Advancing Patient Safety and Healthcare Quality:

Bridging Research, Policy, and Implementation

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Johns Hopkins University Bloomberg Center

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STRENGTHENING PATHWAYS

a national conversation about health research

This symposium is funded by the Doris Duke Foundation through the Collective to Strengthen Pathways for Health Research.

Patients For Patient Safety US

JOHNS HOPKINS MEDICINE

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Executive Summary

The **Advancing Patient Safety and Healthcare Quality symposium** sought to identify bold, practical ideas to reduce preventable harm and improve patient safety and healthcare quality. Hosted by the Johns Hopkins Armstrong Institute for Patient Safety and Quality in partnership with Patients for Patient Safety US on May 16, 2025, the event convened researchers, health system leaders, policymakers, patient advocates, and others. It focused on diagnostic excellence, patient experience, and systems design. Participants emphasized the need to co-create safety improvements with patients and to responsibly use artificial intelligence (AI).

The symposium was funded by the Doris Duke Foundation through the Collective to Strengthen Pathways for Health Research. It was part of a series of 18 nationwide conversations in 2025 designed to answer: ***What are the research questions, incentives, and overlooked opportunities for innovation that hold the greatest potential to prevent disease and improve outcomes of care in the United States?***

Symposium Goals

Despite decades of research, progress in patient safety has stalled. The Advancing Patient Safety and Healthcare Quality symposium aimed to address persistent gaps between evidence and practice in reducing preventable harm. It generated ideas related to three critical topics: diagnostic excellence, patient experience, and systems design. A key goal was to create a shared vision for safer, higher quality healthcare for all by identifying impactful strategic actions. The symposium encouraged participants to challenge the status quo and emphasized co-creating solutions with patients and families, integrating human-centered design, and deploying artificial intelligence (AI). This event marked a critical moment to reimagine the future of patient safety and to design a blueprint for collective action that centers on harm reduction, transparency, and trust.

Objectives

- Articulate a bold, forward-looking vision to advance safer, higher-quality healthcare
- Collaborate across disciplines and sectors
- Synthesize key strategies and tactics to reduce preventable harm and improve outcomes
- Design foundational elements of a blueprint to drive patient safety and healthcare quality improvement
- Identify key stakeholders to drive this work across sectors
- Explore pathways for implementation that are attainable and sustainable

Focus areas:

Diagnostic Excellence
Patient Experience
Systems Design

Attendees of the symposium spanned a variety of backgrounds, representing researchers, patient advocacy groups, healthcare systems, government agencies, and other sectors. Throughout the event, they split into facilitated workgroups to prioritize actions in the three focus areas: diagnostic excellence, patient experience, and systems design.

> **This symposium is an invitation and a challenge to innovate. As the saying goes, there is no growth in the comfort zone.**
>
> *— Laura Sigman*

Dr. Laura Sigman and Lead Facilitator, Allison Perry offer Opening Remarks.

A Blueprint to Reduce Preventable Harm and Improve Health Outcomes: Priorities the Symposium Workgroups Identified

The **Diagnostic Excellence** workgroup generated strategies for improving real-time learning in clinical environments. Participants called for better use of data, dashboards and AI-enabled tools to flag potential errors, support decision-making, and provide clinicians with structured feedback loops. This group emphasized the need for organizational learning through case reviews, peer exchange, and shared accountability.

The **Patient Experience** workgroup centered its work on the power of capturing the lived experiences of patients as feedback to drive improvement. It proposed expanding Communication and Resolution Programs, building tools that enable real-time patient reporting, and including Patient and Family Advisors as partners in system design. Emotional harm and loss of trust were highlighted as long-term health consequences of patient safety events and diagnostic failures.

