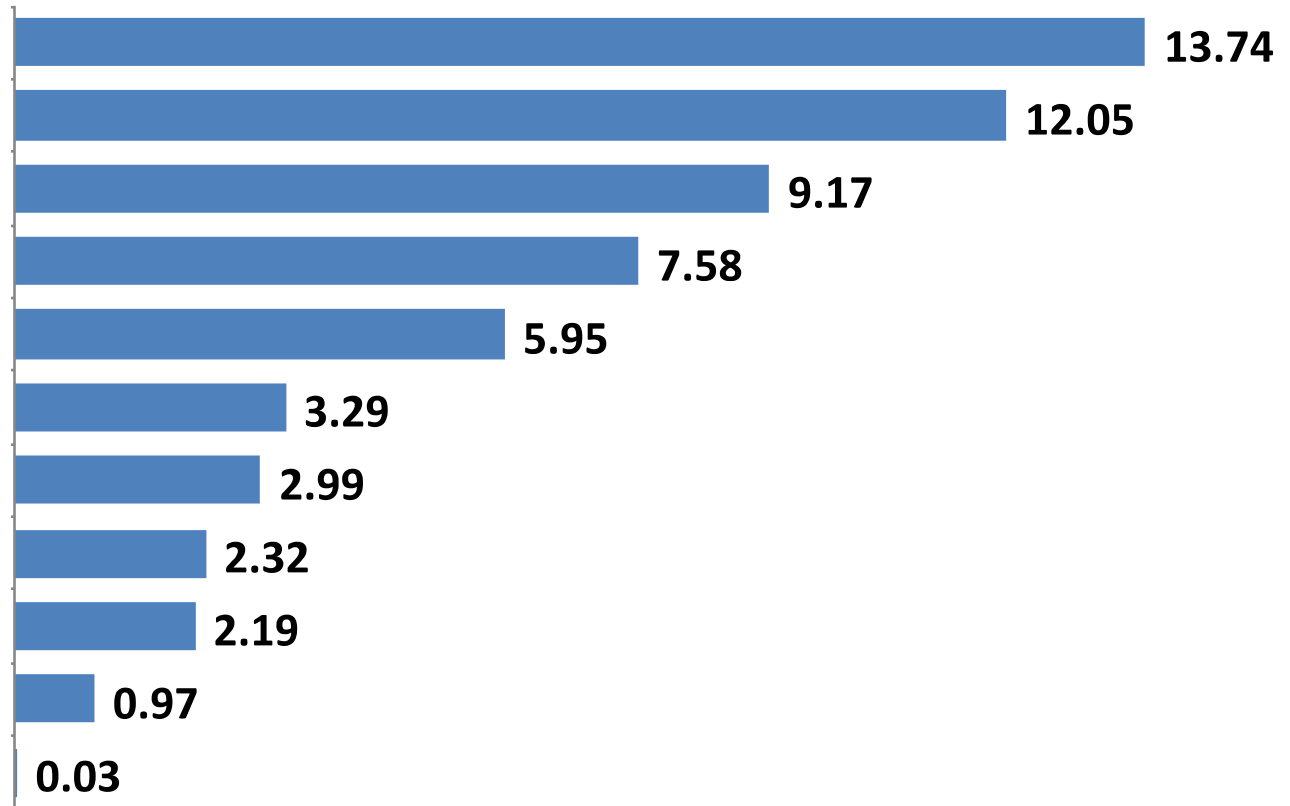
Leaders of healthcare organizations

Top 10 Causes of Death

Cardiovascular disease	596,339
Cancer	575,313
Chronic lower respiratory disease	143,382
Cerebrovascular disease	128,831
Accidents	122,777
Alzheimer's disease	84,691
Diabetes	73,282
DIAGNOSTIC ERROR	60,000
Pneumonia and influenza	53,677
Kidney diseases	45,731
Suicide	38,285

