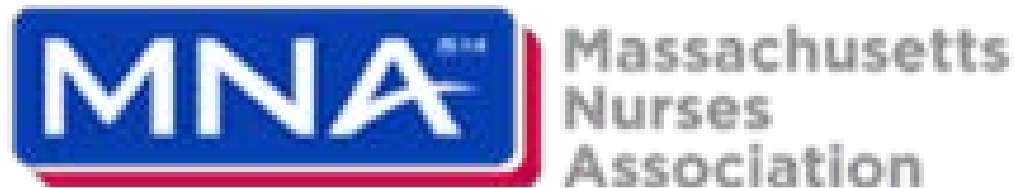# The intersection of occupational hazards for nurses, safe staffing, and infection control

Christine Pontus, MS, RN, COHN-S/CCM
Associate Director Health & Safety
Massachusetts Nurses Association

Jonathan Rosen, MS CIH
AJ Rosen & Associates LLC

MNA Massachusetts Nurses Association

Program Goal Number 2

Attendees will recognize how infectious disease place both patients and staff at risk, constructing the intersection between occupational health and safety with patient safety initiatives.

Objectives
After attending, participants will be able to:

Describe the scope and Impact of occupational injury

and illness among nurses and health care workers

Define the relationship between short staffing, hospital acquired infection (HAI), gaps in knowledge about

the impact of (HAI) on nurses and healthcare workers.

Research as Evidence

"Development of the Hospital Nurse Surveillance Capacity Profile "

- Purpose of study: to define, operationalize, measure, and evaluate the nurse surveillance capacity of hospitals

- The quality of our nation's healthcare system came under scrutiny as evidence grew about preventable medical errors (Institute of Medicine[IOM], 2000, 2001, 2004)

- An uneven quality of care across hospitals (Jha, Zhonghe, Orav, & Epstein, 2005).

- Research emerged documenting a link between greater investments in nursing and better outcomes for patients (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007)

- We hypothesize that **better patient outcomes are achieved through more effective surveillance,** a primary and vital function of registered nurses (RNs).

- *Ann Kutney-Lee, PhD, RN,* Eileen T. Lake, PhD, RN, FAAN,[†] and Linda H. Aiken, PhD, RN, FAAN[‡]

Nurse Surveillance is a key Intervention

A process in which nurses:

- Monitor

- Evaluate

- Act upon emerging indicators of a patient's change in status

- Components include continuous;
  - Observation
  - Assessment
  - Recognition
  - Interpretation of clinical data
  - Decision making

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2906760/

Organizational Features Enhance or Weakens Nurse Surveillance.

Nurse Surveillance Capacity is effected by Organizational structures that impact safety:

- Staffing, hours of work, and overtime

- Education and training

- Expertise, teamwork, and collaboration

- Experience

- Nurse practice environment and safety culture

- Ann Kutney-Lee, PhD, RN,[*] Eileen T. Lake, PhD, RN, FAAN,[†] and Linda H.

- Aiken, PhD, RN, FAAN[‡] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2906760/

April 2017 - Survey Depicts a Health Care System in Crisis

- A hospital management staffing firm called leaders for today (LFT) conducted a national survey:
- Response from 852 hospital workers.
- **Purpose**: to understand what concerns candidates had and were looking for in their careers
- Questions focused on a variety of departments and positions ranging from:
  - C-suite
  - clinical administration
  - non-clinical administration
  - physicians
  - nurses
- http://www.beckershospitalreview.com/human-capital-and-risk/hospitals-face-unprecedented-turnover-attrition-rates-4-survey-findings.html

Survey Results
Both Intriguing and Troublesome

- Unprecedented turnover and attrition rates among hospitals at key levels

- A shrinking talent pool as more hospital employees age toward retirement

- The crowded online job board market, and why it's ineffective in health care

- How a painfully slow hiring process frustrates candidates and hurts hospitals

http://www.leadersfortoday.com/addressing-the-other-elephant-in-the-hospital-room-our-2017-industry-survey

Four Main Take A Ways

#1. Continuity in hospital employment is lacking.

- Nearly 43 % had less than 2 years at current hospital.

- 65.7 % had less than five years.

- 37% plan to leave their current organization within two years.

- 68.6 % plan to leave within five years.

- The rapid pace at which hospital employees are switching jobs is widening the knowledge gap.

#2. The Current Hospital Environment Promotes High Turnover

- More than 27.4 % left their job for a promotion or opportunity for advancement.

-

- Another 14.4% left for better compensation.

- The largest proportion, 58.2 %, left for other reasons, such as:
    - long work hours
    - frustration
    - and burnout

3. The Growing Proportion of Retiring Employees Poses an Additional Challenge

- The workforce is aging

- Hospitals are looking at a significantly smaller pool of experienced talent to fill retirees' positions.

- 47.7% indicated they plan to retire within the next
- decade.
- 22.1 % expect to retire within five years.

A Nurse begins life at retirement when they can safely answer their phones again.

4. The Hospital Hiring Process Needs a Tune up.

According to LFT:

- Hospitals lose candidates who land job opportunities more quickly elsewhere.

- Respondents cited speed and transparency as the top two frustrations with the hiring process.

- Suggests hospitals will be the more competitive for attracting top talent if they can optimize the hiring process and move quickly.

Patient Surveillance is the Primary & Vital Function of RNs

- Nurses' ability to deliver safe, effective, high-value care
- depends largely on the work environment in which that care is delivered.
- **Influenced by multiple factors**

- The next analysis looked at the impact of nurses' perception of the safety of their work environment and the degree to which they believe their work environment **is sufficiently resourced to complete essential patient surveillance tasks on every shift.**

Work Environment Strongly Influences Nurse and Patient Outcomes

Press Ganey, November 2016:

"The Role of Workplace Safety and Surveillance Capacity in Driving Nurse and Patient Outcomes."

Data from analysis highlights strategic importance of:

Nurturing a work environment in which RNs feel their physical and emotional safety is an organizational priority.

http://healthcare.pressganey.com/2016-Nursing-Special-Report?elqCampaignId=1206

"The role of workplace safety and surveillance capacity in driving nurse and patient outcomes"

Workplace safety and nurse surveillance capacity are significantly associated with a healthcare organizations' performance on nurse, patient experience.

Components of a safe work environment measured on survey included :

• Safe Patient Handling and Mobility Practices

• RN-to-RN interaction

• Appropriateness of Patient Care Assignments

• Meal-break practices

• Shift duration

http://www.pressganey.com/resources/white-papers/the-role-of-workplace-safety-and-surveillance-capacity-in-driving-outcomes

"Workplace Safety was a More Significant Driver than the Surveillance Capacity"

- The analysis found work environment significantly influences nurse surveillance capacity—the degree to which nurses are able to:

- Observe

- Monitor

- Collect

- Interpret

- Synthesize patient information

- to make informed decisions regarding their course of care.

