

# PATIENT SAFETY

Research into Action

*Closing the Gap*



# 1. OBJECTIVES

1. To reflect on the 'state of the science' of patient safety.
2. Overview of research needs on patient safety science.
3. Impact of the Jeddah Declaration on Patient Safety on patient safety science.
4. Understand actionable research – transition to implementation science.

## 2. PATIENT SAFETY SCIENCE

Expectations for safety are rising with greater awareness of the high rates of health care-associated injury and major investments in patient safety research. While we have a much better sense of where errors are occurring and why, we still have inadequate evidence about how to address threats to safety, especially at the level of systems of care. In the next few years, success will be defined by major advances rather than

### Research for Patient Safety

Better Knowledge for Safer Care

Research for patient safety is still in its infancy. Even in countries where some progress has been made, infrastructure and funding for research are relatively sparse in relation to the magnitude of the problem, or have been established on a short-term basis. This hampers the development of

*Building on the successful experience and knowledge of military aviation, civilian aviation takes a comprehensive approach to safety, with programs aimed at setting and enforcing standards, accident investigation, incident reporting, and research for continuous improvement.*

So what do these three very different papers tell us about patient safety as a whole? First, there is still a ways to go until a culture of safety is the norm in health care institutions. Safety culture in a health care

**CONCLUSIONS:** Publication of the report "To Err is Human" was associated with an increased number of patient safety publications and research awards. The report appears to have stimulated research and discussion about patient safety issues, but whether this will translate into safer patient care remains unknown.

# 3. 1999-2019: 20 years of watershed moments

1. The Institute of Medicine's To Err Is Human, published in 1999, represented a watershed moment for the US health care system.
  - Errors are common and costly
  - Systems-related problems cause errors
  - Errors can be prevented, and safety can be improved
2. Stimulated dedicated research funding.
  - The rate of patient safety publications increased from 59 to 164 articles per 100,000 MEDLINE publications ( $p < 0.001$ ) following the release of the IOM report.
3. Highly effective interventions have since been developed.

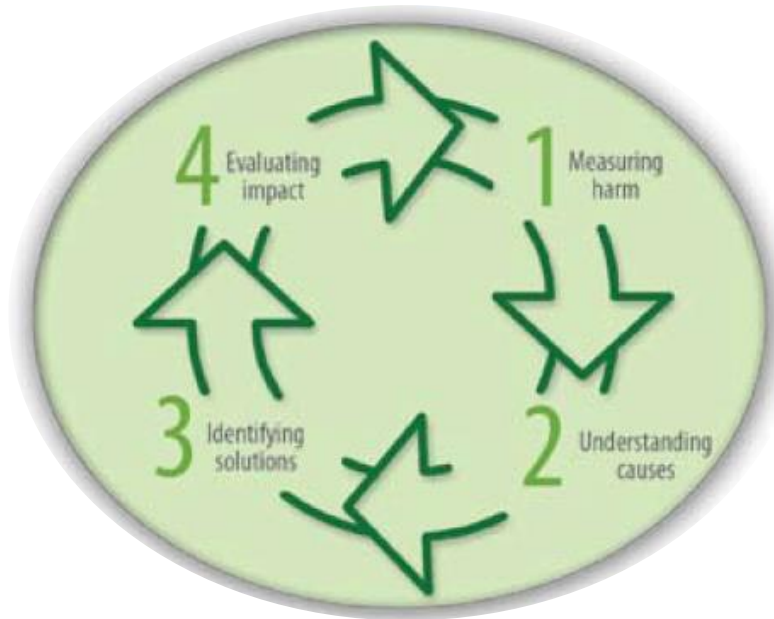
### 3. 1999-2019: 20 years of watershed moments – why is research needed?

- To get local data (variation by site, country, region)
- Allows estimation of ROI
- Makes possible rational prioritization of solutions
- Many solutions may not be applicable (cultural aspects, demographics, income)

# 3. 1999-2019: 20 years of watershed moments

“Research for patient safety aims to identify solutions that can make care safer and reduce harm to patients.”

World Alliance for Patient Safety, 2008





# 3. 1999-2019: 20 years of watershed moments



1) measure the magnitude and type of different adverse events that lead to patient harm,

2) understand the underlying causes of patient harm,

3) identify solutions to make health care safer,

4) evaluate the impact of solutions in real-life settings

5) Translating the interventions proven to be safer into healthcare.

