The Domino Effect of Medial Errors

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Disclosure

- Nothing to disclose

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Who Are We?

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Who Are We?

- Global Non-Profit (50 countries)

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Patient Safety
MOVEMENT

A Commitment-based Approach

- A fresh approach to old problems, without reinventing the wheel
- We strive to foster new efforts and build on existing patient safety programs through Commitments to ZERO

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Our Network

1. **Hospitals & Healthcare Organizations**
   - Make a *Commitment*
2. **Partners**
   - Sign the *Commitment to Action* letter
3. **Healthcare Technology Companies**
   - Sign the *Open Data Pledge*
4. **Patient & Family Advocates**
   - Share their *Patient Story*
5. **Policy Makers**
   - Increase awareness and promote patient safety *Legislation*

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Select Committed Hospitals

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Outline

- Introduction
- Medical Errors
- Second Victim Concept
- Domino Effect Concept
- Holistic Approach to Reduce Medical Errors
- Take home messages

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How safe healthcare systems?

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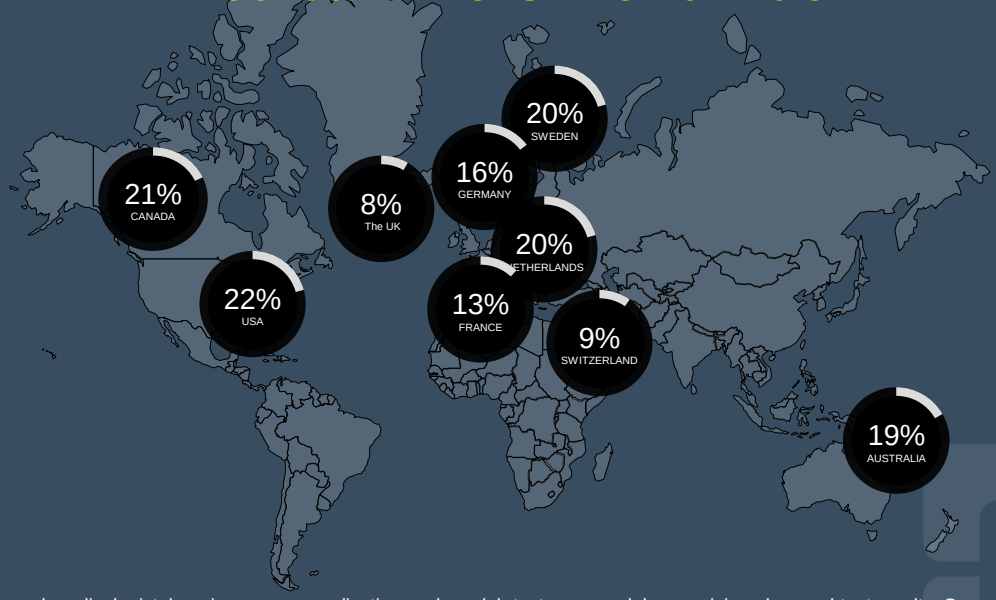
Medical Errors Worldwide



Experienced medical mistake, given wrong medication or dose, lab test error, or delay receiving abnormal test results. Source: 2011 Commonwealth Fund International Health Policy Survey in Eleven Countries

