

Identifying Vulnerable Populations at Heightened Risk for Medical Error

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Specific Objectives

- Identify specific populations which may be at heightened risk for medical error
- Identify practices within one's own organization that have the potential to increase risk to these populations
- Strategize about proactive interventions for aimed at reduction of risk

Specific Characteristics

- Isolation for infection control
- Low English proficiency
- Low health literacy
- Racial and ethnic minorities
- Patients at the end of life

Traditional Contexts

- Type of error
- Care process
- Clinical provider
- Clinical setting

This Make Sense ...

- High acuity
- High complexity
- High mortality

And We Know This

- Risk is not homogenous
- Risk is not random

Ultimate Goal

- Understanding patient populations with higher risk for adverse outcomes secondary to medical error may allow us to make changes
- “Unless we make substantial changes in the organisation and delivery of health care, all patients—particularly the most vulnerable—will continue to bear the burden of medical error.”

Weingarten



Patients in Isolation

Photo: www.novinite.com

A skilled nursing facility (SNF) patient presents to the emergency room with chest pain. He undergoes urgent cardiac catheterization and is admitted to the Coronary Care Unit. Because of a vague history of a Methicillin resistant *S. aureus* (MRSA) infection noted on paperwork from the SNF, contact isolation precautions are ordered and implemented. Signs are placed on the door and all providers “gown and glove” before entering his room. As a consequence of the change in workflow patterns, his nurse doesn’t complete groin assessments every 15 minutes as ordered during the first hour. Twenty-five minutes elapses between assessments and the nurse enters the room to find that the patient is hemorrhaging from his femoral puncture site. Further evaluation reveals that Mr. Hastins has a remote history of a MRSA pneumonia and the isolation precautions ordered were unnecessary.

Adapted from Mattox (2010) *Crit Care Nurse*, 30:61-70

Isolation

- A cornerstone of hospital infection control
- Beliefs about the benefits are strongly held
- Unintended consequences which are often under-appreciated

Kirkland (2009) *Clin Infect Dis*, 48:766-71

But Isolated From What?

- Less contact time with providers even when acuity is higher
- Less likely to have a daily note
- Less likely to be examined by an attending physician in academic settings
- Vitals more likely inaccurate, incomplete or not completed as ordered

Evans et al. (2003) *Surgery*. 134:180-8.

Saint et al. (2003) *Am J Infect Control*. 31:354-6.

Stelfox et al. (2003) *JAMA*. 290:1899-1905.

Impact of Isolation

- Statistically higher number of reported incidents with potential for harm
- Specifically IV related, medication and treatment errors
- Eight times more likely to experience a “failure of supportive care”

Spence et al. (2011) *Am J Infect Control*; 39:154-55

Stelfox et al. (2003)

Possible Contributing Factors

- PPE limits effective patient assessment
- Disincentive to enter the room
- Reduced patient participation in planning
- Bundling of care
 - Reduction of surveillance

Common Conclusions

- While mortality rates have not been shown to be higher, it is clear that the pattern of care delivery is different for patients in isolation
- Large scale studies are needed to fully determine the impact of isolation

Isolation: Not Benign

- Proactively evaluate the need for isolation
- Discontinue as soon as medically appropriate
- Standardize isolation practices
- Consider the impact on work flow and staffing needs

Kilpatrick et al. (2009) Br J Infect Control; 4(6):19-25
Spence et al. (2011)

Google translate

From: English To: Spanish Translate

Type text or a website address or [translate a document](#).

Low English Proficiency

Low English Proficiency

- Limited ability to read, speak, write or understand English
- More than 230 languages are spoken or signed in the United States
- In Washington state, 14% reported that a language other than English was spoken at home

Gordon RG. Ethnologue: Languages of the World. 2005
2000 US Census data

Do You Understand Me?

- Level of proficiency tends to be overestimated by patients and providers

Wilson-Stronks and Galvez (2007) Hospitals, Language, and Culture: A Snapshot of the Nation.

A 13-year-old girl is discharged after a short admission to a hospital because of abdominal pain. At discharge, her parents were advised follow up with a physician in 3 days or if her symptoms worsened. The parents misunderstood this message as instructions to wait for 3 days before seeking additional care. Two days later, "unable to wait", they brought the girl to a local emergency room. Although she was airlifted to a tertiary care setting, she died of a ruptured appendix.

As described by Scioscia A. Phoenix New Times. June 29, 2000.