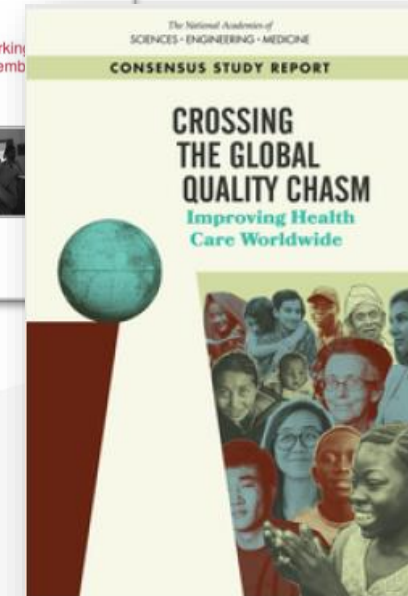
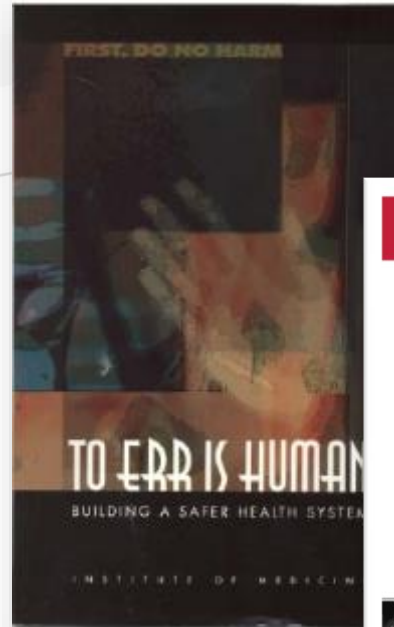
### 3. 1999-2019: 20 years of watershed moments

**‘With so many unanswered questions on patient safety, it is (often) difficult for researchers to know where to begin.’**



# 3. 1999-2019: 20 years of watershed moments

Establish a research agenda



# 3. 1999-2019: 20 years of watershed moments – Topics in need for research

Back then...

	Developing Countries	Countries with Economies in Transition	Developed Countries
1.	Counterfeit & substandard drugs	Inadequate competence & training skills	Lack of communication & coordination (including coordination across organizations, discontinuity & handovers)
2.	Inadequate competence training & skills	Lack of appropriate knowledge & transfer	Latent organizational failures
3.	Maternal & newborn care	Lack of communication & coordination (including coordination across organizations, discontinuity & handovers)	Poor safety culture & blame-oriented processes
4.	Health care-associated infections	Health care-associated infections	Inadequate safety indicators
5.	Unsafe injection practices	Maternal & newborn care	Adverse drug events due to drugs & medication errors
6.	Unsafe blood practices	Adverse drug events due to drugs & medication errors	Care of the frail & elderly

# 3. 1999-2019: 20 years of watershed moments – Topics in need for research

Back then...

**Annals of Internal Medicine** | SUPPLEMENT

**The Top Patient Safety Strategies That Can Be Encouraged for Adoption Now**

Paul G. Shekelle, MD, PhD; Peter J. Pronovost, MD, PhD; Robert M. Wachter, MD; Kathryn M. McDonald, MM; Karen Schoelles, MD, SM; Sydney M. Dy, MD, MSc; Kaveh Shojania, MD; James T. Reston, PhD, MPH; Alyce S. Adams, PhD; Peter B. Angood, MD; David W. Bates, MD, MSc; Leonard Bickman, PhD; Pascale Carayon, PhD; Sir Liam Donaldson, MBChB, MSc, MD; Nalhua Duan, PhD; Donna O. Farley, PhD, MPH; Trisha Greenhalgh, BM BCH; John L. Haughom, MD; Eileen Lake, PhD, RN; Richard Lilford, PhD; Kathleen N. Lohr, PhD, MA, MPhil; Gregg S. Meyer, MD, MSc; Marlene R. Miller, MD, MSc; Duncan V. Neuhauser, PhD, MBA, MHA; Gery Ryan, PhD; Sanjay Saint, MD, MPH; Stephen M. Shortell, PhD, MPH, MBA; David P. Stevens, MD; and Kieran Walshe, PhD

March 2013

The NEW ENGLAND JOURNAL of MEDICINE

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SPECIAL ARTICLE

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**A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population**

Alex B. Haynes, M.D., M.P.H., Thomas G. Weiser, M.D., M.P.H., William R. Berry, M.D., M.P.H., Stuart R. Lipsitz, Sc.D., Abdel-Hadi S. Breizat, M.D., Ph.D., E. Patchen Dellinger, M.D., Teodoro Herbosa, M.D., Sudhir Joseph, M.S., Pascience L. Kibatala, M.D., Marie Carmela M. Lapitan, M.D., Alan F. Merry, M.B., Ch.B., F.A.N.Z.C.A., F.R.C.A., Krishna Moorthy, M.D., F.R.C.S., Richard K. Reznick, M.D., M.Ed., Bryce Taylor, M.D., and Atul A. Gawande, M.D., M.P.H., for the Safe Surgery Saves Lives Study Group\*

