



The Impact of Communication Barriers on Adverse Events in Hospitalized Patients

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Learner Outcomes

- 1. Identify common adverse events**
- 2. Describe communication barriers faced by hospitalized patients**
- 3. Explain the impact of adverse events on the US healthcare system**

Agenda

- **Overview And Background On Barriers To Patient Provider Communication And Adverse Events**
- **Data On Incidence & Costs Associated With Adverse Events**
- **Data On Estimated Reduction Of Adverse Events And Cost Savings If Communication Barriers Are Addressed**
- **Impact Of Addressing Communication Barriers On Patient Perceptions**
- **Questions And Wrap-up**

Background: Patient-Provider Communication

- **Effective patient-provider communication plays a role in:**
 - Medical Outcomes
 - Patient Satisfaction
 - Nurse/Caregiver Satisfaction
- **Barriers to effective patient-provider communication include:**
 - Physical Limitations (e.g. Access To Nurse Call)
 - Inability To Speak Or Write
 - Linguistic Barriers

Background: Patient-Provider Communication

Care Standards Mandate that patients must be able to summon help and effectively communicate with their caregivers.

- **The National Joint Committee's Communication Bill of Rights (1992) identified communication as a basic right and declared that individuals with impaired communication have the right to functional assistive technology.**
- **The Joint Commission (2010) has deemed effective communication, cultural competence, and patient- and family-centered care vital components of safe, quality care and has made that part of their accreditation standards.**

Background: Patient-Provider Communication

Ideally patients should be able to

- **Summon help by accessing nurse call system.**
- **Communicate why they summoned help.**
- **Unfortunately many patients can't**
 - **In intensive care units**
 - **33% of conscious patients can't access the nurse call**
 - **33% of conscious patients can't speak because of mechanical ventilation**
 - **In non-intensive care units**
 - **9% of conscious patients can't access the nurse call**

(Zubow & Hurtig 2013)

Adverse Events-1

- The Institute of Medicine report, *To Err Is Human: Building a Safer Health System*, highlighted the pervasive problem of adverse events (AEs) in health care (Kohn et al, 2000).
- A key element of that report was the differentiation of preventable AEs from unavoidable AEs.
- What was startling was that the preventable AEs may have contributed to somewhere between 44,000 and 98,000 deaths in US hospitals each year.
- *Adverse Drug Reactions, Ventilator Associated Pneumonias, Pressure Ulcers and Patient Falls* are among the most prevalent preventable AEs.

Adverse Events-2

- **The Department of Health and Human Services (HHS) report on the incidence of Medicare beneficiaries' adverse events (Levinson, 2010) revealed that 13.5% of patients had experienced AEs.**
- **1.5% percent of patients had experienced adverse events that contributed to their deaths.**
- **As a result of their inability to effectively communicate with medical providers, approximately 15,000 Medicare patients' had died.**
- **Despite increased hospital awareness of patient safety, 18% of admitted patients were harmed by medical interventions with 63% of those injuries would have been preventable. (Landrigan et al., 2010)**

Adverse Event Risk

- **Patients with communication impairments 3x more likely to experience a preventable adverse event than patients without communication impairment (Bartlett et al., 2008).**
 - Physical barriers
 - Linguistic barriers
- **Communication /Language Barriers also impact adverse events in the hospitalized pediatric population.(Cohen 2005).**

Determining the Rate & Cost of Preventable Adverse Events

- **We used AHA and HHS/AHRQ national data to**
 - Obtain data on incidence of AEs
 - Obtain current costs associated with treating preventable AEs