g Causes of Death

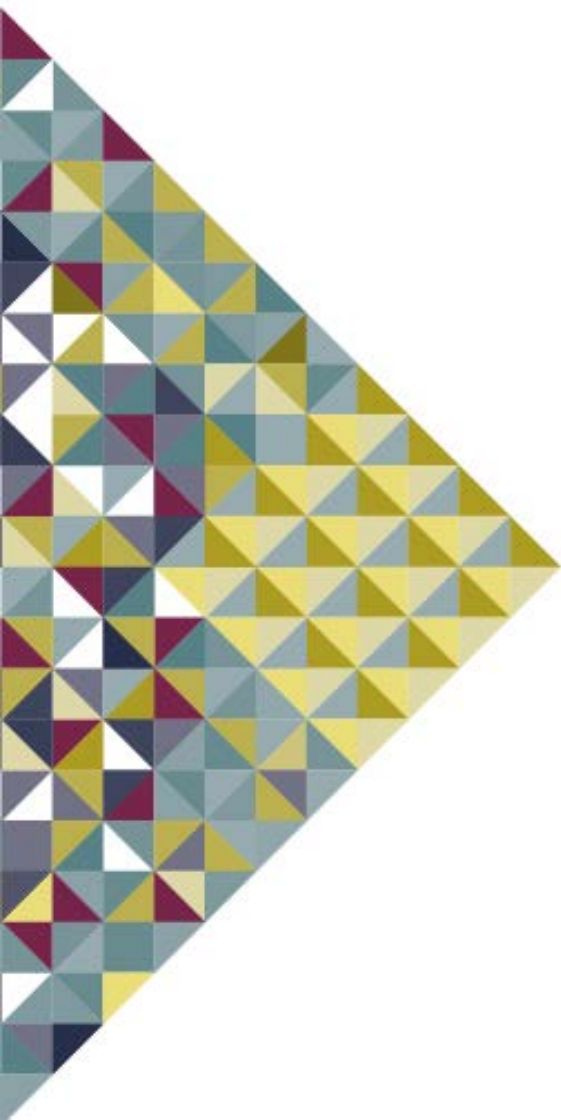
Data: GAO (costs) and CDC (deaths), in 2011



IOM Conclusions....

Diagnostic errors are a significant but underappreciated challenge to health care quality and harm an unacceptable number of patients

In every research area that the committee evaluated, diagnostic errors were a consistent quality and safety challenge



“Improving the diagnostic process is not only possible, but it also represents a moral, professional, and public health imperative.”

- Add these slides if Victor doesn't cover them

The Toll of Dx Error

US

Each Hospital

**40,000 – 80,000
deaths/yr**

10 deaths every year

**1 in 20 primary care
visits involves a
preventable dx error;
half are potentially
harmful**

**10 patients
harmed every day
in your clinics or
ER**

**Error-related
Harm**

Diagnostic Error

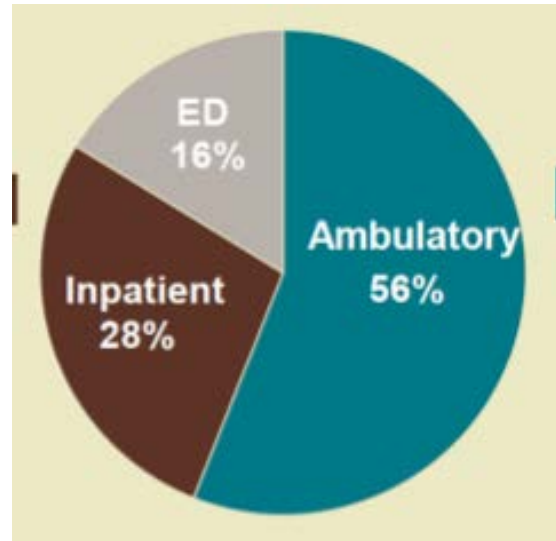
Leape et al. JAMA 288:2405, 2002
Singh et al. BMJ Qual Safety 21: 93-100, 2012

“The committee recognized that ... the available research estimates were not adequate to extrapolate a specific estimate or range of the incidence of diagnostic errors in clinical practice today.”

“It is likely that most of us will experience at least one diagnostic error in our lifetime, sometimes with devastating consequences.”