Impact of LEP

- Experience adverse events culminating in physical harm at rates over 50% higher than non-LEP patients
- Degree of harm is higher
- Events are related to communication

*Divi C et al (2005) Abstr AcademyHealth Meet. Abstract no. 3308.
Divi et al (2007) Int J Qual Health Care. 19;60-67.*

Can You Imagine This?

- Evaluation of communication exchange during end of life discussion with interpreters
- Alterations in communication - 55% of the time
 - 75% of these had potentially significant clinical consequences
 - Impact included transfer of information, reduced emotional support, and reduced

Pham et al. (2008) Chest. 134;109-116

The Law

- Title VI of the 1964 Civil Rights Act and a 2000 Executive Order require:
 - "Meaningful access" for individuals with LEP to federally conducted and funded programs

*Chen et al. (2007) J Gen Intern Med. 22(Suppl 2):362-367.
Moreno MK et al. (2007) J Gen Intern Med. 22(Suppl 2):331-335.*

The Reality

- Regulations are vague and poorly enforced
- Funding is scarce
- Medical interpreter services are scarce

*Chen et al. (2007) J Gen Intern Med. 22(Suppl 2):362-367.
Moreno MK et al. (2007) J Gen Intern Med. 22(Suppl 2):331-335.*

Interpretation: It's a Skill

- Native or near native formal language proficiency
- Analytical skills
- Cultural knowledge

The Message Gets Altered

- Polish
- Omit
- Edit
- Add information
- Mediate
- Insert opinion
- Demonstrate false fluency
- Erroneously substitute words
- Modification of message based on clinical understanding of event

Refer to references on following slide

It's What's Missing That Matters

- Omission of clinically relevant information is the most common error related to medical interpretation

Flores et al. (2003). Pediatrics. 3: 6-14.

Moreno MR et al. (2007) J Gen Intern Med. 22(Suppl 2):331-335.

Txabarriaga R. (2009) IMIA Guide on Medical Translation.

Perilous Interpreters

- Dual role interpreters
 - Employees 'sanctioned' by the organization
 - In one study, only 1:5 dual role (RNs) had sufficient skills to serve as MIs
- Ad hoc interpreters
 - Family, friends, children, untrained clinical

Moreno MR et al. (2007) J Gen Intern Med. 22(Suppl 2):331-335.

Pero tengo una A en español!

- Yes, but can you precisely, accurately, correctly, consistently and completely interpret clinically relevant information?

What We Need

- Funding
- Consistent and clear standards for services
- Development of medical interpreter workforce
- Adequate reimbursement for services
- Increased understanding of the law by patients, providers and administrators
- A consistent message from healthcare

Until Then ...

- Avoid ad hoc interpreters
- Ensure competency of dual role interpreters
- Make services readily available
 - 2009 study showed residents "getting by"
- Ensure providers know how to work with MIs
 - Speak directly to the patient, verify of understanding of message & debrief

Diamond et al. (2009) J Gen Intern Med 24:256-262.



Health Literacy

Photo: www.healthcarepackaging.com

Health Literacy

- The degree to which individuals have the ability to obtain, process and understand basic health information and services needed to make appropriate health care decisions*
- Believed to effect “nearly half” the population

**As defined by the US Department of Health and Human Services Joint Commission (2007) Health Literacy Press Kit*

Well, that's one way to take a “Z-pack” ...

With permission from my own family

Health Literacy Requires

- Numerical literacy
- Ability to communicate
- Ability to fill out forms
- Understanding of concepts such as risk and probability

Impact

- Annual cost \$106-\$238 billion
- Attributed in part to longer length of stays, delay in seeking care, suboptimal adherence to plans of care and errors

Vernon JA et al. (2007) National Patient Safety Foundation report.

Manifestations

- Failure to follow instructions
- Inability to articulate signs and symptoms
- Inability to recognize signs and symptoms
- Misuse of resources
- Lack of understanding of treatment options

A Moving Target

- Depression
- Pain
- Stressors
- Hypoxia
- Narcotics
- Delirium
- Chemotherapy
- Sleep deprivation
- Fear
- Low perfusion states

Who is Most Impacted?

