Diagnostic Safety:
Learning from Missed Opportunities

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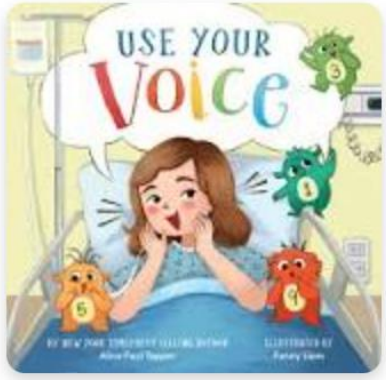
Missed appendicitis: An alarming example

Appendicitis is missed in 4-15% of cases in children, and 6-24% of adults

Girls and women are >60% more likely to be diagnosed incorrectly

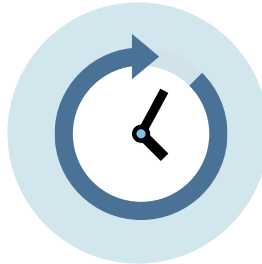
Source: CNN.com



Mahajan P, Basu T, Pai CW, et al. Factors Associated With Potentially Missed Diagnosis of Appendicitis in the Emergency Department. *JAMA Netw Open*. 2020;3(3):e200612. doi:10.1001/jamanetworkopen.2020.0612

Types of diagnostic errors

Missed diagnosis:
Failure to identify a condition



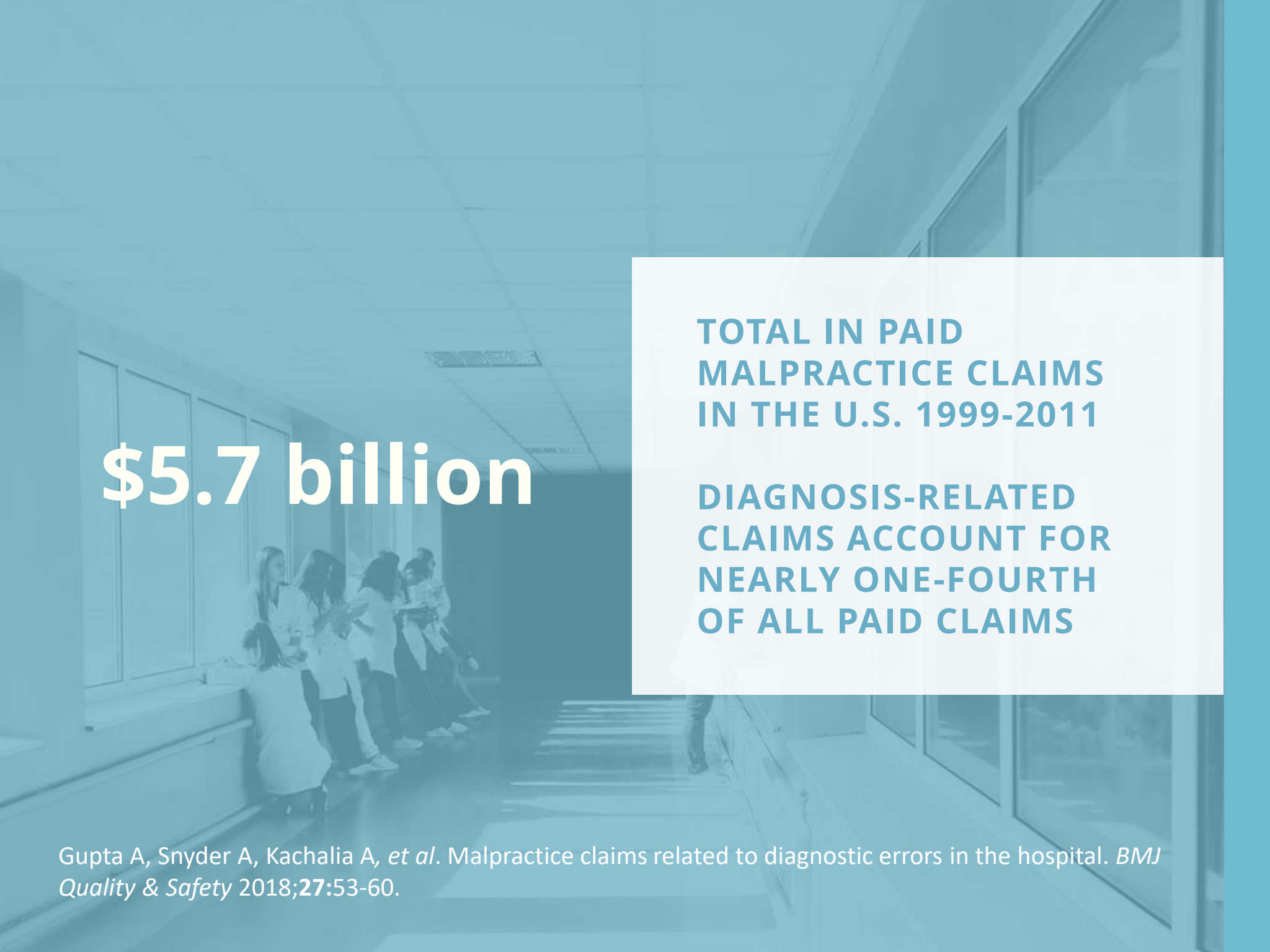
Delayed diagnosis:
A diagnosis is made later than it should have been