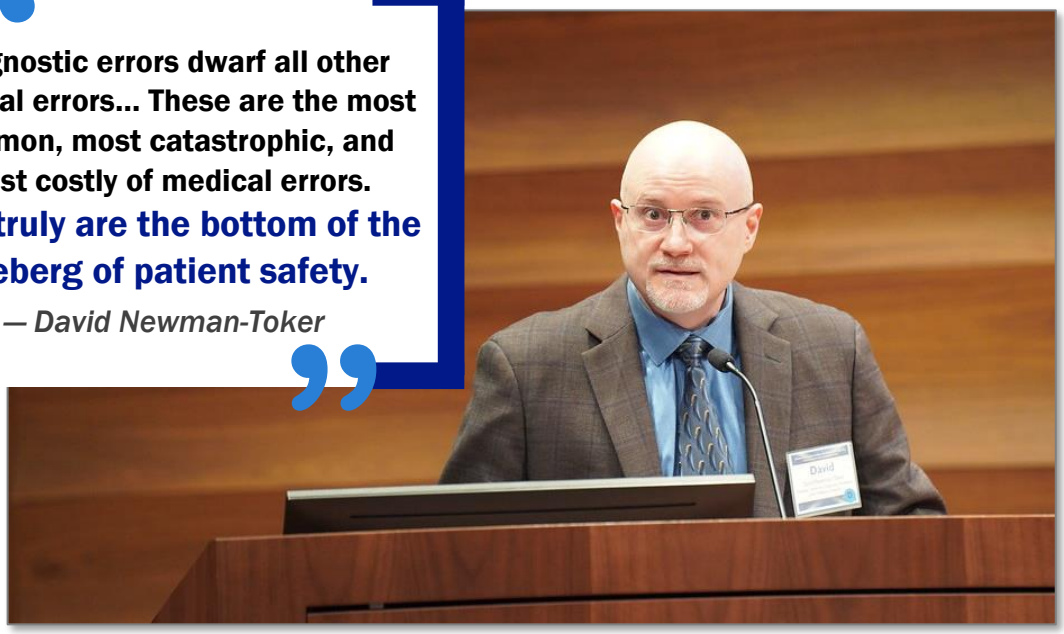
The **Systems Design** workgroup focused on operational redesign, including leadership roles for diagnostic safety, new definitions of reliability, and investment in learning platforms. The group proposed demonstration projects to test governance structures, incentive alignment, and performance transparency—pushing institutions to move beyond episodic training and toward continuous improvement.

Diagnostic Excellence

Summary of the issue

Diagnostic excellence was one of the three areas of focus due to the high volume and impact of diagnostic errors. As **David Newman-Toker, MD, PhD**, noted in his introduction of the topic, diagnostic errors outnumber all other types of medical errors and are often rooted in cognitive and systems-level breakdowns. Newman-Toker is a Professor of Neurology and founding Director of the Armstrong Institute Center for Diagnostic Excellence at the Johns Hopkins University School of Medicine. Diagnostic errors are often condition-specific and require tailored solutions rather than broad fixes. Newman-Toker emphasized the potential of artificial intelligence to transform diagnosis but warned that AI could worsen outcomes unless supported by robust data.

> **Diagnostic errors dwarf all other medical errors… These are the most common, most catastrophic, and most costly of medical errors. They truly are the bottom of the iceberg of patient safety.**
>
> *— David Newman-Toker*



Dr. David Newman-Toker sets the scene for the Diagnostic Excellence Focus Group.

Priorities Identified

Reducing diagnostic errors requires a multi-pronged approach that prioritizes patients, applies technology, and builds robust data systems. The workgroup proposed to focus efforts on the "big three" conditions that account for a disproportionally high number of diagnostic harms: vascular events, infections, and cancers. Focusing on these conditions offers a practical and high-yield path forward Targeted state-level demonstration projects using evidence-based bundles could generate measurable reductions in these harms without the complexity of national rollouts. Participants also advocated for building infrastructure to capture patient-reported data and diagnostic feedback in real time to enable early detection of errors.