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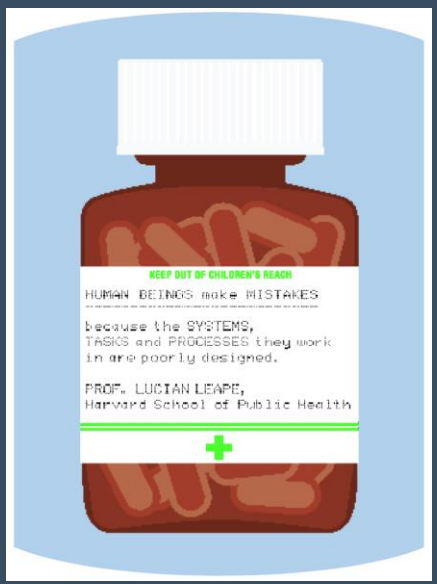
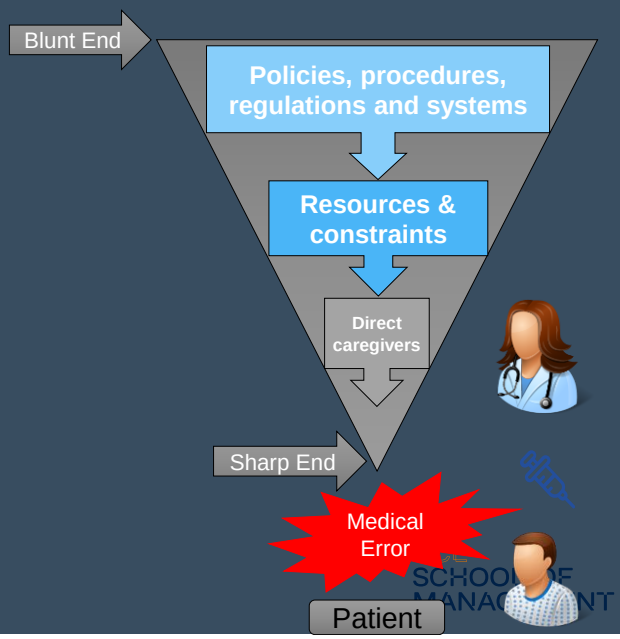
Human Beings make mistakes because…





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For Debate

Research into medical accidents: a case of negligence?

C A Vincent BMJ VOLUME 299 4 NOVEMBER 1989

Half of medical errors judged to be avoidable

Adverse events in British hospitals: preliminary retrospective record review

Charles Vincent, Graham Neale, Maria Woloshynowych

BMJ VOLUME 322 3 MARCH 2001

Is health care getting safer?

Despite numerous initiatives to improve patient safety, we have little idea whether they have worked. **Charles Vincent and colleagues** argue that we need to develop systematic measures

BMJ | 22 NOVEMBER 2008 | VOLUME 337

J. ENG. DESIGN, VOL. 15, NO. 2, APRIL 2004, 123–140

Taylor & Francis

Design for patient safety: a review of the effectiveness of design in the UK health service

P. J. CLARKSON†*, P. BUCKLE‡, R. COLEMAN§, D. STUBBS‡, J. WARD†, J. JARRETT†, R. LANE‡ and J. BOUND§

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abcNEWS.com Original Report

A study found that quality of care varied considerably according to the medical condition. (PhotoDisc)

'Advanced But Not Reliable'

Study: Americans Get Only Half the Care They Need

By John McKenzie

abcNEWS

June 25 — Americans are getting only about half of the proper care they should be getting, regardless of their insurance coverage, according to one of the largest and most comprehensive studies done on the quality of American health.

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What is a Medical Error?

- A preventable adverse effect of care
- An inaccurate diagnosis or treatment of disease, injury, syndrome, behavior, or infection
- Infections acquired in the hospital
- Wrong dose, wrong medication, wrong patient.
- Poor hand-over communication

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The Facts

- **Medical Errors:**
  - Are the cause of over **200,000** preventable patient deaths in U.S. hospitals each year and **4.8 Million** globally
  - Are the **third-leading cause of death in the U.S.**, behind heart disease and cancer
  - Are the **14th leading cause of death globally**, more than TB, Malaria and HIV combined.
  - The impact of medical errors on healthcare in the United States, alone, is between **$19.5 and $958 billion per year**.