Wrong diagnosis:
Incorrect identification of a condition

Each year,
1 in 20
adults will
experience a
diagnostic
error in the
outpatient
setting

~250,000

HARMFUL DIAGNOSTIC ERRORS OCCUR ANNUALLY IN US HOSPITALS



$5.7 billion

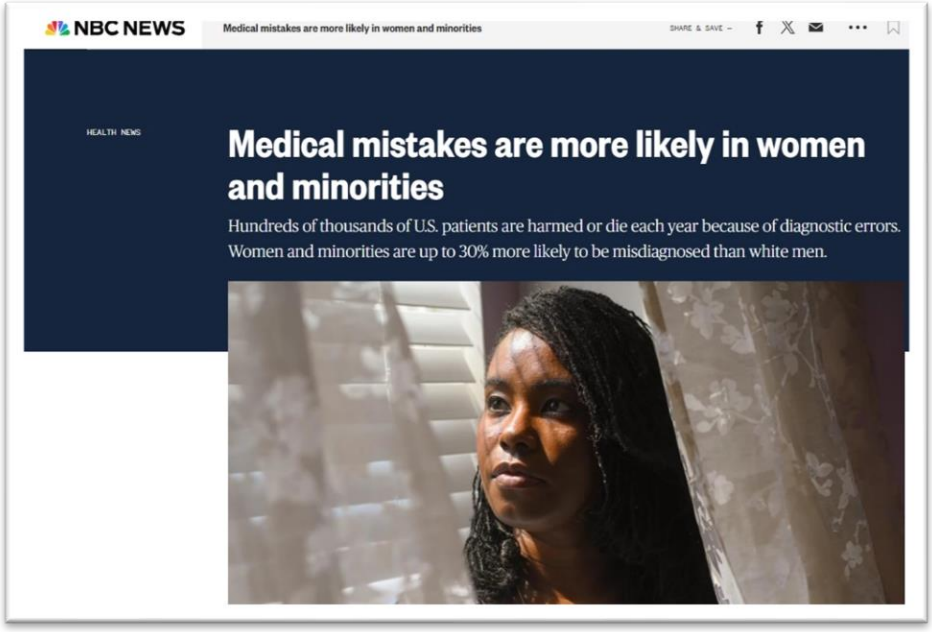
TOTAL IN PAID MALPRACTICE CLAIMS IN THE U.S. 1999-2011