- Major complication rate decreased 36%
- Mortality decreased 47%
- Post-op infection decreased 48%

# 3. 1999-2019: 20 years of watershed moments – Topics in need for research

2018... EMERGING PRIORITIES IN PATIENT SAFETY

- DIAGNOSTIC ERROR
- OUTPATIENT SAFETY
- DIGITAL HEALTH/IT SAFETY

# 3. 1999-2019: 20 years of watershed moments – Topics in need for research

*Recommendation 8-2: Define and Mobilize a Research and Development Agenda: The U.S. National Institutes of Health, philanthropic organizations, and other bilateral donors, as well as low- and middle-income country (LMIC) governments and other stakeholders, should increase investments in research and development on interventions that would improve the quality of care at the system level, encompassing both primary and implementation research.*

Crossing the Quality Chasm 2018

### 3. 1999-2019: 20 years of watershed moments – Questions in need for an answer

- What 10 interventions are most likely to improve health care quality in settings of extreme adversity?
- What are the best strategies for addressing quality in fragmented settings where most patients pay out of pocket?
- What strategies can reduce overuse of health care services in low-resource settings, especially when regulatory capacity is limited or absent?
- How can strategic purchasing best help improve the quality of care delivery?
- What strategies are effective in engaging patients and people in general to demand high-quality (and, especially, safe) care for themselves and their families?
- How can leaders effectively and efficiently implement a systems approach for strengthening the quality of health care in LMICs?
- What skill sets for the workforce are linked to better health outcomes for patients, especially in the emerging digital age of health care?



### 3. 1999-2019: 20 years of watershed moments – Questions in need for an answer

- What is the impact on population health outcomes of the digitization of health care?
- What innovative or proven models exist for local use of measurement for improvement?
- What are the roles of various actors in quality management across LMICs?
- Which digital health technologies can best contribute to better quality of care in resource-constrained settings?
- Do private markets reward higher quality?
- To what degree does corruption have effects on the quality of health care delivered in various settings? How can these effects best be mitigated?



# 3. 1999-2019: 20 years of watershed moments – Building Capacity for Research

1. Disseminating and promoting the local adaptation of a global research agenda for making care safer;
2. Identifying key methods and measures for conducting research in this multidisciplinary field;
3. Developing education and training opportunities to foster leaders in patient safety research who can build the evidence for safer care;
4. Providing small grant seed funding to help support researchers in carrying out promising patient safety research projects;
5. Creating a global platform to support knowledge translation by patient safety researchers and research users;
6. Supporting research projects in LMIC, where there is currently little evidence on patient safety;
7. Synthesizing and disseminating the evidence on the magnitude of unsafe care and what works to reduce patient harm.

# 4. 2019 onwards: 20 years for implementation

## STRONGLY ENCOURAGED INTERVENTIONS:

- Preop & anaesthesia checklists
- Bundles to prevent CLABSI
- Interventions to reduce use of urinary catheters
- Bundles to prevent ventilator associated pneumonia
- Hand hygiene
- 'Do Not Use' list of risky abbreviations
- Bundles to reduce pressure ulcers
- Real time US for central line placement
- VTE prophylaxis

# 4. 2019 onwards: 20 years for implementation

Problematic implementation suspected

SPECIAL ARTICLE

Introduction of Surgical Safety Checklists  
in Ontario, Canada

David R. Urbach, M.D., Anand Govindarajan, M.D., Refik Saskin, M.Sc.,  
Andrew S. Wilton, M.Sc., and Nancy N. Baxter, M.D., Ph.D.

***“The likely reason for the failure  
...is that it was not actually used”***

Pre-checklist (N=109,341)

Post-checklist (N=106,370)

30-day mortality = 0.71%

30-day mortality = 0.65%

Complications risk = 3.86%

Complications risk = 3.82%

## 4. 2019 onwards: 20 years for implementation

$$I = fE + IO's$$

- I = Implementation success
- E = Effectiveness of the intervention being implemented
- IO's = Implementation factors

## 4. 2019 onwards: 20 years for implementation

Implementation factors	Definition
<b>Acceptability</b>	Perception amongst stakeholders new intervention is agreeable
<b>Adoption</b>	Intention to apply or application of new intervention
<b>Appropriateness</b>	Perceived relevance of intervention to a setting, audience, or problem
<b>Feasibility</b>	Extent to which an intervention can be applied

# 4. 2019 onwards: 20 years for implementation

<b>Fidelity</b>	Extent to which an intervention gets applied as originally designed / intended
<b>Implementation costs</b>	Costs of the delivery strategy, including the costs of the intervention itself
<b>Coverage</b>	Extend to which eligible patients/population actually receive intervention
<b>Sustainability</b>	Extent to which a new intervention becomes routinely available / is maintained post-introduction

## 4. Way forward

Define a **research agenda** for the application of **implementation science** to the improvement of quality.