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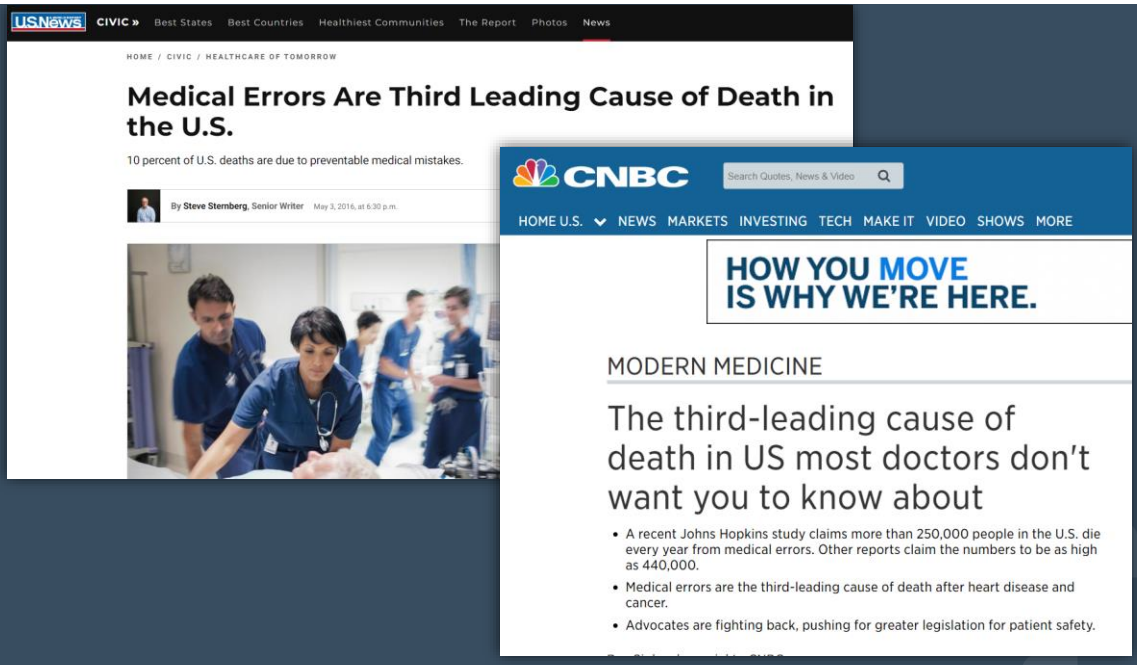

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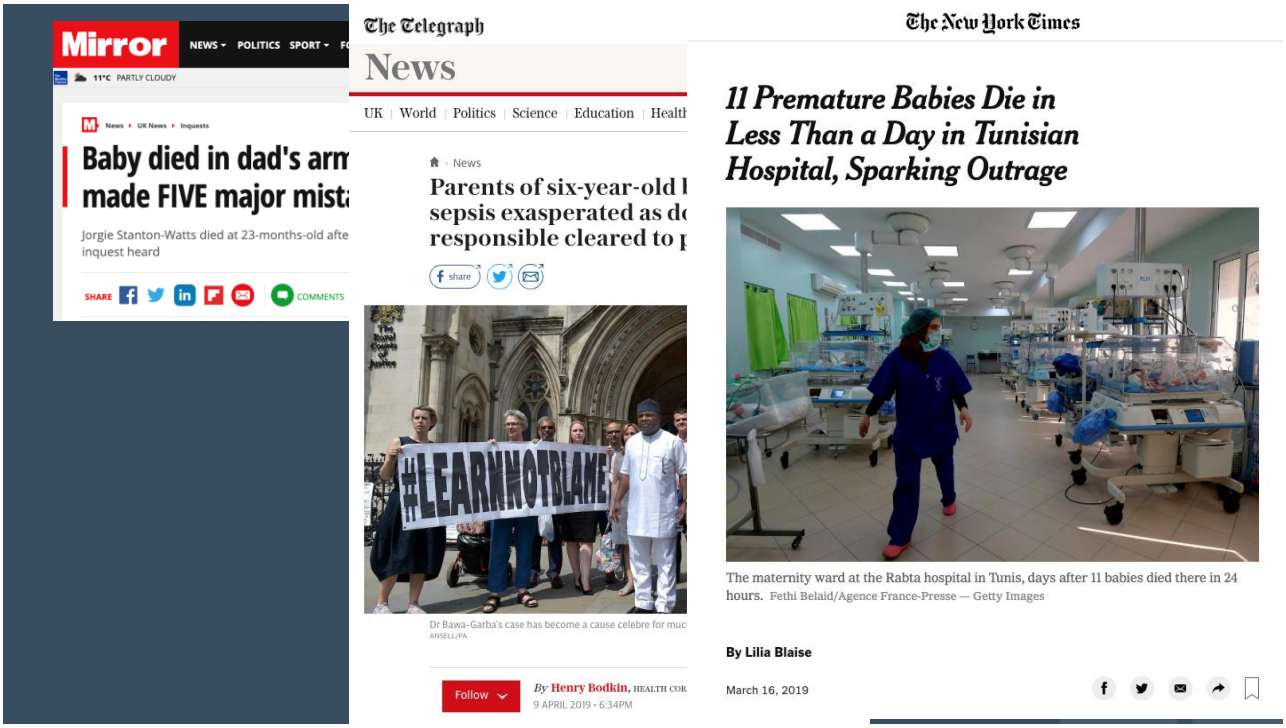