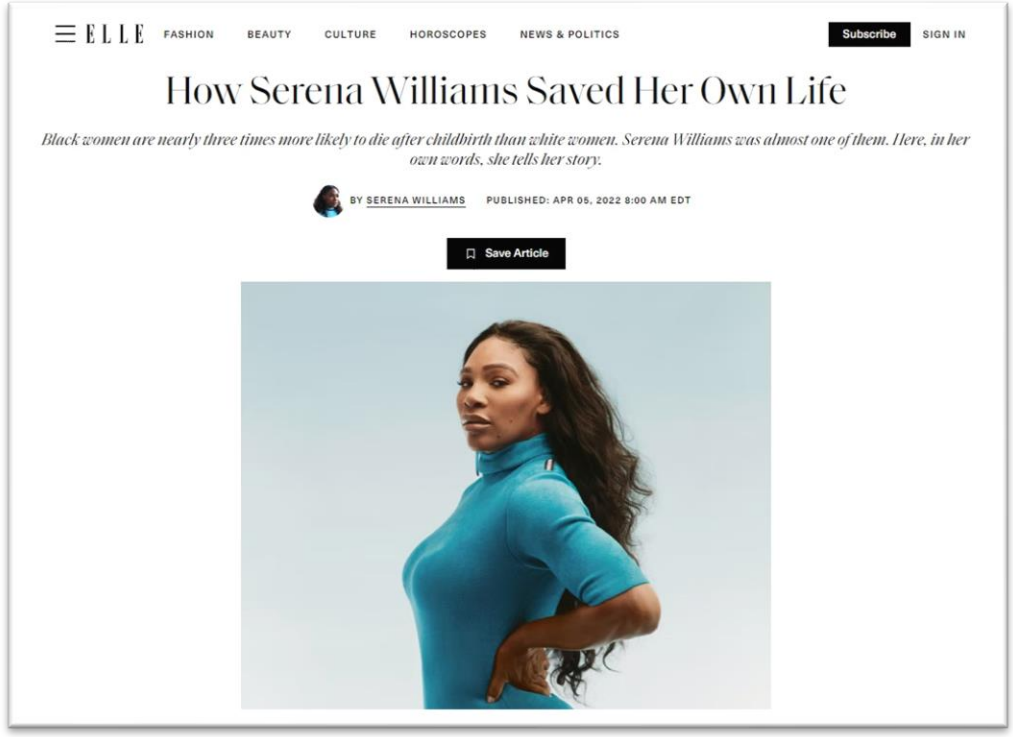
DIAGNOSIS-RELATED CLAIMS ACCOUNT FOR NEARLY ONE-FOURTH OF ALL PAID CLAIMS

Gupta A, Snyder A, Kachalia A*, et al*. Malpractice claims related to diagnostic errors in the hospital. *BMJ Quality & Safety* 2018;**27:**53-60.