- Of the two work environment components, <u>workplace safety had a stronger influence on outcomes than perceived surveillance capacity.</u>
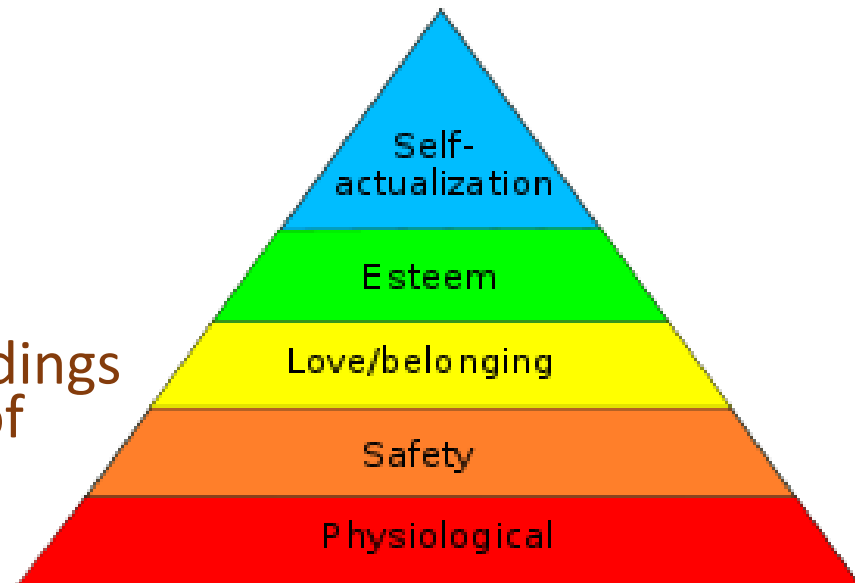
Notable Findings

In units where nurses rated their safety and surveillance capacity as high there were:

• Improved patient safety outcomes

• More positive patient experience ratings

• Higher RN engagement rates

Christy Dempsey , RN Chief Nursing officer at Press Ganey Assessed Findings in Relation To Maslow's hierarchy of needs

• **Safety is the Foundation of the Pyramid**

Maslow's hierarchy pyramid from top to bottom: Self-actualization, Esteem, Love/belonging, Safety, Physiological

http://healthcare.pressganey.com/2016-Nursing-Special-Report?elqCampaignId=1206

Impact on Patient Outcomes, Costs, & Satisfaction*

Patient Deaths

Medical Errors

Complications & Infections

Readmissions

Patient Satisfaction

*A Summary of Nurse Staffing Studies

Nurse –sensitive indicators*

Pressure ulcers	Falls
Medication errors	Nosocomial infections
Pain Management	Patient satisfaction

*A Summary of Nurse Staffing Studies

Impact on Staff Outcomes, Costs, & Satisfaction*

Burnout & Turnover

> Injury, Illness

Workers' Comp $$$

Stress

Job Satisfaction

*A Summary of Nurse Staffing Studies

New Study on Nurse Staffing and ED Care

- A 2018 study in the ***Western Journal of Emergency Medicine*** found: excessive patient assignments and lower staffing levels in hospital emergency departments harm patient care;

- resulting in longer ED wait times,

- the likelihood patients will leave without being seen.

- A number of other studies show:

- **costs associated with implementing safe limits are off set by the benefits of better care and reduced RN turnover**

The State of Nursing in Massachusetts:
A 2018 Survey of All Nurses in Massachusetts

- 86% do not have the time to provide adequate discharge planning
- 90% do not have time to properly comfort and care for patients
- 77% report they are assigned too many patients to care for at one time

Due to unsafe patient assignments:

- 36% of RNs report patient deaths that are directly attributable to having too many patients at one time
- 64% of RNs report injury and harm to patients
- 66% of RNs report longer hospital stays for patients
- 72% of RNs report readmission of patients
- 77% of RNs report medication errors

*The State of Nursing in Massachusetts" (May 2018), a survey of ALL nurses in Massachusetts

National, Peer Reviewed Studies Show

Studies show higher patient assignments are associated with more patient deaths, complications, medication errors, and readmissions.

- For every patient added to a nurse's workload, the likelihood of a patient surviving cardiac arrest decreases by 5% per patient. (Medical Care, 2016)

- For children recovering from basic surgeries, each additional patient assigned to a nurse increased the risk of readmission by ;
- a shocking 48%. (BMJ Qaul Saf.,2013)

- For every patient added to a nurse's workload there is a
- 7% increased risk of hospital acquired pneumonia,
- 53% increase in respiratory failure
- 17% increase in medical complications. (AHRQ, 2007)

National, Peer Reviewed Studies Show

Reducing nurse staffing is inefficient and can negatively affect financial performance. (*Health Care Management Review,* 2013)

- **"This study makes a strong business case:**
- Just increasing the proportion of nurses without increasing the total nursing hours per day could reduce costs and improve patient care; by reducing unnecessary deaths and shortening hospital stays." (*Health Affairs,* 2006)

- Implementing safe patient limits would produce significant cost savings: is less costly than many other basic safety interventions common in hospitals,

- including clot busting medications for MIs and PAP tests for cervical cancer. (Medical Care, 2005)

Ethical Issue

- Ethics: The first principle is – **do no harm**

- **According to Leah L Curtain RN:**

- The American Nurses Association contends that ensuring adequate staffing levels has been shown to:
- reduce medical and medication errors
- decrease patient complications
- decrease mortality
- improve patient satisfaction
- reduce [nurse fatigue](#)
- decrease nurse burnout
- improve nurse retention and job satisfaction.

- A conversation about the ethics of staffing: April 2016 Vol. 11 No. 4 Author: Leah L. Curtin, RN, MA, MS, ScD(h), FAAN

Federal Regulations (42CFR 482.23(b) require hospitals certified to participate in Medicare

- "have 'adequate' numbers of licensed registered nurses, licensed practical (vocational) nurses, and other personnel to provide nursing care to all patients as needed," but the regulations do not say what is "adequate" nor who determines this.

- Does Medicare know when staffing is not adequate?

- The Joint Commission acknowledges the link between positive patient outcomes, quality, safe care, and effective staffing.

The Joint Commission

- The Joint Commission staffing standards state staffing effectiveness is composed of:

- the number, competency, and skill mix of staff in relation to the provision of needed care and treatment

- **HR.1.20** The hospital provides an adequate number and mix of staff consistent with the hospital's staffing plan.

- **HR.1.30** The hospital uses data from clinical/service screening indicators and human resource screening indicators to assess and continuously improve staffing effectiveness.