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Story

- Critical care nurse in Seattle Children's Hospital accidentally gave a sick baby a fatal dose of calcium chloride. September 2010.
- The incident resulted in the death of the 8-month-old child; the nurse was later fired.
- The nurse was refused work despite having 27 years of pediatric experience.
- Seven months later, the nurse committed suicide.
- The integrity of the hospital was questioned and it had to pay a hefty fine.
- The community's faith in the nursing profession was shaken and the risks associated with the nursing profession were elucidated.

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"Emotional tsunami"

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Second Victim

- Wu AW. Medical error: the second victim. The doctor who makes the mistake needs help too.
- BMJ. 2000;320:726-727.

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Second Victims Defined

- "Healthcare team members involved in an unanticipated patient event, a medical error and/or a patient related injury and become victimized in the sense that they are traumatized by the event."

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"While moonlighting in an emergency room, a resident physician evaluated a 35-year old woman who was 6 months pregnant and complaining of a headache. The physician diagnosed a «mixed tension/sinus headache.» The patient returned to the ER 3 days later with an intracerebral bleed, presumably related to eclampsia, and died."

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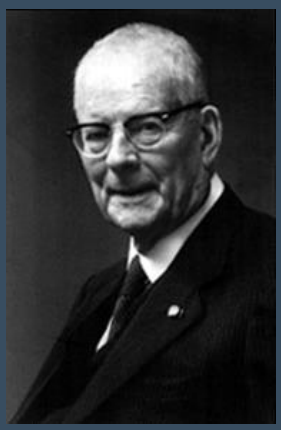
85% of the reasons for failure to meet customer expectations are related to deficiencies in systems and processes… rather than the employee."

- Dr. W. Edwards Deming



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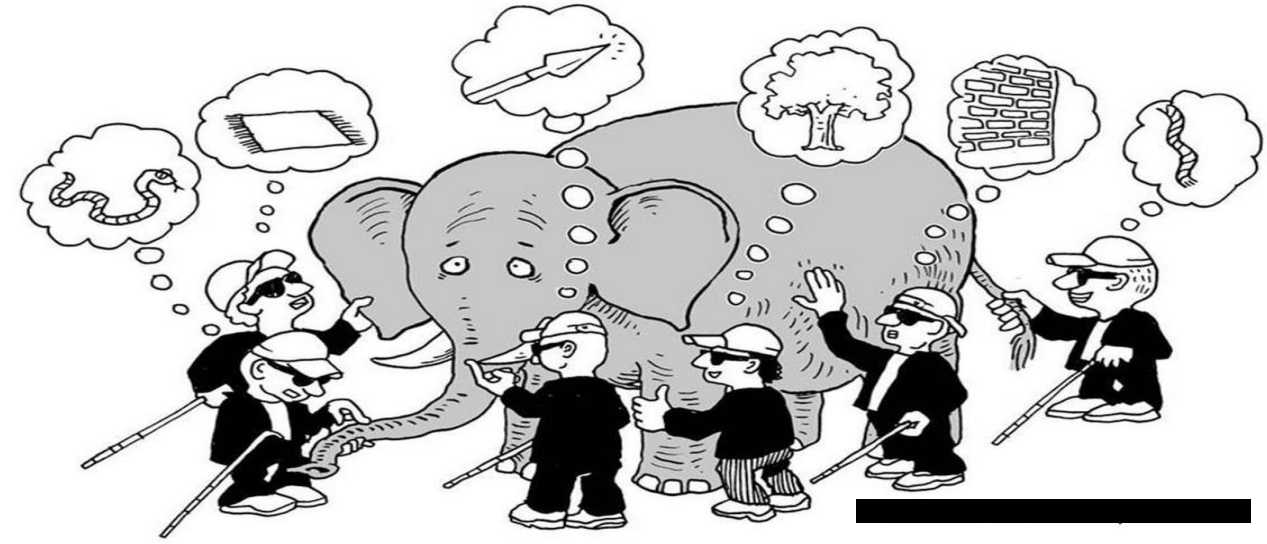
System Thinking