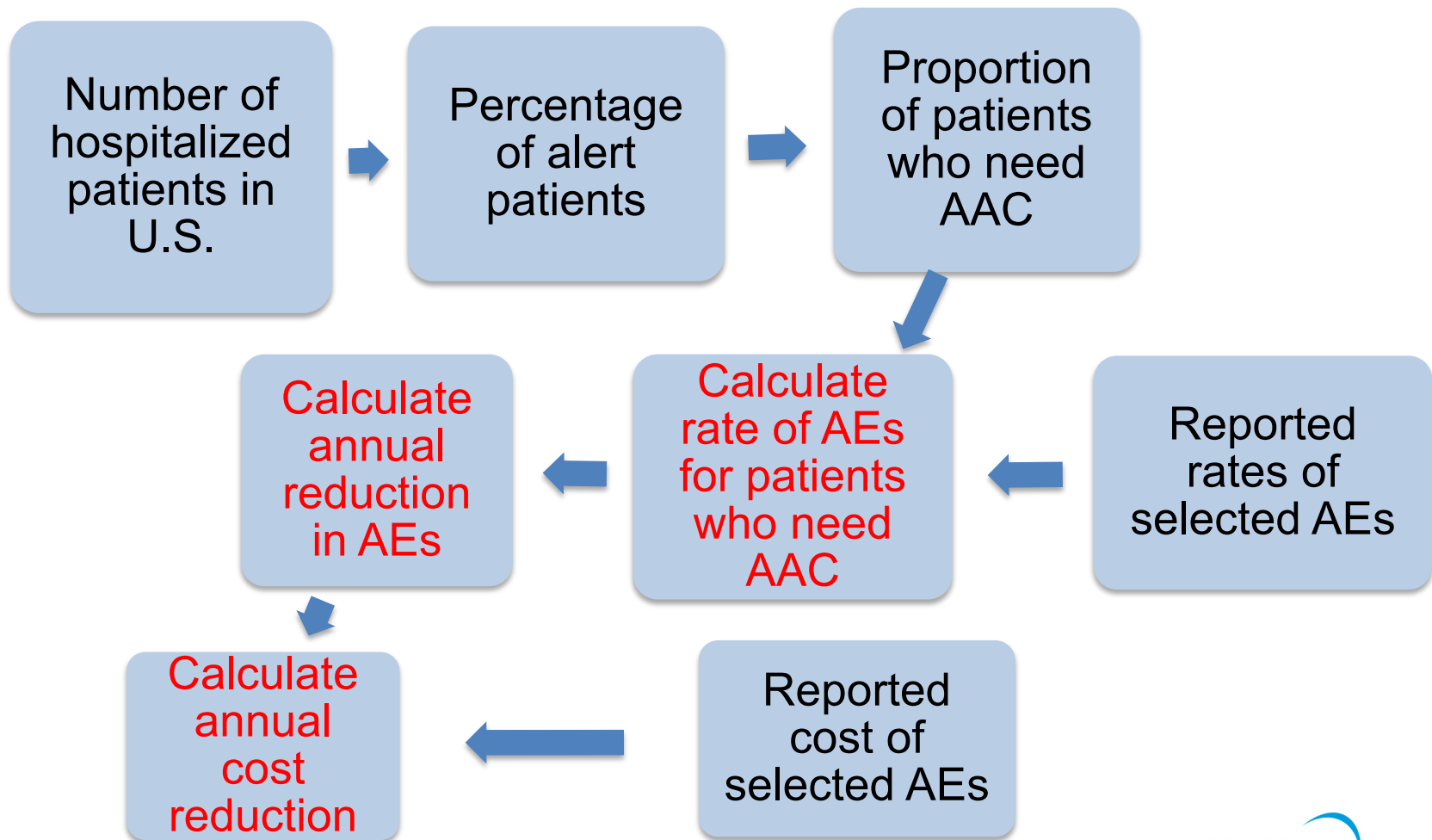
Adverse Events & Associated Costs

Adverse Event	Annual Number of Cases	Average Cost Per Case
Pressure Ulcers	1,151,021	\$17,000
Ventilator-Associated Pneumonia	38,958	\$21,000
Patient Falls	254,995	\$7,234
Adverse Drug Reactions	1,427,266	\$5,000

Determining the Impact of Communication Barriers on Adverse Events

- **Estimate % of inpatient population facing a communication barrier**
- **Partition incidence rates for the increased risk populations**
- **Estimate the incidence and costs associated with the increased risk**
- **Estimate the potential reduction in AEs if hospitals address communication barriers**
- **Estimate the cost savings to hospitals from the reduction in AEs**

Calculating Risk and Cost Reduction



Annual Reductions in AE Occurrence and Cost Patients with **either AT or AAC** Barrier

Adverse Event	Annual Reduction in Number of Cases	Annual Cost Savings (\$ Millions)
Pressure Ulcers	221,820	4,000
Ventilator-Associated Pneumonia	1,888	40
Falls	49,141	355
Adverse Drug Reactions	275,057	1,400
Total	547,906	5,795

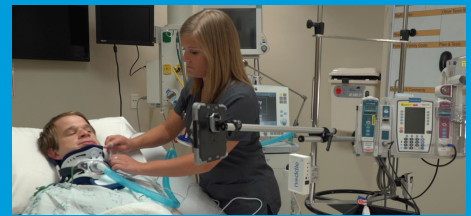
Annual Reductions in AE Occurrence and Cost Patients with **both AT and AAC** Barrier

Adverse Event	Annual Reduction in Number of Cases	Annual Cost Savings (\$ Millions)
Pressure Ulcers	49,750	846
Ventilator-Associated Pneumonia	1,073	23
Falls	11,022	80
Adverse Drug Reactions	61,690	308
Total	123,535	1,257

Reducing Risk For All Patients Experiencing A Communication Barrier

671,440 Fewer AEs Annually
\$6.8 billion Annual Cost Savings

Next Steps: Eliminate Barriers



Voxello noddle™ Clinical Trial (ongoing)

- **Provide access to nurse call and speech generating device**
- **Study Groups**
 - Traditional Access and Communication (*full-access controls*)
 - No Access and Impaired Communication (*no-access controls*)
 - Voxello AT/AAC system (*noddle group*)
- **Outcomes Measures**
 - Patient exit surveys