- **HR.3.10** The nurse executive establishes nursing policies and procedures, nursing standards, and a nurse staffing plan(s).

- In spite of the data, these ambiguous statements allow health care facilities to continue to operate at or below minimum levels

- https://www.americannursetoday.com/conversation-ethics-staffing/

What is the connection between worker & patient safety?

Addressing worker safety & health issues can improve patient safety:

- Lifting and safe patient handling

- Workplace violence

- Slips, trips, and falls

- Workplace transmission of infectious diseases

- Workplace exposure to antineoplastic and other hazardous drugs

- Suboptimal work organization, resulting in stress, fatigue, and medical errors

Healthcare is the fastest growing industry

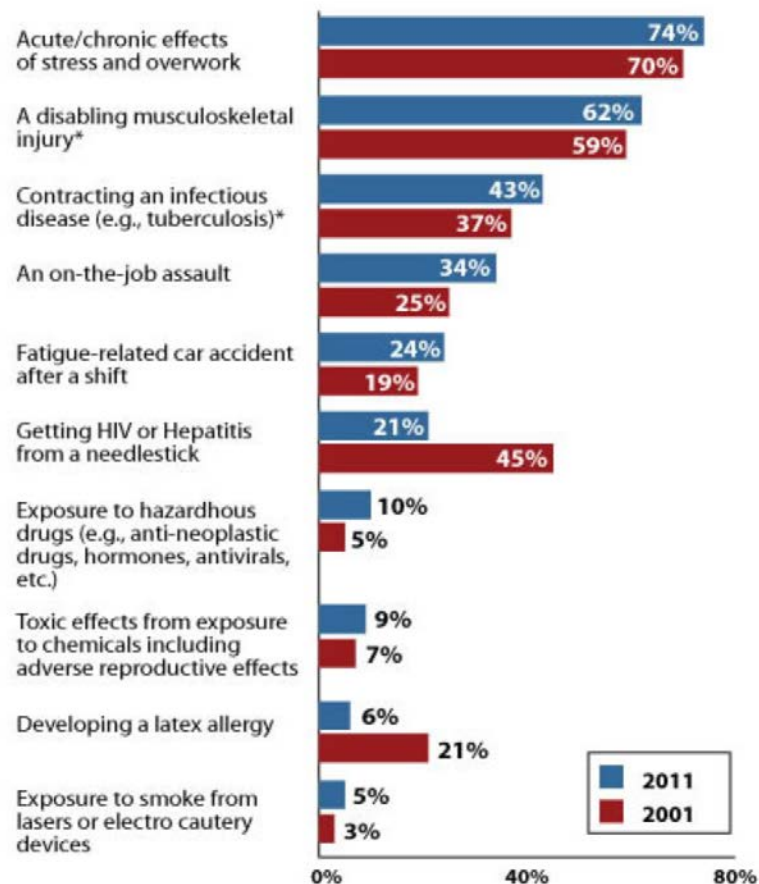|	
Healthcare: fastest growing industry	> 18 million workers
Largest # work injuries and illnesses 552,600 in, 2016	> construction and coal mining combined

Working in healthcare is hazardous!

In 2016…

- 585,800 **non-fatal** occupational injury and illness cases
- Equivalent to one case being reported every 52 seconds
- Healthcare:
  - 17% of all recordable **non-fatal** occupational injury and illness cases in the private sector
  - 31% in State government sector

S&H priority areas for RNs

Top four health and safety concerns

Acute/chronic effects of stress and overwork — 74% (2011), 70% (2001)
A disabling musculoskeletal injury* — 62% (2011), 59% (2001)
Contracting an infectious disease (e.g., tuberculosis)* — 43% (2011), 37% (2001)
An on-the-job assault — 34% (2011), 25% (2001)
Fatigue-related car accident after a shift — 24% (2011), 19% (2001)
Getting HIV or Hepatitis from a needlestick — 21% (2011), 45% (2001)
Exposure to hazardhous drugs (e.g., anti-neoplastic drugs, hormones, antivirals, etc.) — 10% (2011), 5% (2001)
Toxic effects from exposure to chemicals including adverse reproductive effects — 9% (2011), 7% (2001)
Developing a latex allergy — 6% (2011), 21% (2001)
Exposure to smoke from lasers or electro cautery devices — 5% (2011), 3% (2001)

2011, 2001

*Wording slightly different from 2001 survey

The American Nurses Association reported that the top four S&H concerns among nurses:

1. **Effects of stress and overwork**

2. **Musculoskeletal injuries**

3. **Infectious disease**

4. **On-the-job assault**

were no different between 2001 and 2011.

Source: ANA Health and Safety Survey of Nurses, 2001 and 2011

What Nurses Say...

When asked if they put patient care first before their own personal safety at work, most nurses (82 percent) say "**yes.**"

What impacts workplace safety:

