Utilizing assistive technology to overcome communication barriers in intensive care settings.
利用辅助技术克服重症监护环境中的沟通障碍

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IOWA Dept of Communication Sciences and Disorders

Today's presentation will describe how utilizing assistive technology can be used to overcome communication barriers in intensive care settings. You can find the text of my presentation and a rough translation into Chinese in the PDF of this presentation.

今天的演讲将探讨如何利用辅助技术克服重症监护环境中的沟通障碍。

您可以在本次演讲的PDF文件中找到我的演讲文本及其粗略的中文翻译。

Communication Challenges in Acute Care
急性护理中的沟通挑战

Dept of Communication Sciences and Disorders

Imagine waking up in the intensive care unit. You are on a ventilator, and you can't move. You want to know where you are and what is going on? How would you get someone's attention and once you got their attention, how would you communicate with them? If you hadn't planned ahead and had not prepared an advanced medical directive, how would you let folks know what you wanted them to do. If you did have an advance medical directive on file, how would you let people know if you wanted them to follow it or if you wanted to make any changes. This can be a pretty stressful and depressing situation- but the takeaway message from this presentation should be that this is a problem we can address.

想象一下，你在重症监护室醒来，靠着呼吸机，动弹不得。你不知道自己身在何处，又在经历什么？
你如何引起别人的注意？一旦你引起了他们的注意，你该如何与他们沟通？如果你没有提前计划，也没有准备好预先指示，你该如何告诉别人你希望他们做什么？如果你有预先指示，你该如何告诉别人你是否希望他们遵循，或者你是否想做出任何改变？
这种情况可能会让人感到压力和沮丧——但本次演讲的重点是，这个问题我们可以解决。

Effective Patient-Provider Communication in Acute Care
急症护理中有效的医患沟通

Patient	Provider
• Summon help • Communicate about needs • Participate in care & decision making • Maintain personal identity & personality	• Respond to summons for help • Understand the patient's needs • Engage the patient in care & decision making • Treat patient, not only the disease

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Historically patient-provider communication was seen as a one directional exchange of information from the care provider to the patient. This more paternalistic mode of communication has hopefully evolved into a more bidirectional one in order to have patients more actively engaged in their care and thereby achieve better outcomes. Thus, the patients are becoming partners in care and providers shift from just treating diseases to treating the particular patient with the disease. The Joint Commission's U.S. hospital accreditation standards mandate that hospitals address patients' communication needs and preferences. Of the few communication protocols that are in place, many leave patients, who have limited use of their hands and who cannot speak, still facing barriers to effective patient-provider communication.

过去，医患沟通被视为医护人员与患者之间的单向信息交换。这种家长式的沟通模式有望演变为双向沟通，以便患者更积极地参与到护理中，从而获得更好的治疗效果。因此，患者正在成为护理的合作伙伴，医护人员也从单纯的疾病治疗转向针对特定患者进行治疗。美国联合委员会的医院认证标准要求医院满足患者的沟通需求和偏好。在现有的少数沟通协议中，许多协议仍然阻碍着那些行动不便、无法说话的患者进行有效的医患沟通。

Scope & Extent of the Problem
问题的范围和程度

11% of hospitalized patients in the U.S. can't summon help or communicate with their caregivers.

Between **33%** and **50%** of conscious ICU patients face communication barriers.

Types of Patients Facing Communication Barriers

- **Acute and Emergent Conditions:** Trauma or Disease (e.g., Covid-19, Guillain Barre, ALS)
- **Chronic Conditions:** Cerebral Palsy, Muscular Dystrophy, Multiple Sclerosis, Para- and Quadriplegia, Parkinson's Disease
- **Limited language proficiency**

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Over 11% of patients in US hospitals are unable to communicate with their caregivers. For some the inability to communicate is short term while for others the loss will be permanent. A study by Zubow & Hurtig (2013) found that as many as 33% of conscious ICU patients are unable to access the nurse call system or effectively communicate with their caregivers. Similarly, Happ et al. (2015) found that 50% of their mechanically ventilated patients met their criteria for needing communication assistance. Thus, there are a lot of hospitalized patients with complex communication needs. For some, the inability to effectively communicate is due to the trauma or illness that resulted in their hospitalization. For others, it may be some preexisting condition that renders them unable to speak and unable to utilize the conventional nurse call system. Finally, some patients are unable to effectively communicate because they are not proficient in the language used by the hospital staff.

美国医院中超过 11% 的患者无法与护理人员沟通。对某些人来说，沟通障碍是短期的，而对另一些人来说，沟通障碍则是永久性的。Zubow 和 Hurtig（2013 年）的一项研究发现，高达 33% 的意识清醒的 ICU 患者无法使用护士呼叫系统或无法与护理人员进行有效沟通。同样，Happ 等人（2015 年）发现，50% 的呼吸机辅助患者符合需要沟通协助的标准。
因此，许多住院患者的沟通需求非常复杂。对于一些患者来说，无法有效沟通是由于导致他们住院的创伤或疾病。对于另一些患者来说，可能存在一些先前存在的疾病，使他们无法说话和使用传统的护士呼叫系统。最后，一些患者无法有效沟通是因为他们不熟练掌握医院工作人员使用的语言。

A Problem for Patients and Healthcare Systems
患者和医疗保健系统面临的问题

Patients who face barriers to effective communication are **three** times more likely to experience a preventable hospital acquired condition (**HAC**).