DIAGNOSTIC ERRORS ARE NOT DISTRIBTUED EQUALLY AMONG THE U.S. POPULATION

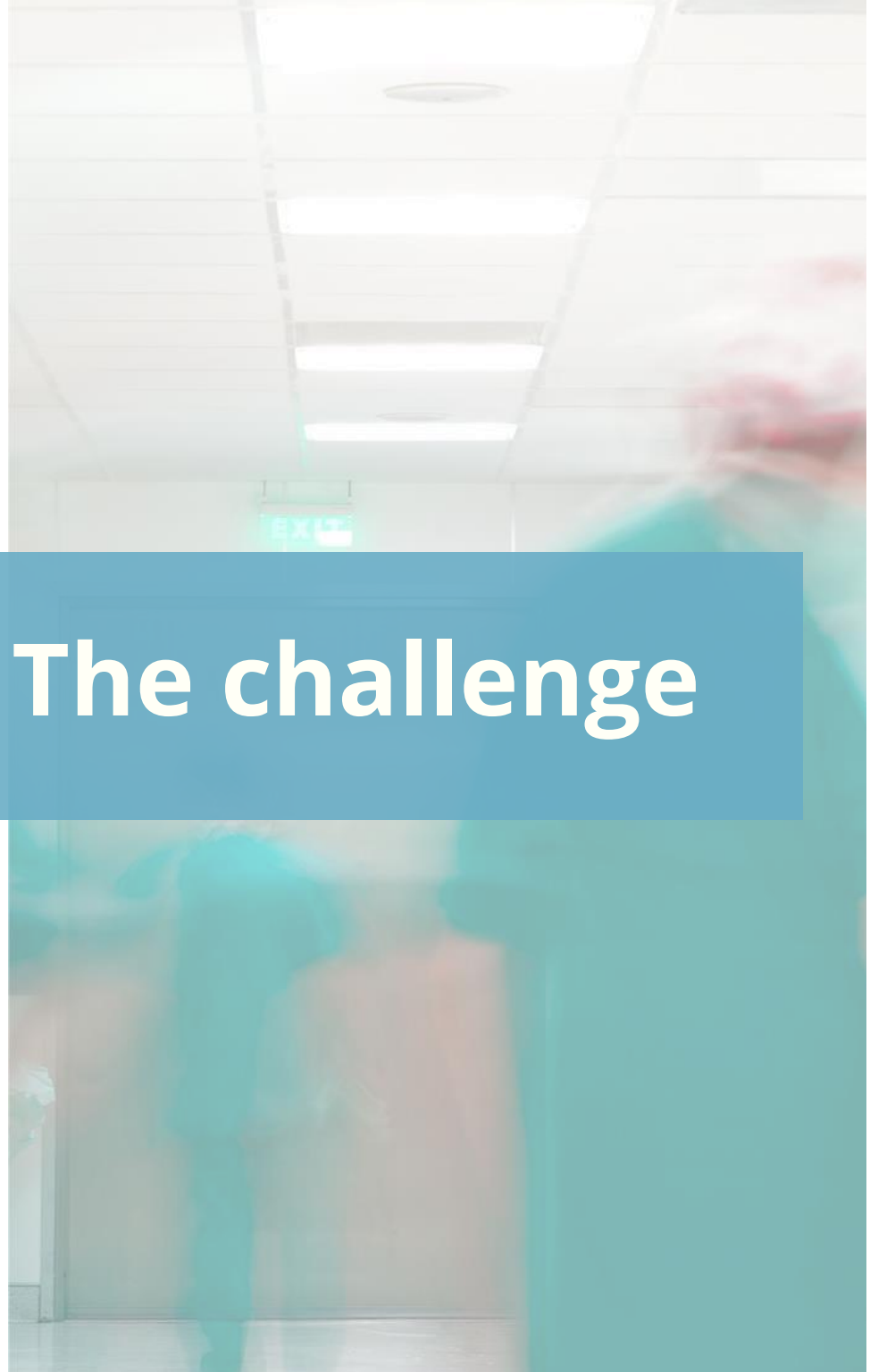
Inequities in Diagnosis





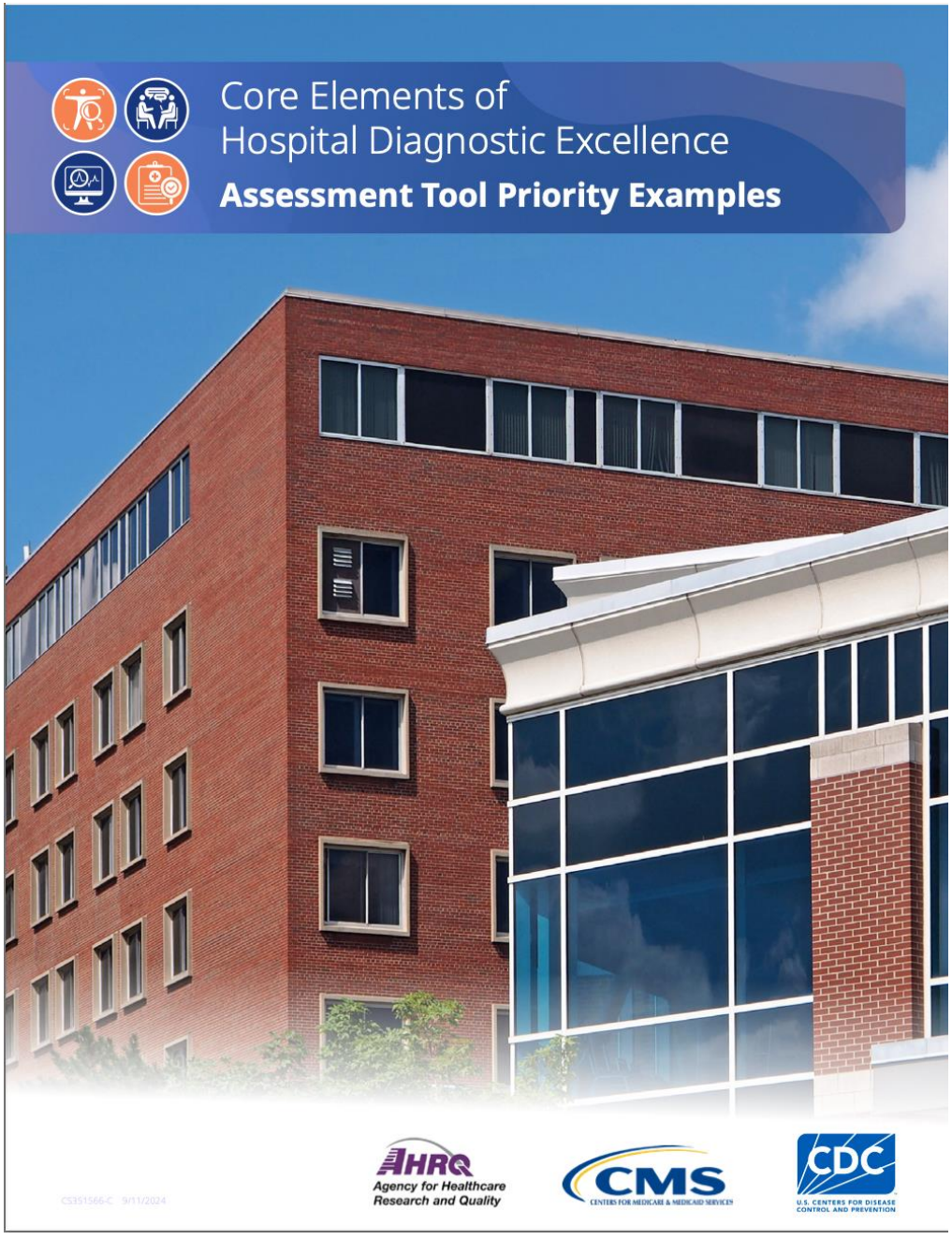
Ferranti EP, Jones EJ, Bush S, et al. A Call to Action: Cardiovascular-Related Maternal Mortality: Inequities in Black, Indigenous, and Persons of Color. *J Cardiovasc Nurs*. 2021;36(4):310-311. doi:10.1097/JCN.0000000000000823