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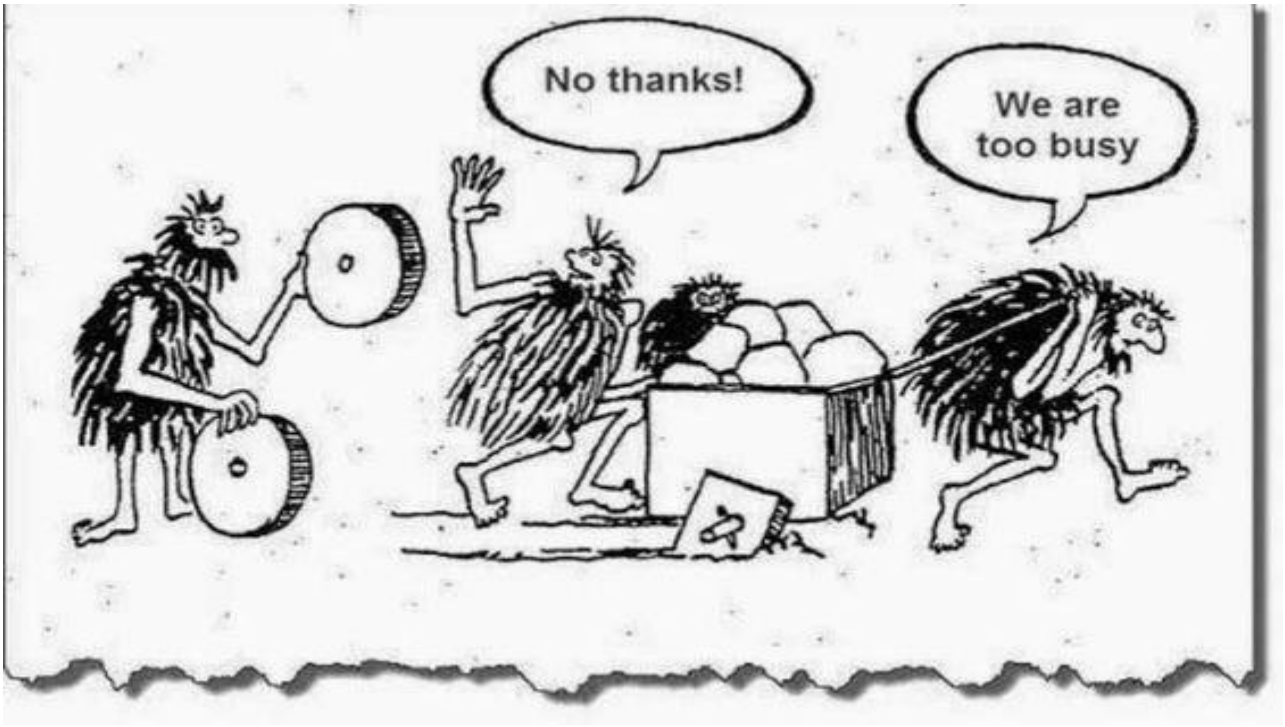

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Perspective

AMERICAN COLLEGE OF
MedicalQuality

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1–2

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The Domino Effect of Medical Errors

Samer Ellahham, MD[1,2]

Medical errors (MEs) are often defined as "an act of omission or commission in planning or execution that contributes or could contribute to an unintended result."[1,2] MEs are associated with a high rate of morbidity, mortality, and economic burden on the community. The Centers for Disease Control and Prevention stated that MEs are the third most common cause of death in the United States.[3] The total annual cost of measurable MEs in the United

Need to Look Beyond the "Second Victim"

Customarily, the aftermath of a ME is focused on the first victim (ie, patient and their family) and the second victim, that is, HCPs (ie, doctors, nurses).[6,7] However, the other stakeholders of the health care system are often neglected, thus increasing the chances of future MEs. This practice indicates an urgent need for a comprehen-

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Health Care Support Staff: Third victim

Health care support staff is an umbrella term used for clinic support staff, diagnostic staff, hospital staff, and administrative staff.

Negligence by any member of this team could possibly lead to serious MEs.