- Patients over 65 years old
- Members of racial and ethnic minority groups
- Immigrants
- Patients with low socioeconomic status
- Patients with chronic physical or mental illness

Reducing the Risk

- Informal and formal interval assessments
- Listen to the questions
- Collaborative management
 - Patient, family & multidisciplinary team
- Review and revision of educational materials and strategies
- Practice clear communication for all patients



Racial and Ethnic Disparities

After complicated abdominal surgery, an African American woman acquires a large decubitus ulcer on her sacrum. As a result, she has an increased length of stay and could require a prolonged stay at a skilled nursing facility for wound care. For reasons not yet understood, she was at higher risk for decubitus ulcer because of her race

Adapted from Mattox (2010) Crit Care Nurse, 30(6)-70

Racial and Ethnic Disparities

- Provokes emotional response, discomfort and charged “debate”
- Disparities in health outcomes among racial and ethnic minorities are well recognized
- Research into disparities in incidence and outcomes related medical error is relatively recent

1.2 Million Events . . .

- All White patients had a slightly higher risk of certain iatrogenic injuries related to procedures
- African Americans had a higher risk of most “medical and nursing-related post operative complications”
- Fatal and “sentinel” event incidence did not differ
- Hispanic patients had the lowest risk of PSI

Romano et al (2003) Health Affairs. 22:154-166.

VHA PSI Study

- All racial groups had some of the highest rates and all minority groups had some of the lowest rates.

Shimada et al. (2008) Advances Patient Safety, vol. 1.

Medication Error

- Two characteristics among 272 variables were found to be independently significant for medication error: race/ethnicity and gender
- The odds ratio for “all other races” as compared with Caucasians was 0.57

Matsen Picone et al. (2008) Am J Med Qual. 23: 115-127.

Events During Trauma Care

- African American patients were 20% more likely than other groups to experience a “patient safety event”

Chang et al. (2008) Ann Surg. 247:327-334.

Proposed Causes

- Systemic differences in the way come populations are treated within healthcare
- Deviations from optimal practice
- Incongruent beliefs and expectations between patients and providers
- Prejudice and presumptions
- Higher prevalence of unassessed risk factors

Flores & Ngui (2006) Pediatr Clin North Am. 53:1197-1215
Suurmond et al. (2010) Am J Public Health 100:5113-5117

Potential Actions Questions

- What do the patterns mean?
- Does the frequency of reporting of medical error remain equal among populations?
- Are providers able to understand medical error as that which includes suboptimal care?
- What are the specific latent conditions that contribute to disparities in medical error?
- How does patient-provider racial concordance play a role in error? Reporting? Disclosure?



Patients at the End of

A young man dying of cancer is discharged home to die. His PICC line is removed; hydration and nutrition are stopped. Home hospice is arranged and his wife and sister, while deeply saddened, tell you they are "ready". One night, his respirations become labored. His family calls 911 and he is transported to the ER. The medics have ensured IV access and initiated fluid resuscitation. When the patient's wife arrives at the ER, she is distressed that he has an IV (which is now infiltrating) and is receiving hydration. The bright lights and noise of the ER were exactly what they had chosen to leave behind.

She begins to cry, saying "this is the one thing he didn't want".

Harm at the End of Life

- Unwanted treatment
- Deviation from planned course of treatment
- Uncontrolled symptoms
- Unwanted side effects from palliation
- Reduction or lengthening remaining time against wishes

Manifestations

- Increased or prolonged suffering
 - Nausea, pain, depression
- Shortening of life (or quality) against wishes
- Prolongation of life against wishes
- Unwanted treatment

Why?

- Loss of continuity of care
- Fragmentation of services
- Unplanned (or planned) transfers between facilities and care settings
- "Other" goals

"Other" Goals of Care

- Varying degrees consent for treatments
- Belief in the importance of suffering
- Comfort above all
- Dual goals - cure and comfort
- Dueling goals
 - Family, patient, providers

Reducing Risk

- Plan appropriately and proactively for predictable changes in status
 - Transfers in care
 - Unplanned admissions
- Educate and empower families and patients
 - Their primary providers may not be there

Lynn & Meyers S. (2000) Panel 3: Particular System Issues. Summary. National Summit on Medical Errors and Patient Safety Research.

Conclusion

Frames

- Non-maleficence
- Social justice
- Resource utilization and cost containment
- Brighter illumination of the 'system'

What It All Means

- There are differences in risk profiles for different populations
- The underlying reasons are complex and not always well understood
- Additional research is needed
 - Qualitative and quantitative

Small Steps

- Implementation of evidence based, quality care
- Integration of concepts into Patient Safety processes e.g. RCA, HMFEA, education
- Proactive risk reduction
- Deliberate surveillance of at-risk populations

Comments and Questions