- high-priority implementation science research topics

- would enable translation and broad implementation of **scalable quality interventions**, including issues of enrollment and financing UHC expansion.



## 4. Way forward

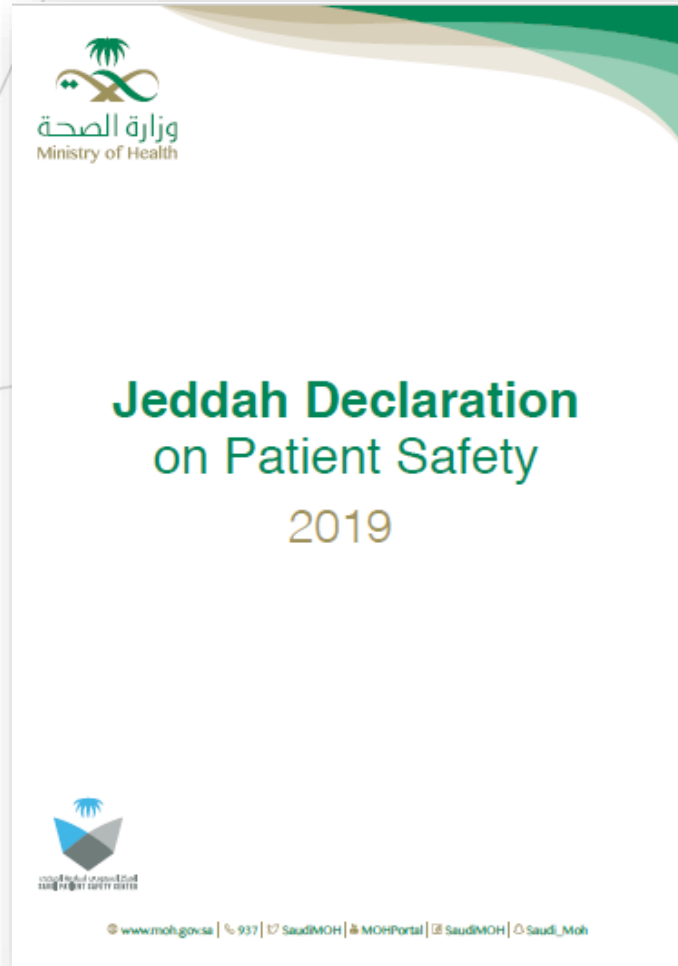
### JEDDAH DECLARATION FOR PATIENT SAFETY 2019

Sets recommendations for international standards, guidelines and actions that aim to address patient safety issues of global significance, with a strong emphasis on Low- and Middle-Income Countries (LMIC).

The Declaration is set on the underlying spirit that it is imperative to **reflect on the effectiveness of current practices** in light of the now mature patient safety evidence base of twenty years; and to collectively move forward with a vision to sustainable and **scalable implementation of patient safety solutions** known to improve care delivery systems, patient outcomes, and safety culture. It is an involving document, where its eleven statements of actionable items reflect commitment for any country that objectively aims to develop health systems that are free of harm.

The Jeddah Declaration on Patient Safety is available in both Arabic and English language through the following link:  
<https://spsc.gov.sa/English/Summit/Pages/JeddahDeclaration.aspx>

# 4. Way forward



## SETS AN IMPLEMENTATION AGENDA

1. Promote Patient Safety in Low- and Middle-Income Countries (LMIC).
2. Utilize Digital Health to support Patient Safety across the globe.
3. Promote Patient Empowerment & Community Engagement for Patient Safety.
4. Leverage the ICD through the creation of ICAE for Patient Safety.
5. Implement and sustain National Reporting & Learning Systems for Patient Safety.
6. Invest on Workforce knowledge and safety as the drivers for Patient Safety.
7. Learn from other industries.
8. Promote Medication Safety in Community Pharmacies.
9. Consider Medical Devices and Human interface as crucial factor for Patient Safety.
10. Enforce Infection Prevention Control (IPC) & Antimicrobial Resistance (AMR) strategies for Patient Safety.
11. To reduce the 2nd Translational Gap by supporting implementation and sustainable scale-up of patient safety interventions of known efficacy/effectiveness at national and global level.

## 5. Next challenge in patient safety...

- Development and implementation of tools and strategies that enable organizations to measure and reduce harm both **inside and outside the hospital, continuously and routinely.**
- Organizations are encouraged to use these tools and strategies **across multiple health care settings.**

**Golden Era** of patient safety.

# THANK YOU