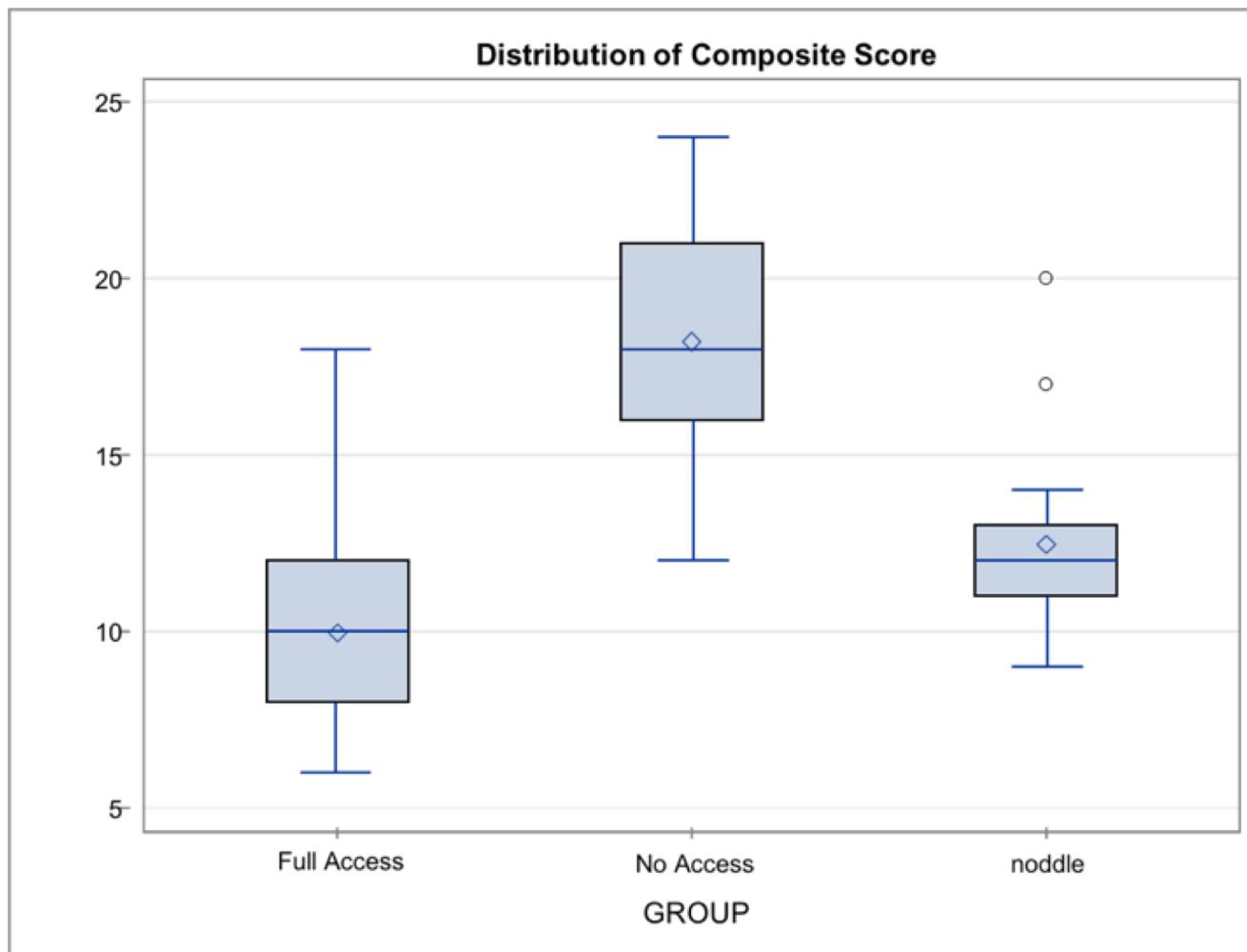
Patient Survey

- **5-Point Likert Scale (strongly agree-strongly disagree)**
- **Survey items**
 - I was able to independently summon help when I needed it.
 - I had no way to let others know if I needed help or was in pain.
 - I was not able to independently get my nurse to assist me.
 - Having the ability to call my nurse made me feel more at ease.
 - Using my nurse call allowed me to help my nurse take better care of me.
 - Having access to my nurse call did not increase my independence.

Preliminary Results

control groups n=100, noddle=18

F= 99.88 p<.0001



Composite Score (lower score is better)

Group Comparisons

Tukey's Studentized Range Test (HSD) for Composite Scores				
Group Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		Significance Level
Full Access-No Access	-8.2637	-9.6650	-6.8624	0.05
Noddle-No Access	-5.7578	-7.8250	-3.6907	0.05
Full Access-noddle	-2.5059	-4.5635	-0.4483	0.05

Summary

- **Reducing risk for patients experiencing communication barrier**
 - 671,440 fewer AEs annually
 - \$6.8 billion annual cost savings
- **Facilitating patient-provider communication is both an ethical imperative and an essential part of a multi-pronged approach for reducing the human and financial cost of preventable AEs.**

Questions



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