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Providing Access to Hospitalized Patients: A Clinical Trial

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- The UIHC research team includes: Rebecca Alper, Ph.D., Karen Bryant, Ph.D., Debora Downey, Ph.D., Karen Stenger, RN & Michele Wagner, RN

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Speaker Disclosures

- Richard Hurtig, Ph.D. is Professor Emeritus in the department of Communication Sciences & Disorders at The University of Iowa and is a Fellow of the American Speech & Hearing Association. He directs the UI Assistive Devices Laboratory and is also the Chief Scientific Officer of Voxello.
- Speaker is a Founder of Voxello and has a financial stake in the company.

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Learning Objectives

1. Identify three adverse medical outcomes exacerbated by communication barriers.
2. Identify two factors that impact patient-provider communication.
3. Describe the differences in the study groups perceptions of being able to summon help and effectively communicate with caregivers.

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For Effective Care, Every Patient Needs To Communicate.

3.9 million
Can't communicate



35.1 million
US inpatients

Percentage of ICU patients unable to access nurse call	Percentage of ICU patients unable to use speech call
33	33

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Elements of Patient-Provider Communication

Patient	Provider
<ul style="list-style-type: none"> • Summon help • Communicate needs • Participate in care & decision making • Maintain personal identity & personality 	<ul style="list-style-type: none"> • Respond to summon for help • Understand patient needs • Engage patient in care & decision making • Treat patient, not only the disease



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Individuals With Complex Communication Needs (CCN)

- Acute and Temporary conditions
 - due to trauma, acute disease or surgery
- Pre-existing conditions
 - due to developmental disorders (CP, MD)
 - due to acquired disorders (ALS, PD)
- Individuals With Limited English Proficiency



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Preventable adverse events pose a significant ethical and financial burden on the United States health care system.

Adverse Event	Number	Average Cost	Total Cost
Adverse Drug Reaction	1,427,266	\$5,000	\$7.1 Billion
Falls	254, 995	\$7,234	\$1.8 Billion
Pressure Ulcer	1,151,021	\$17,000	\$19.5 Billion
Ventilator Associated Pneumonia	38,958	\$21,000	\$818 Million



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Nurses' Communication Strategies

Communication strategy	Percentage of nurses indicating use of strategy
Paper and pencil	96
Picture or symbol board	80
Lip reading	70
Alphabet boards	65
Electronic voice output device	46
Sign language	35
Other (Downey 2009)	18

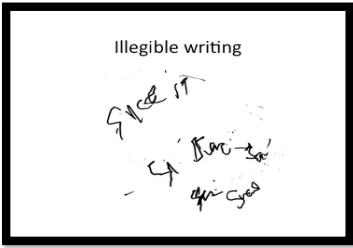
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Paper & Pencil Strategy

**Problem with
Paper & Pencil**

Illegible writing





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Alphabet & Symbol Boards

**Problem with
alphabet and
symbol boards**


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Lip Reading

Problem with Lip Reading



A difficult skill	McGurk Effect
Not all speech sounds are visible Oral intubation makes it hard to articulate clearly	What you perceive is biased by <ul style="list-style-type: none"> What you are expecting What you see What you hear




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Problem With Stand Alone Electronic Voice Output Devices


Problem with stand alone electronic voice output devices



Impact of Communication Barriers

<u>Patient Experience</u>	<u>Nurse/Caregiver Experience</u>
<ul style="list-style-type: none"> Frustration/Stress Inability to maintain autonomy and personality Risk of Adverse Events Risk of Delirium Increased LOS Perceived Value of Care Family Perception of Care 	<ul style="list-style-type: none"> Frustration/Stress Inability to see the patient and understand the patient's needs Potential for Errors in Cares Wasted time Extra cares Burnout



Current State of Affairs

How did we get here?

- Limited communication protocols for patients who have limited communication abilities
- Communication barriers associated with higher risks for preventable AE's, which cost hospitals money
- Communication barriers impact patient satisfaction, which influence reimbursement rates for hospitals
- Joint Commission standards mandate that hospitals address communication barriers

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Healthcare drivers for change

External

- As of 2008, all costs resulting from a preventable adverse event are borne by the hospital
- In 2012 the Joint Commission hospital accreditation standards mandate that all patients are provided effective means of communication with caregivers

Internal

- Hospital understand they have a critical responsibility to reduce preventable adverse events
- A chief focus for most hospitals involves empowering patients and caregivers in planning and executing the care process that leads to shorter length of stay and improved patient satisfaction

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A Potential Solution to these problems



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What is the noddle®?