Table 1. Diagnostic Excellence Workgroup: Goals and Strategies Identified

GOAL: Reduce misdiagnosis harm by 20% in three years for three conditions (cancer, vascular, infection).	
Category of Intervention	**Strategies/Tactics/Innovations**
A) Development and Application of AI and Advanced Technologies	• Diagnosis-specific and setting-specific data-driven tools: LLM, devices, etc. • Real-time patient-reported experience and concerns
B) Implementation of Best Practice; *Operational/Knowledge to Action*	• Demonstration projects at state level • Data repositories and data sharing
C) Financial Incentives	• Estimate tangible costs/savings
D) Policy and Oversight	• Development of measures

Patient Experience

Summary of the issue

In his introduction to the topic, **Martin Hatlie, JD**, outlined three domains of engagement with patients and their families: partnering at the point of care, co-creating solutions, and advocacy. As director of advocacy and policy for Patients for Patient Safety US, Hatlie underscored the critical role of patient and family engagement in driving urgency and transparency. He highlighted the power of patient-reported data through efforts like Project PIVOT, a Patients for Patient Safety US initiative to integrate patient-identified and prioritized patient-reported outcomes and experiences into national and organizational quality assessment survey tools.

> **What can we do to really commit to preventing harm? If we're not committed to that, then there's something in our moral compass that needs to be readjusted in the right direction.**
>
> *— Marty Hatlie*

Marty Hatlie, JD sets the scene for the Patient Experience Focus Group.

Symposium participants highlighted the need to co-create care systems *with* patients and families, not just *for* them. They stressed that patients are often the only ones who see the whole picture of care—across settings, providers, and time—and therefore must be included as full partners. In the words of one participant, "To make care emotionally and physically safe, we must make it easy to do the right thing and hard to do the wrong thing."

What do patients and family members bring to the patient safety equation?

Patients and their families can identify problems undetected by standard safety reporting systems.

In a recent University of California San Francisco study, hospitalized patients and their family members at a children's hospital were encouraged to report safety observations via a website. Of 125 safety reports submitted, 51 (40%) met criteria for the hospital's incident reporting system. Only one of the 51 had been reported via the hospital's system.

Priorities Identified

The patient experience workgroup called for engaging patients and families as equal partners in the design and delivery of care such as easy ways for patients to share feedback during and after care encounters and ensuring that those insights drive improvement. Symposium participants envisioned a future where patients interact with adaptive technologies—such as chatbots or ambient AI—to voice concerns, ask questions, and receive updates, all while maintaining human connection and trust. Financial incentives such as reduced copays for engaging with digital tools or reimbursement for clinicians' communication efforts could further advance improvements. Symposium participants emphasized that patient engagement must apply across populations, with deliberate strategies to involve all communities and meaningfully respond to their input.

Table 2. Patient Experience Workgroup: Goals and Strategies Identified

GOAL: Pursuing zero harm and optimizing patient outcomes and experiences through patient and family engagement, measurement, and shared learning to co-create with clinicians health care that is transparent and physically and emotionally safe.

Category of Intervention	Strategies/Tactics/Innovations
A) Development and Application of AI and Advanced Technologies	• Leverage artificial intelligence and advanced technologies to implement evidence-based best practices • Integrate the patient experience capture tool with needs and preferences • Deploy an AI tool for real-time patient feedback analysis service gaps and trends • Create a shared platform that captures both patient and clinician input and synthesizes it into information that can be understood by both
B) Implementation of Best Practice; *Operational/ Knowledge to Action*	• Use best practices such as CRPs (Communication & Resolution Programs) to identify and respond to patient harm events • Provide human-in-the-loop delivery of feedback to patients • Ensure we respond to patient concerns directly • Use of patient and family advisory councils and ensuring representation of diverse patient populations to address disparities and achieve health equity • Co-development of meaningful measures for patients and families
C) Financial Incentives	• Align this transformation with financial incentive models that reward measurable improvements • Incentivize payors and health systems for meaningful measures for patient-reported experiences and outcomes
D) Policy and Oversight	• Incentivize the use of AI to improve patient experience in health systems • Reimbursement models for patient and family champions