- **increasing workloads (89%)**
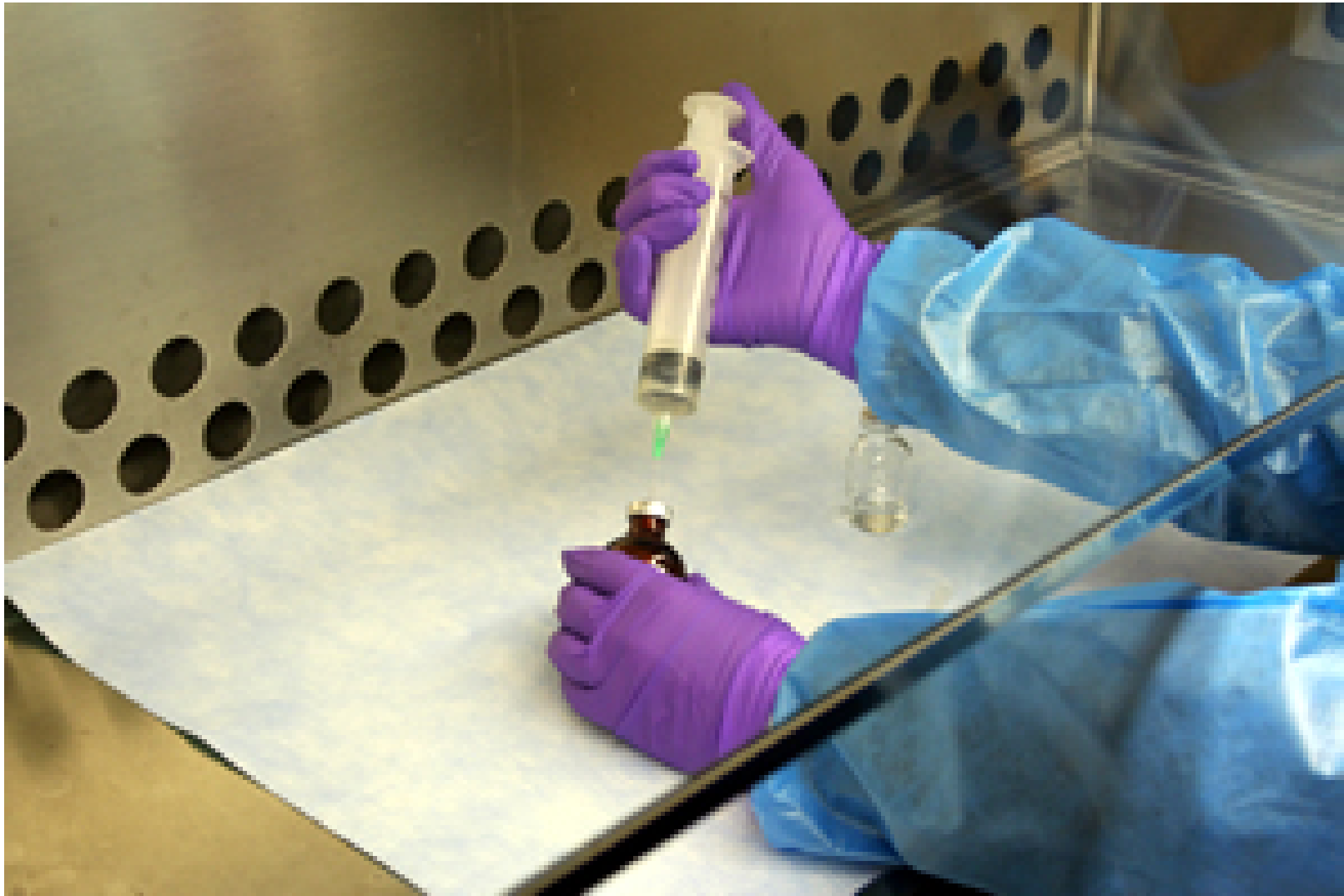- **workplace stress levels (84%)**

Key issues to nurses:

- **patient care and organizational reputation**
- **patient safety**
- **infection control**
- **healthcare worker safety and staff productivity**

American Nurses Association and Inviro Medical, 2008 Study of Nurses' Views on Workplace Safety and Needlestick Injuries
http://nursingworld.org/MainMenuCategories/WorkplaceSafety/SafeNeedles/2008-Study/2008InviroStudy.pdf

Can you identify the hazards?
What is wrong in these pictures?

Elenita Congco, RN, assaulted 1/31/11

Patient Outcomes

- 722,000 patient hospital acquired infections 2011
- 75,000 patients deaths due to HAIs 2011
- 1/25 hospitalized patients had HAIs

What is an
Aerosol Transmissible Disease (ATD)?

OSHA® **<u>Does Not </u>have an infectious disease or aerosol transmissible disease standard!!**

Airborne droplets visible during sneezing (photo enhanced)

Photo: CDC

ATD Standard, definition

- **ATD:** A disease or pathogen for which droplet or airborne precautions are required.
- Aerosol Transmissible Disease Standard, §5199.
- http://www.dir.ca.gov/title8/5199.HTML

ATDs

- Spore-containing powders Anthrax/Bacillus anthracis
- Aspergillosis*
- Varicella (chickenpox) and herpes zoster**
- Measles (rubeola)/Measles virus
- Monkeypox/Monkeypox virus
- Smallpox/Variola virus
- Tuberculosis Mycobacterium tb
- Severe acute respiratory syndrome coronavirus (SARS-CoV)
- *Ebola Virus and hemorrhagic fever*
- Novel or emerging pathogens for which public health guidelines and risk evaluations indicate airborne precautions

Surgical Masks vs N95 Respirators in Healthcare
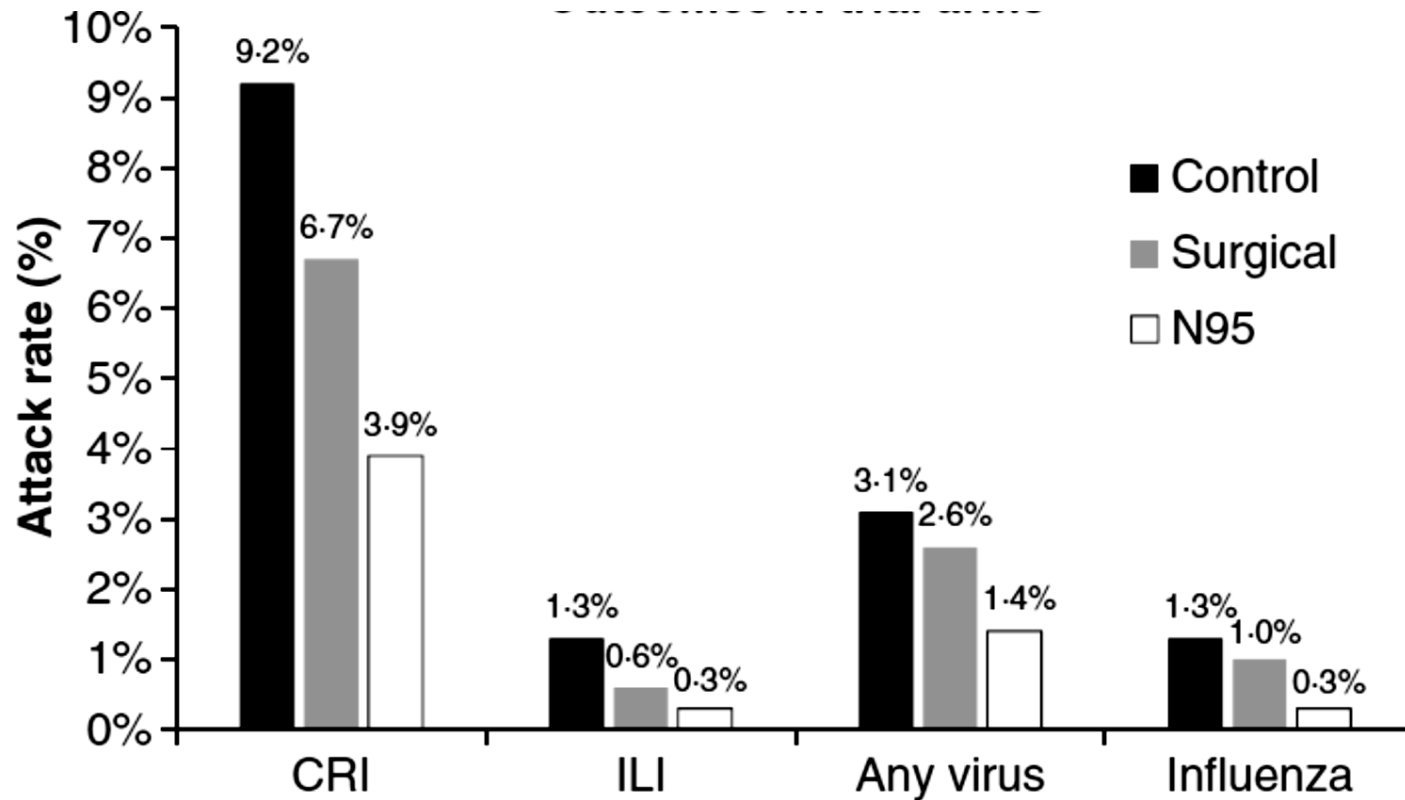
Clinical respiratory disease was significantly higher in HCWs wearing nothing or surgical masks compared to those wearing N95 respirators.