1 in 20 chance per year X 80 years = approximately 100%

Where do they happen?

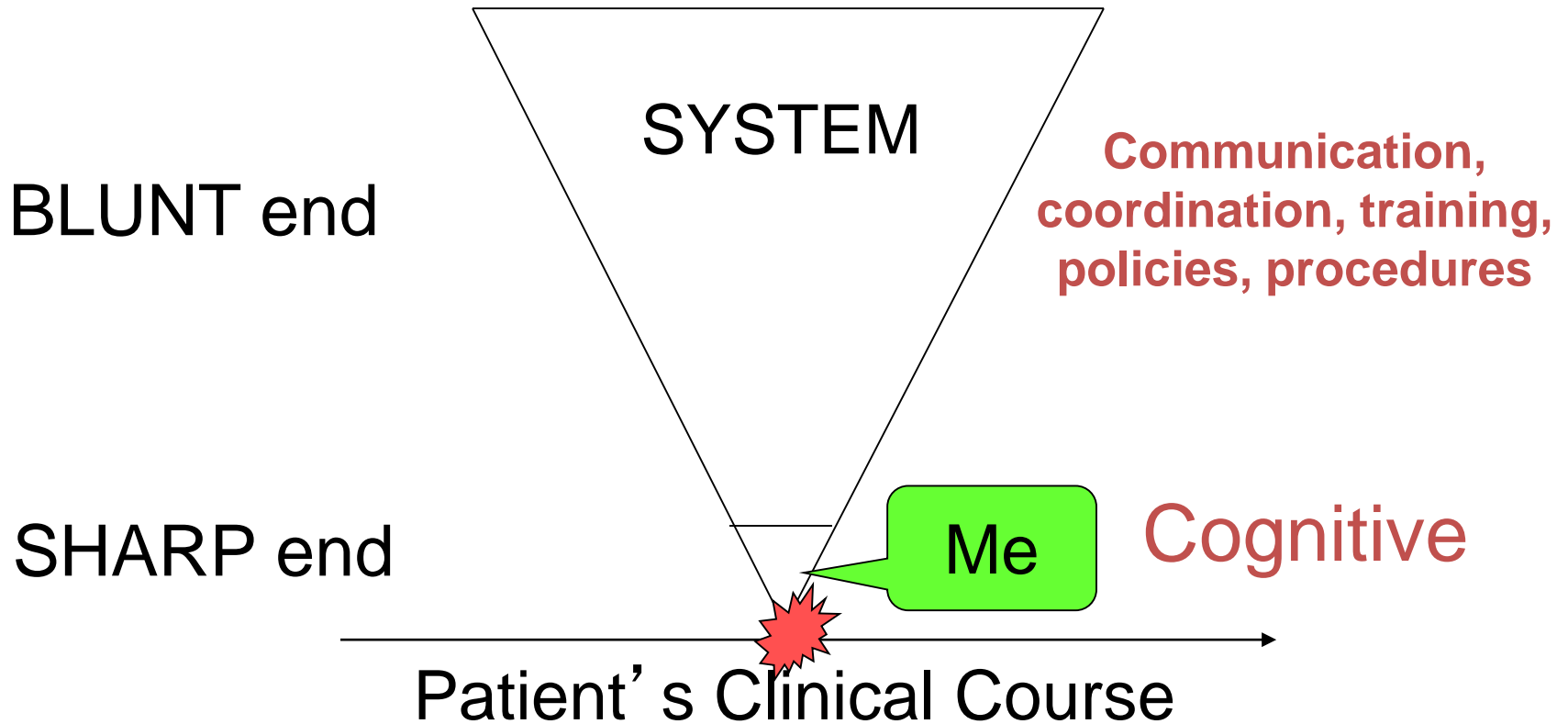


CRICO - Analysis of 4519 claims related to diagnostic error

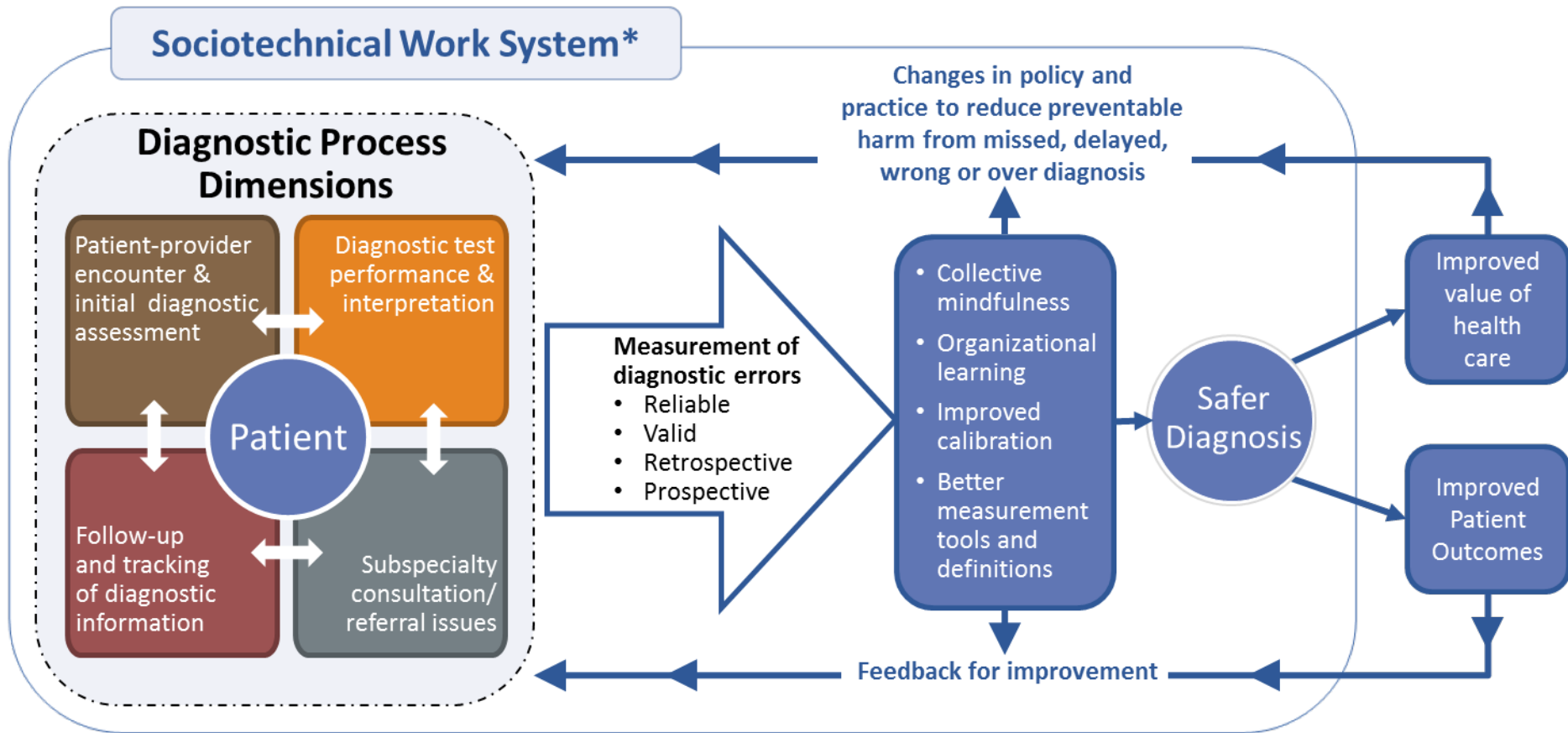
- **ER** The petri dish for diagnostic errors
- **Inpatients** One in ten diagnoses is probably wrong. 36,000 deaths in the ICU alone
- **Ambulatory care clinics** Its NOT just rare conditions. Dx errors are COMMON in patients with anemia, asthma, COPD

Why do they happen?

100 cases – 535 root causes
Graber et al. Arch Int Med 165:1493-9, 2005



Safer Dx Framework for Measurement & Reduction



* Includes 8 technological and non-technological dimensions

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