Bajaj K, de Roche A, Goffman D. *The Contribution of Diagnostic Errors to Maternal Morbidity and Mortality During and Immediately After Childbirth: State of the Science*. Rockville, MD: Agency for Healthcare Research and Quality; September 2021. AHRQ Publication No. 20(21)-0040-6-EF.



The challenge

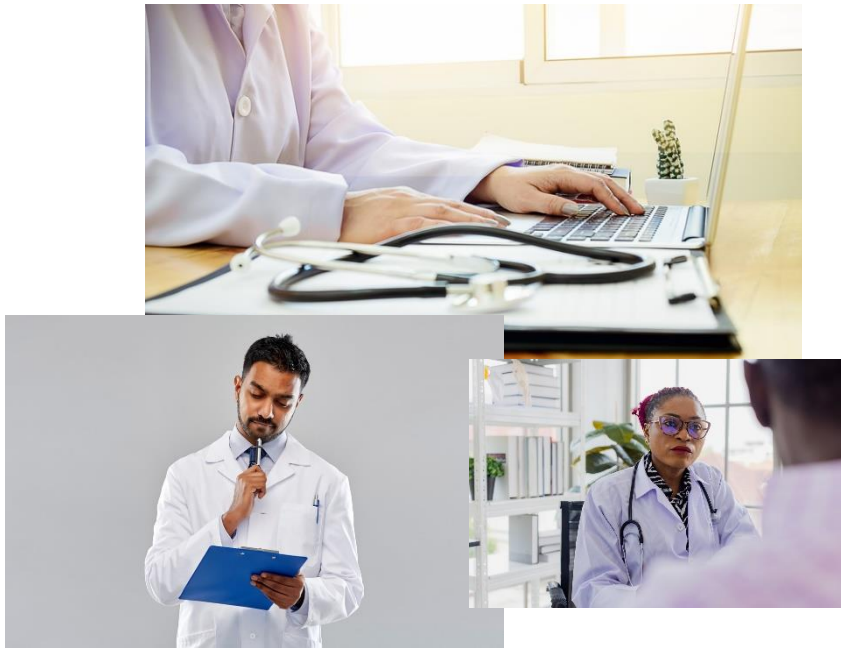
Most diagnostic safety events result in little or no learning or practice change