# Viable influenza A virus in airborne particles expelled during coughs versus exhalations

- William G. Lindsley et al, Health Effects Division, NIOSH, www.influenzajournal.com February 25, 2016

- 61 adult influenza patients coughed and exhaled 3 times

- Aerosols were collected and sampled

Results:

- 53 tested positive for influenza A virus

- 28 (53%) during coughing

- 22 (42% during exhalation

Conclusion: important to airborne transmission

There is no systematic tracking of HCW exposure or conversions
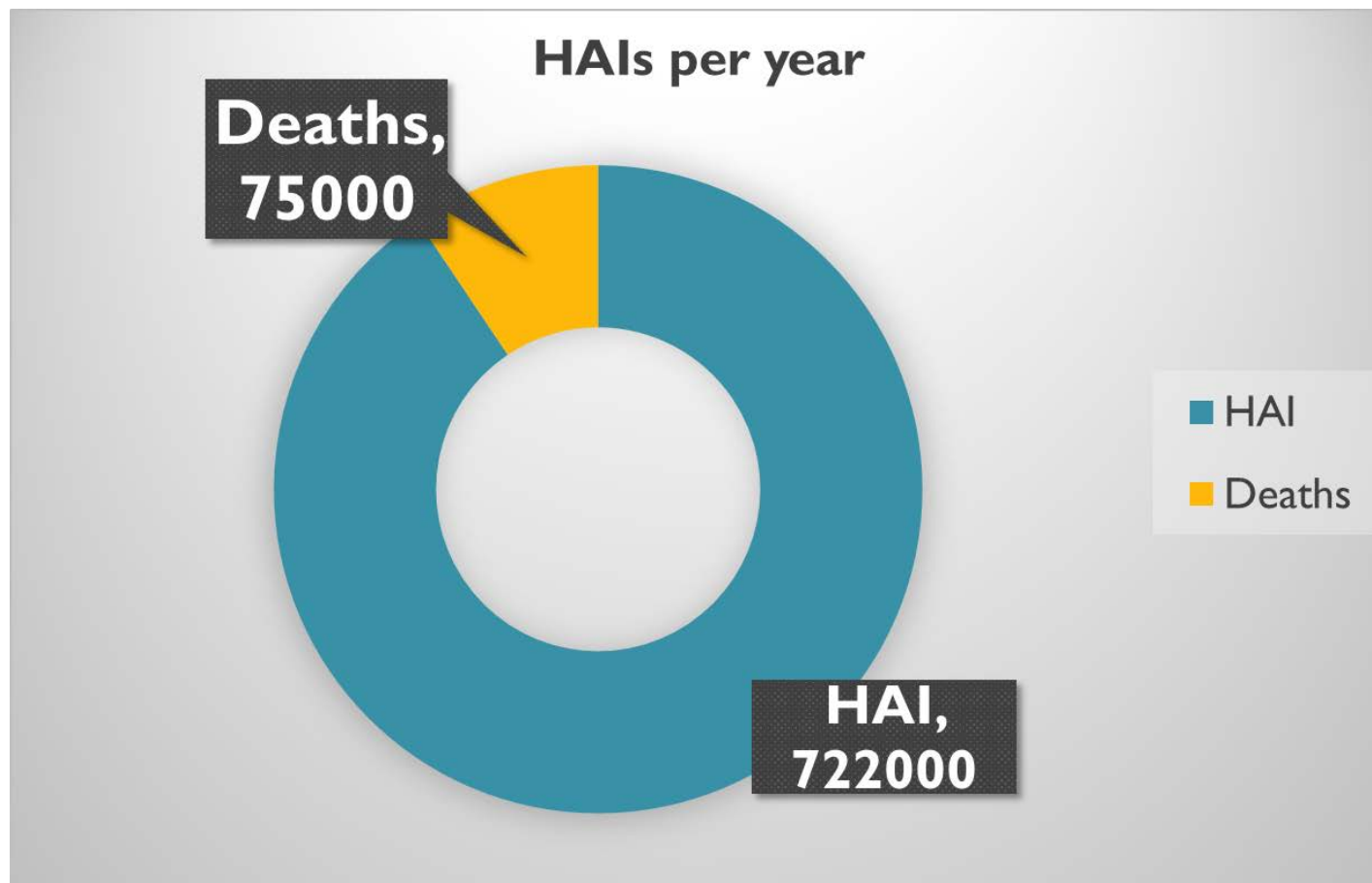
44% of SARS cases in Toronto were healthcare workers, 2003

Three healthcare workers died in the Toronto outbreak.

Surgical Smoke Hazards

- OSHA estimates 500,000 HCWs exposed
- toxic smoke by burning tissue during laser surgery and electrosurgery
- Transmission of Papilloma Virus documented
- NIOSH **Warning**: "Surgical smoke has been shown to be mutagenic, cytotoxic and genotoxic."
- Local exhaust ventilation and respirators frequently are **NOT** used

REACH I and II
Respirator Evaluation in Acute Care Hospitals

REACH I studied influenza protection at 16 California hospitals, 2009 – 2010 during H1N1 outbreak

Workers used N95s but there were important gaps:

- ✓ Written respiratory protection programs
- ✓ Recordkeeping
- ✓ Designated RPP Administrator
- ✓ Program Evaluation
- ✓ Training
- ✓ Fit testing
- ✓ Improper donning & doffing
- ✓ No hand hygiene after removal
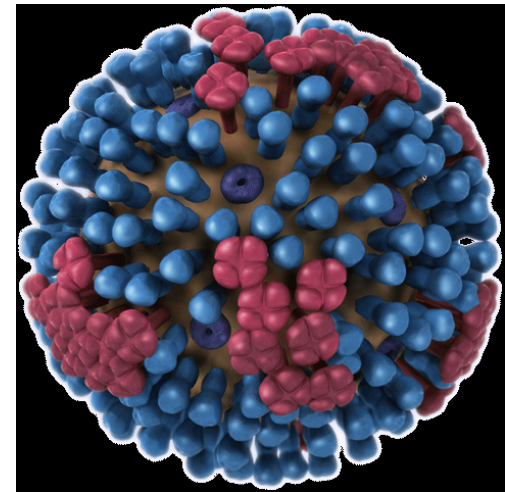
Use of exposure controls for surgical smoke, 2011