Systems Design

Summary of the issue

Introducing the topic of systems design, **Ayse Gurses, PhD, MS, MPH**, emphasized the need for human-centered engineering approaches to redesign healthcare systems for safer and higher-quality care for all. Gurses, the director of the Armstrong Institute Center for Health Care Human Factors, advocated for viewing healthcare as a complex sociotechnical system that includes people, technology, tasks, and environments, all interacting in non-linear ways. She underscored the importance of studying real-world processes, including home and emergency settings, to identify system weaknesses and improve transitions of care. She highlighted the need for system-of-systems thinking to support collaborative, distributed cognitive work among patients, families, and clinicians. While AI holds promise, Gurses cautioned against relying solely on technology without understanding and addressing flawed processes. She stressed the importance of designing AI to support—not replace—human expertise, and called for resilient, adaptable systems that focus on patient-centered outcomes rather than technological novelty.

Dr. Ayse Gurses sets the scene for the Systems Design Focus Group.

Priorities Identified

To advance systems design, participants called for a shift from isolated fixes to holistic design that supports physical, technical, and organizational care environments that support safe and effective decisions. This includes creating resilient systems that anticipate variation, support cognitive work, and prioritize safety in every layer of care. Pathways include incorporating systems and human factors training into clinical education and leadership development, as well as establishing clear return on investment (ROI) metrics for systems-level changes.

Table 3. Systems Design Workgroup: Goals and Strategies Identified

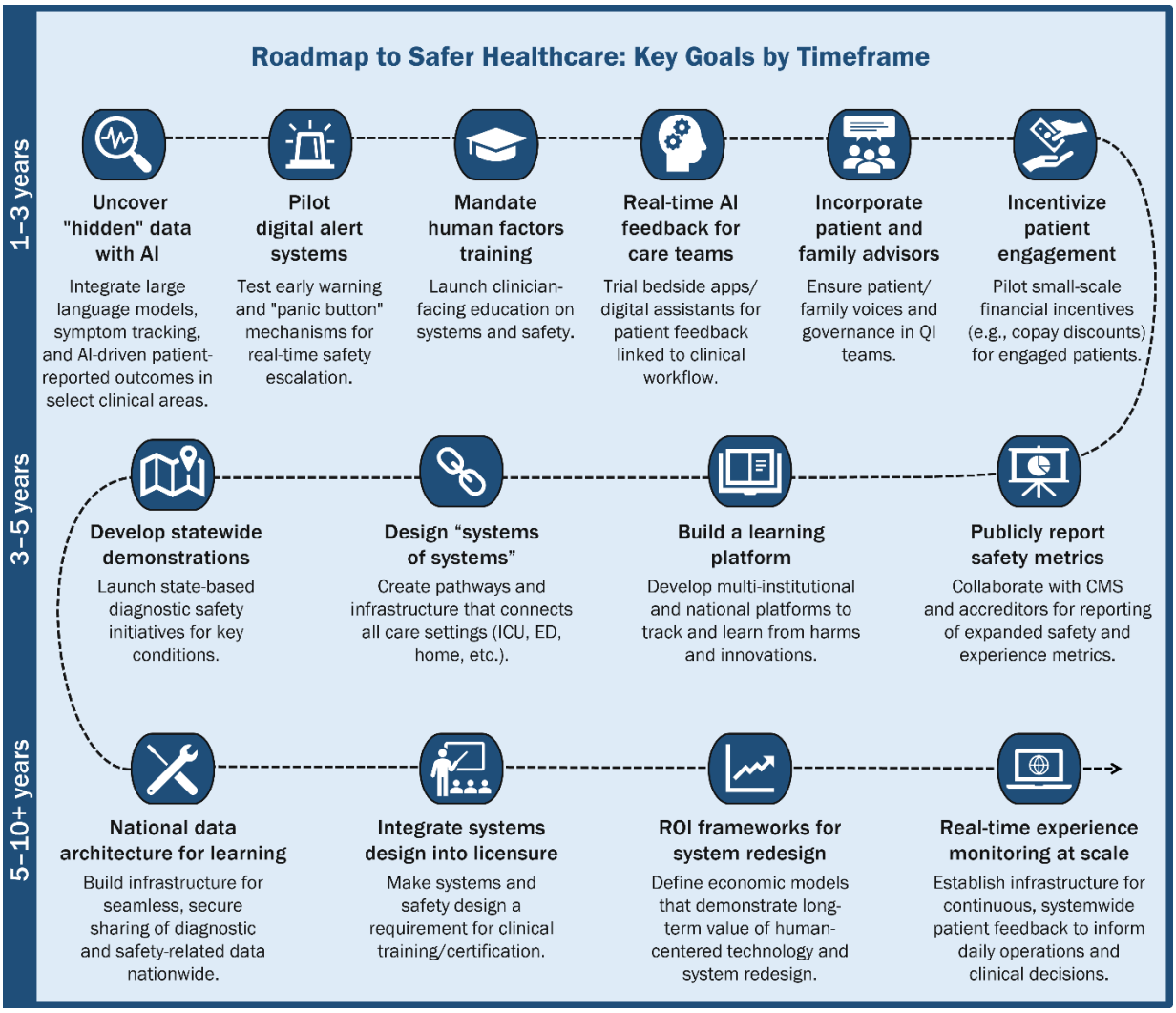
GOAL: Create a knowledge-based and human-centered operating system that captures harms, successes, and innovations to empower patient collaboration, zero harm, and human thriving.