Core Elements of
Hospital Diagnostic Excellence
Assessment Tool Priority Examples
AHRQ
Agency for Healthcare Research and Quality
CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES
CDC
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION


Reaching a diagnosis is a team effort
Patients
Health Workers
Facility Managers
Everyone along the way has a role to play
Policy-makers
Civil Society
Improving diagnosis for patient safety
Get it right, make it safe!
World Health Organization
World Patient Safety Day 17 September 2024

What's ahead

Recommendations for accrediting organizations and Medicare: "require that healthcare organizations have programs in place to monitor the diagnostic process and identify, learn from, and reduce diagnostic errors and near misses in a timely fashion."



COGNITIVE FACTORS

Distractions and chaotic environments
Cognitive load
Overreliance on mental shortcuts
Biased reasoning
Fatigue and burnout

SYSTEM FACTORS

Time pressure
Inadequate teamwork/collaboration
Organizational culture
Resource limitations
Information systems

28%

COGNITIVE FACTORS

Distractions and chaotic environments
Cognitive load
Overreliance on mental shortcuts
Biased reasoning
Fatigue and burnout

46%

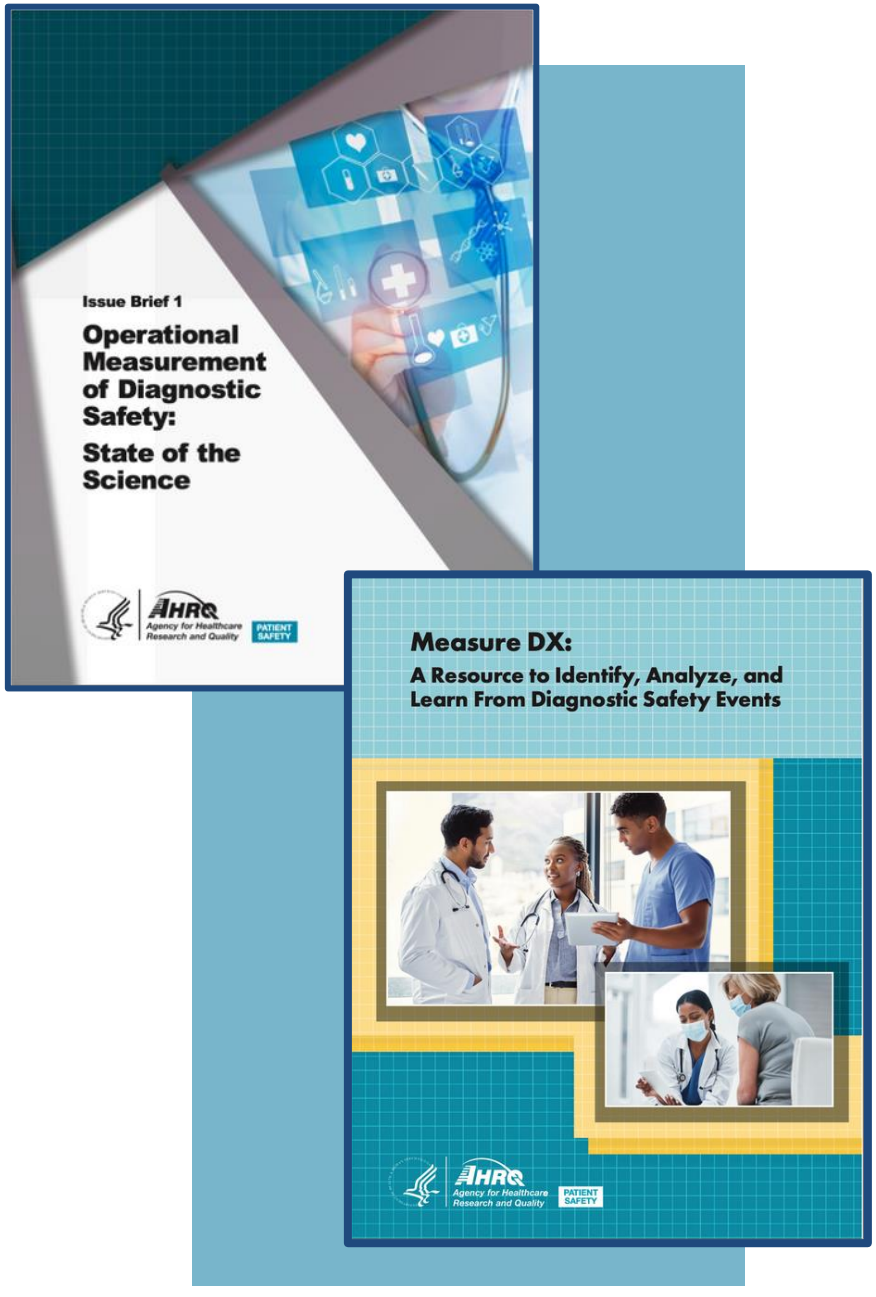
19%

SYSTEM FACTORS

Time pressure
Inadequate teamwork/collaboration
Organizational culture
Resource limitations
Information systems

Graber ML, Franklin N, Gordon R. Diagnostic error in internal medicine. *Arch Intern Med*. 2005;165(13):1493-1499. doi:10.1001/archinte.165.13.1493

A Learning Health System for Diagnostic Safety



Where to Begin

Several learning and discovery strategies have demonstrated sufficient "proof of concept" to use in operational settings