Respondents: nurse anesthetists, anesthesiologists, perioperative and OR nurses, surgical technologists

- ✓ 4 % always used a respirator (1,102)
- ✓ 1% used a respirator, laser surgery (3,719)
- ✓ 55% sometimes/ never used LEV, laser surgery
- ✓ 86% sometimes/ never used LEV, electrosurgery
- ✓ **Most used surgical and laser masks that don't provide respiratory protection**

Contamination of PPE

- 46% of HCWs contaminated their skin or clothing when removing contaminated PPE

- Gloves = 52.9%

- Gowns = 37.8%

- Practice with immediate visual feedback reduced the risk of contamination during removal of PPE to 18%

How safe are nurses in the work setting?

"Hospitals do not protect their workers, and its time they do"

- Nurses lift 1.8 tons every 8 hours
- Majority are attacked by the people helping
- Growing risk of antibiotic-resistant infections
- Exposure to blood & body fluids (BBfs) – infection & illness risk
- 47.7% of nurses exposed to BBF's on the job in 2012
- Hepatitis C
- C Diff
- MRSA
- Influenza
- TB
- Ebola outbreak

http://minoritynurse.com/personal-safety-for-nurses/

Nurse-Staffing Levels and The Quality of Care in Hospitals
Needleman, et al., NEJM, May 2002

Administrative data from 799 hospitals, 11 states, 1997

Covering 5,075,969 medical and 1,104,669 surgical patient discharges

Averaged 11.4 hours of nursing care per day: 7.8 hours RN, 1.2 hours LPN, and 2.4 hours aides

More RN hours = 1) shorter length of stay, 2) lower rates of UI infection and GI bleeding, 3) lower rates of pneumonia, shock, or cardiac arrest, and 4) lower rates of failure to rescue

Nurse Staffing and Inpatient Hospital Mortality
J. Needleman, et al, NEJM 2011

- Data from 197,961 admissions, large academic medical center.

- 176,696 nursing shifts, 8 hours each, 43 units

- Assessed the relationship between mortality and nursing shifts below 8 hours of staffing target

- Reviewed patient mortality associated with high patient turnover due to admissions, transfers, and discharges.
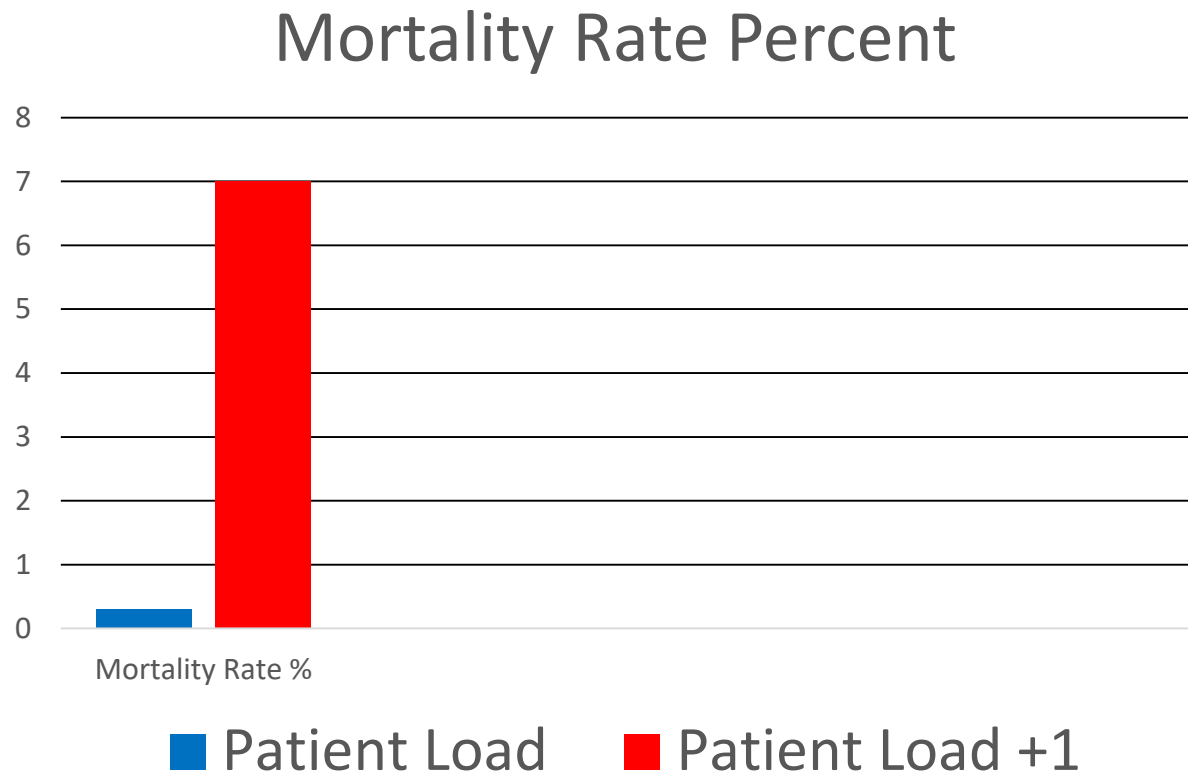
Evidence

Results, Needleman Study

"We estimate that the risk of death increased by 2% for each below-target shift and 4% for each high-turnover shift to which a patient was exposed."
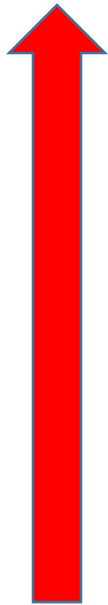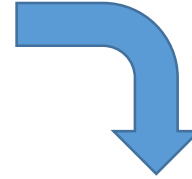
Evidence

Patient Risk of Death

Mortality Rate Percent

J. Needleman, et al Nurse Staffing and Inpatient Hospital Mortality. New England Journal of Medicine 2011; 364:1037-1045.

Decreased staffing

Falls

HAIs

Failure to rescue

Readmission

California's nurse-to-patient ratio law and occupational injury
P. Leigh, et al., Int Arch Occup Environ Health (2015)

❑ UC Davis study finds 1/3 drop in occupational injuries to nurses following mandated staffing ratios in California

❑ Used data from US BLS

Definition of "Patient Acuity"

A concept referenced by caregivers and medical literature without specificity or consistency of definition or measurement.