Category of Intervention	Strategies/Tactics/Innovations
A) Development and Application of AI and Advanced Technologies	• Look to solutions outside of healthcare • Develop capabilities to measure and analyze current AI models' performance in healthcare • Grow trust in AI and leverage existing data to improve health care
B) Implementation of Best Practice; *Operational/ Knowledge to Action*	• Prototype an optimal care delivery system • Develop a database of harms, errors, and innovations
C) Financial Incentives	• Align incentives; reimagine CAHPS; incentivize doctors on increased value-based care (VBC) models; innovate funding models • Develop ROI (decrease cost with decreased harm, thriving leads to decreased turnover, decreased new-employee loss of productivity, decreased recruiting and hiring costs)
D) Policy and Oversight	• Include human factors and systems training as CMS condition of participation • Require C-suite leadership to have experience with quality and safety • Include a standardized safety education in all health care education and as part of licensing

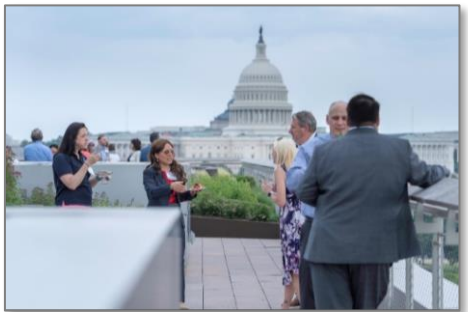
Dr. Allen Kachalia facilitates a post-workgroup panel presentation with Vonda Vaden Bates and others.

Proposed Time frames for Achievement

Improving the quality and safety of patient care is a journey. A road map for implementation, illustrated below, involves building the necessary groundwork and running small-scale pilot programs in the short-term; using the findings from pilots to expand and scale in the intermediate-term; and, in the end, achieving structural transformation to attain patient-centered, zero-harm healthcare systems.



Dr. Gerry Castro and Dr. Leslie Jurekco collaborate in the Systems Design workgroup.



Participants enjoy the view of Washington, DC.