https://www.ahrq.gov/patient-safety/reports/issue-briefs/state-of-science.html

Four Strategies to Detect Diagnostic Safety Learning Opportunities

A

USE EXISTING QUALITY & SAFETY DATA

Examine previously identified safety events for diagnostic improvement opportunities

B

SOLICIT REPORTS FROM CLINCIANS

Ask clinicians to bring attention to diagnostic events within an environment of psychological safety

C

LEVERAGE PATIENT-REPORTED DATA

Examine patient surveys, incident reports, and complaints to identify missed opportunities

D

EHR-ENHANCED CHART REVIEW

Use EHR searches or trigger algorithms to identify high-risk diagnoses or care patterns

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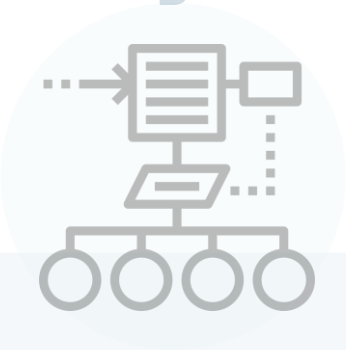

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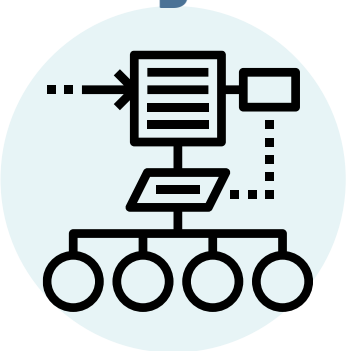

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Culture Change is Key

- Psychological safety enables healthcare professionals to raise concerns about unsafe practices and errors
- Leadership is ultimately accountable for patient safety
- Actions matter… but so do the words we use to describe breakdowns in care

Interventions to Improve Diagnosis

Cognitive	System	Patient & Family Engagement
Facilitate second opinions	Improve tracking and follow-up systems	Empower patients to participate as a member of the team
Provide routine feedback on diagnoses	Leader and board ownership of diagnostic safety	Ensure quality interpreter services
Use a “diagnostic time out”	Create new models of teamwork for challenging diagnosis	Provide feedback mechanisms for concerns about diagnosis

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