Unfortunately, support measures that can possibly help support staff are not available in a health care framework. In the worst cases, the affected person is often bullied, and peer support also is not extended.

Such practices result in low self-esteem, lack of confidence, and guilt in the affected member.

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Health Care Organization: Fourth Victim

- Any medical malpractice adversely affects the reputation of the institution.
- Loss of faith in the integrity of the institution & increased economic burden related to lawsuits for medical malpractice.

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Community: Fifth Victim

- A community comprises the other members of the health care fraternity and people in general who might require health care services in future.
- In any instance of ME, other HCPs developed a negative bias toward the specific procedure or drug involved in the incident.
- Till evidence is available, a HCP chooses to exempt said procedure/drug, which in certain cases can negatively affect the patient's recovery.
- Likewise, patients also lose their faith in the health care system.

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Literature Review

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American Journal of Medical Quality
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SAGE

Application of Artificial Intelligence in the Health Care Safety Context: Opportunities and Challenges

Samer Ellahham, MD[1,2], Nour Ellahham[1], and Mecit Can Emre Simsekler, PhD[3]

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Journal of Computer Science & Systems Biology
ISSN: 0974-7230

Ellahham and Ellahham, J Comput Sci Syst Biol
2019, 12:3

Research Article Open Access

Use of Artificial Intelligence for Improving Patient Flow and Healthcare Delivery

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Cleveland Clinic Abu Dhabi and Cleveland Clinic Foundation, Abu Dhabi, UAE

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- **Holistic Approach to Reduce Medical Errors**
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Holistic Approach to Reduce Medical Errors

- A positive safety approach
- Effective communication
- Timely monitoring and documentation

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Holistic Approach to Reduce Medical Errors

- Training the workforce
- Extending support
- Knowledge sharing

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Open access Research

BMJ Open

Impact of repeated hospital accreditation surveys on quality and reliability, an 8-year interrupted time series analysis

Subashnie Devkaran,[1] Patrick N O'Farrell,[2] Samer Ellahham,[3] Randy Arcangel[4]

To cite: Devkaran S, O'Farrell PN, Ellahham S, *et al*. Impact of repeated

ABSTRACT

Objective To evaluate whether hospital re-accreditation improves quality, patient safety and reliability over three

Strengths and limitations of this study

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Take home messages

- Focus on all the possible victims of MEs and extend support to all.
- Conduct studies and audits of medical negligence cases to identify emerging causes of MEs.
- Develop better federal health care policies to compensate for medical negligence and to reduce the economic burden of MEs.

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If you want small changes, work on your behavior; if you want quantum leap changes, work on your paradigms

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References

1. World Health Organization. *Medication Errors: Technical Series on Safer Primary Care*. Geneva, Switzerland: World Health Organization. http://apps.who.int/iris/bitstream/han

dle/10665/252274/9789241511643-eng.pdf?sequence=1. Accessed September 5, 2018.

2. Grober ED, Bohnen JMA. Defining medical error. *Can J Surg*. 2005;48(1):39-44.

3. Makary MA, Daniel M. Medical error—the third leading cause of death in the US. *BMJ*. 2016;353:i2139.

4. David G, Gunnarsson CL, Waters HC, Horblyuk R, Kaplan HS. Economic measurement of medical errors using a hospital claims database. *Value Health*. 2013;16:305-310.

55

References

5. Saavedra SM. Remembering Kimberly Hiatt: A casualty of second victim syndrome. How a single mistake from an experienced critical care nurse caused her to end her life.

https://nurseslabs.com/remembering-kimberly-hiatt-casualty-second-victim-syndrome/. Published November 25, 2015. Accessed September 22, 2018.

6. Wu AW. Medical error: the second victim. The doctor who makes the mistake needs help too. *BMJ*.2000;320:726-727.

7. Scott SD, Hirschinger LE, Cox KR, et al. Caring for our own: deploying a systemwide second victim rapid response team. *Jt Comm J Qual Patient Saf*. 2010;36:233-240.

8. Conway J, Federico F, Stewart K, Campbell M. *Respectful Management of Serious Clinical Adverse Events*. IHI Innovation Series White Paper. Cambridge, MA: Institute for Healthcare Improvement; 2010.

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