Acuity has become a reference for estimating nurse staffing allocations and budget determinations.

Acuity can be defined as the measurement of the *intensity* of nursing care required by a patient.

Acuity-based staffing system regulates the number of nurses per shift according to the patients' needs, not raw patient numbers.

What are the problems with acuity based staffing?

- ❑ Does it work?
- ❑ What are the objective criteria?
- ❑ Who decides?
- ❑ Are there staff available?

H.R.5052 – S 2445: Registered Nurse Safe Staffing Act of 2018

Requires each Medicare participating hospital to implement a hospital-wide staffing plan for nursing services

Requires an appropriate number of RNs provide direct patient care

Requires nurse staffing committee to implement the plan

Specifies monetary and other penalties for violations

Whistleblower protections against discrimination and retaliation

State Laws and Proposals
3 approaches:

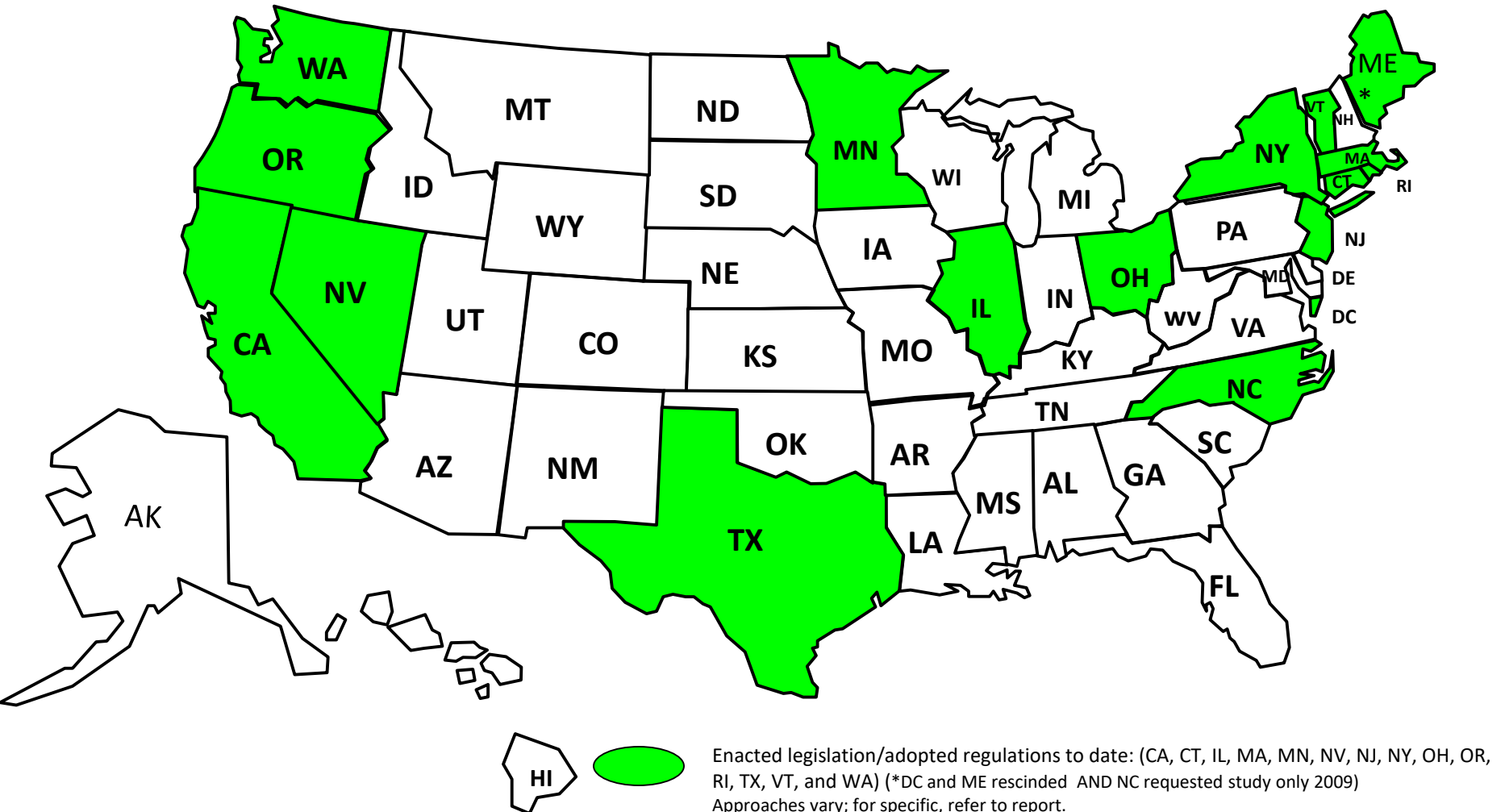Require hospitals to have a staffing committee which create staffing plans.

Mandate specific nurse to patient ratios.

Require facilities to disclose staffing levels to the public and regulatory agency.

The American Nurses Association's Nationwide State Legislative Agenda

NURSE STAFFING

Enacted legislation/adopted regulations to date: (CA, CT, IL, MA, MN, NV, NJ, NY, OH, OR, RI, TX, VT, and WA) (*DC and ME rescinded AND NC requested study only 2009) Approaches vary; for specific, refer to report.

September 2015

How would you define safety culture?

A commitment to safety at all levels, frontline providers, managers and executives.

This commitment establishes a "culture of safety":

- acknowledgment of the high-risk nature of an organization's activities and determination to achieve consistently safe operations

- a blame-free environment where individuals are able to report errors or near misses without fear of reprimand or punishment

- encouragement of collaboration across ranks and disciplines to seek solutions to patient and staff safety problems