The diagram illustrates the noddle device, a small blue circular unit, connected by blue lines to four circular inset images. These insets show: a patient's head with a white tube in their mouth, a hand holding the noddle device, a patient's face with a white tube in their mouth, and a hand holding the noddle device. A central circular image shows a patient's bed with a screen displaying a grid of icons.

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What is the noddle-chat™

The image shows a tablet device mounted on a stand, displaying a grid of 12 icons. The icons represent various functions: Nurse, Feelings, Date & Time, Pain, Pain Meds, Entertainment, Chat, Room Controls, TV, Help, Personal, and Type.

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noddle®

Voxello® Clinical Trial

- The study is designed to determine if provision of Voxello's noddle® and noddle-chat™ significantly improves patients' ability to summon their nurses and effectively communicate.
- The study compares
 - **no-access group** (patients with no effective treatment options)
 - **full-access group** (patients who have current treatment options)
 - **noddle® group** (patients for whom the noddle® is the only treatment option)

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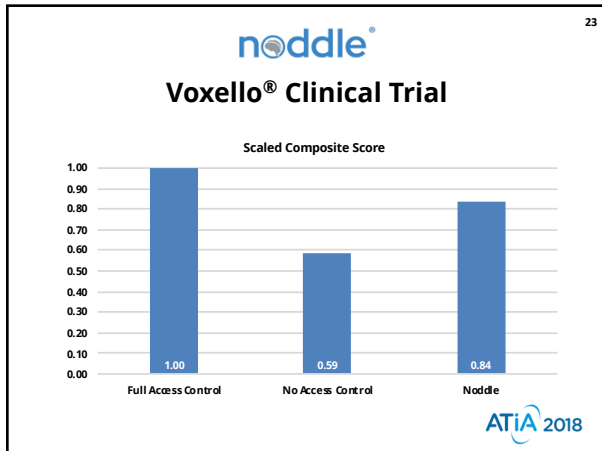


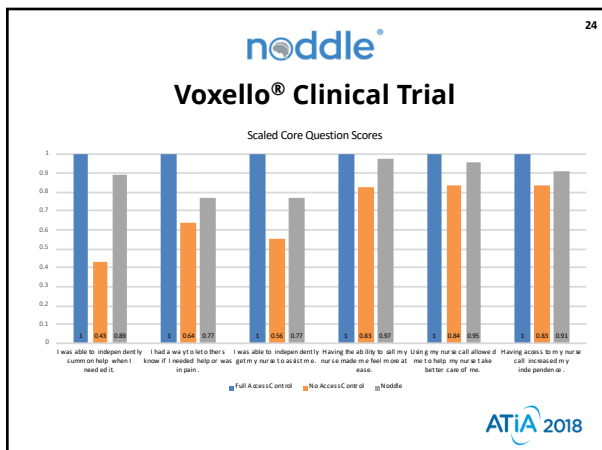
Voxello® Clinical Trial

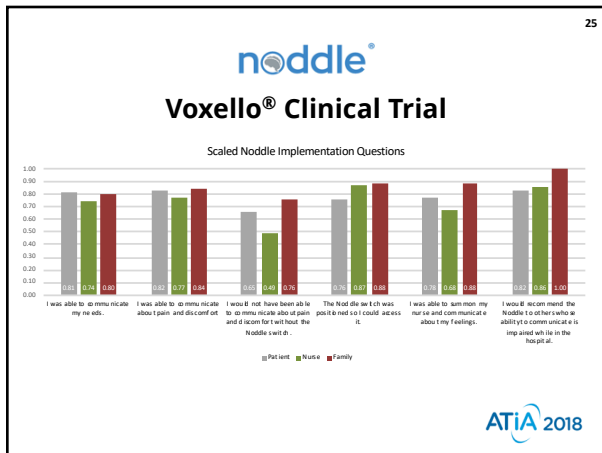
Primary Data:

- The primary data is derived from exit survey questionnaires administered on the day of or the day prior to a patient's discharge from the hospital.
- The questionnaires are comprised of statements that are evaluated on a 5-point Likert scale.
- In addition, a text box is provided for open-ended responses/comments.









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Voxello's Technology Addresses Patients' Communication Barriers: ROI Potential

- Patients who experience communication barriers are at a 3 times higher risk of experiencing an AE.
- Addressing communication barriers can lead to
 - 671,440 fewer AEs annually
 - \$6.8 billion cost reduction
 - Lower malpractice claims
 - Higher patient satisfaction
 - Lower staff stress

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