- organizational commitment of resources to address safety concerns

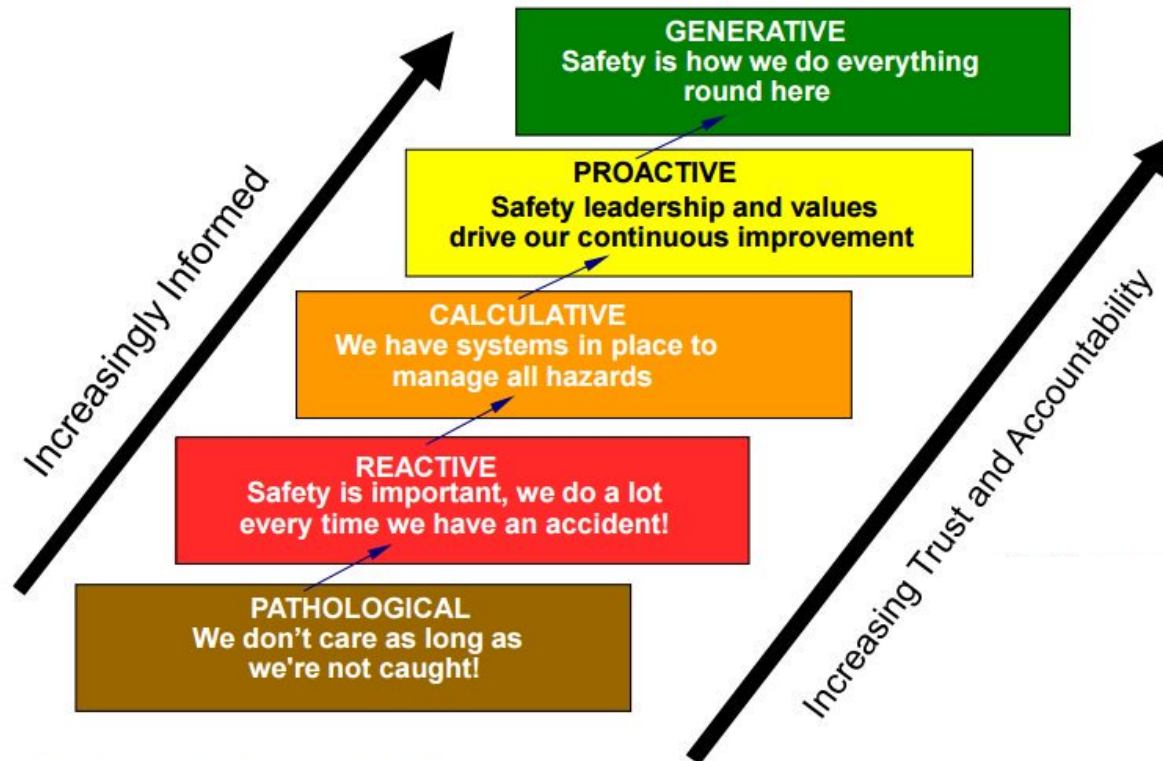Source: Adapted from Agency for Healthcare Research & Quality
https://psnet.ahrq.gov/primers/primer/5/culture-of-safety

Define these key elements in Safety Culture

How would you rate your employment?

Types of Safety Cultures

Credit: Prof Patrick Hudson

References

1. Aiken, Linda H., et.al, "**Nurse Staffing and Education and Hospital Mortality**," The Lancet, February 2014.

2. ANA White Paper "Optimal Nurse Staffing To improve Quality of Care and Patient Outcomes: Executive Summary" September 2015. http://www.nursingworld.org/DocumentVault/NursingPractice/Executive-Summary.pdf

3.. Ann Kutney-Lee, PhD, RN,* Eileen T. Lake, PhD, RN, FAAN,† and Linda H. Aiken, PhD, RN, FAAN‡2 "**Development of the Hospital Nurse Surveillance Capacity Profile**" https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2906760/

4. Cimiotti, Jeannie P. et.al, "**Nurse Staffing, Burnout and Health Care Associated Infections**," American Journal of Infection Control 40.6 (August 2012).

5. (Dall T., Chen Y., Seifert R., Maddox P. & Hogan P. (2009) **The Economic Value of Professional Nursing.** Medical Care 47, 97–103.)

6. Charles Hagood, Partner, Press Ganey Consulting Services. **A Place for Everything and Everything in Its Place: Standardization of the Health Care Environment**. Partner, Press Ganey Consulting Services. Industry Edge A Press Ganey Publication   June 2017.

7. Fuller Thomas P. Quitting Time: The Culture and Adverse Outcomes of OT in Health Care.

References

- 8. Harris, Shelton Terah. "Personal Safety for Nurses". Minority Nurse Bullying Magazine. July 1, 2015. http://minoritynurse.com/personal-safety-for-nurses

- 9. Hughes, Ronda G., "**Patient Safety and Quality: An Evidence-Based Handbook for Nurses**", (Rockville, MD: Agency for Healthcare Research and Quality, 2008.)

 10. Joint Commission on the Accreditation of Hospital Organizations, 2002.

 11. Kane, Robert L. et.al. "**Nurse Staffing and Quality of Patient Care**," AHRQ Publication No. 07-E005, Evidence Report/Technology Assessment # 151, March 2007).

- 12. Leaper, Lucian, et.al. "**System Analysis of Adverse Drug Events**." Journal of the American Medical Association, 274(1): 35-43.

- 13. Needleman, Jack, et.al "**Nurse Staffing and Inpatient Hospital Mortality**" N Engl J Med 2011; 364:1037-1045March 17, 2011DOI: 10.1056/NEJM

References

- 14. Needleman, Jack, et.al. "**Nurse-Staffing Levels and the Quality of Care in Hospitals."** N Engl J Med 2002; 346:1715-1722 May 30, 2002 DOI: 10.1056/NEJMsa012247

- 15. Rosin, Tamara., **Hospitals Face Unprecedented Turnover, Attrition rates: 4 survey findings.** Becker's Hospital Review, May 11 2017. http://www.beckershospitalreview.com/human-capital-and-risk/hospitals-face-unprecedented-turnover-attrition-rates-4-survey-findings.htm

- 16. Stone, Patricia W. etlal., "**Nurse Working Conditions and Patient Safety Outcomes",** Medical Care, Volume 45, Number 6, June 2007

- 17**. The Role of Workplace Safety and Surveillance Capacity in Driving Nurse and Patient Outcomes.** http://healthcare.pressganey.com/2016-Nursing-Special-Report?elqCampaignId=1206

- http://www.pressganey.com/resources/white-papers/the-role-of-workplace-safety-and-surveillance-capacity-in-driving-outcomes

References

18. Thew, Jennifer, RN, "**Work Environment Strongly Influences Nurse and Patient   Outcomes**", November 29, 2016. http://www.healthleadersmedia.com/nurse-leaders/work-environment-strongly-influences-nurse-and-patient-outcomes

 19. Tubbs Cooley, et al. "Nurses Working Conditions and Hospital Readmission Among Pediatric Surgical Patients." BMI Quality and Safety in Health Care, 2012.

 20. Vahey, Doris C. et al. Nurse Burnout and Patient Satisfaction, Med Care, 2004, February 412 (Suppl) 1157-1166

- **POST:**
- **Addressing the other elephant in the hospital room: Our 2017 Industry Survey**
- Posted by admin on May 11, 2017 in The LFT Blog.
- http://www.leadersfortoday.com/addressing-the-other-elephant-in-the-hospital-room-our-2017-industry-survey/
- Charles Hagood