面临有效沟通障碍的患者罹患可预防的医院内感染疾病的可能性是其他患者的三倍

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The Bartlett et al. 2008 study reported that patients who experience communication barriers are at a heightened risk of experiencing a preventable hospital acquired condition such as decubitus ulcers, aspiration pneumonia, drug reactions and falls.

Bartlett 等人于 2008 年进行的一项研究报告称，沟通障碍患者罹患可预防的医院内获得性疾病（如褥疮、吸入性肺炎、药物反应和跌倒）的风险较高。

Barriers to Effective Patient-Provider Communication: Patient
有效的医患沟通障碍：患者

- **An inaccessible nurse call**

- **A lack or limitation to use oral speech production**

- **Sensory deficits (hearing)**

- **An inability to physically write**

- **Cognitive-linguistic issues that can impact comprehension and expression.**

- **Cultural-Linguistic differences**
  - **Limited proficiency in the language used by the caregiver**

- **Literacy Barriers-due to poor proficiency in reading or visual impairment**

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Patients must be able to summon their caregivers, participate in their cares and be effective in how they communicate about their feelings, needs and desires. The patient-centric barriers to effective patient-provider communication include:
1) The inability to use the nurse call system to summon help.
2) The inability to express themselves orally.
3) The inability to hear or see their caregivers
4) The inability to use writing to communicate
5) Cognitive-linguistic deficits that can impact either comprehension or expression
6) The inability to communicate with the caregiver because of limited proficiency in the language used by the caregivers.
7) Literacy barriers that are due to either visual impairment or poor reading skills.

患者必须能够召唤护理人员，参与护理，并有效地表达自己的感受、需求和愿望。以患者为中心的护理人员有效沟通的障碍包括：
1.无法使用护士呼叫系统呼叫帮助。
2.无法口头表达。
3.无法听到或看到护理人员。
4.无法使用书面形式进行沟通。
5.认知语言障碍，可能影响理解或表达。
6.由于护理人员语言能力有限，无法与护理人员沟通。
7.由于视力障碍或阅读能力差导致的读写障碍。

**Barriers to Effective Patient-Provider Communication:
Provider/Facility
患者与医护人员有效沟通的障碍：
医护人员/医疗机构**

- PPE (personal protective equipment).
- Inadequate staffing or protocols for the identification and treatment of patients' complex communication needs.
- The absence of a wide range of communication tools and appropriate mounting of AAC devices.
- Inadequate staff training on patient-provider communication.
- Medical staff is not conversant in the language spoken by the patient and have limited access to language interpreters.
- Cultural-linguistic differences that lead to different expectations about patient-provider interactions.

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The provider or facility-centric barriers to effective patient-provider communication include:
1) The use of personal protective equipment including masks and shields that make it difficult for the patient to understand what the caregivers are saying.
2) No staff or care standard to address the needs of patients with Complex Communication Needs.
3) Limited or no communication. tools available to be deployed with the inpatient population.
4) No systematic staff training on patient-provider communication and addressing the needs of patients with complex communication needs.
5) The medical staff is not conversant in the language spoken by the patient and have limited access to language interpreters.
6) Cultural-linguistic differences that lead to different expectations about patient-provider interactions.

以医疗服务提供者或医疗机构为中心的有效医患沟通障碍包括：
1）使用包括口罩和防护罩在内的个人防护设备，导致患者难以理解护理人员的言语。
2）缺乏人员或护理标准来满足具有复杂沟通需求的患者的需求。
3）可用于与住院患者沟通的工具有限或完全没有。
4）缺乏关于医患沟通和满足具有复杂沟通需求的患者需求的系统性员工培训。
5）医务人员不熟悉患者的语言，并且难以获得口译服务。
6）文化语言差异导致对医患互动的不同期望。

The Role of Communication in Patient Bedside Care & Infection Control
沟通在患者床边护理和感染控制中的作用

- Pain Management
- Pulmonary Issues
- Adverse Drug or Blood Product Reactions
- Fall Prevention
- Medical Decision Making
- Delirium & Patient Stress

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When patients can effectively communicate with their nurses, it is much easier to care for them. Our 2018 paper in The *ASHA Perspectives in AAC*, provides some illustrative cases on how communication barriers impact the critical components of care. That paper also provides a detailed analysis of the impact of communication barriers on preventable adverse medical events:

1) When a patient can effectively communicate about pain, the caregivers can provide analgesics to relieve the pain but perhaps more importantly identify the cause of the pain. Early identification of pain can reduce the likelihood of the patient developing pressure sores and the risk of infections that can lead to sepsis and possibly death.
2) When a ventilated patient is able to communicate about difficulty breathing, they are less likely to develop pneumonia. If a patient can't communicate that they need to be suctioned, they are at a heightened risk of developing a mucus plug that could result in death.
3) When patients are given a new medication or a blood product it is important for the nurse to monitor for adverse reactions. It is critical that patients be able to effectively let their nurses know about any new sensations or pain. When they can't they are at risk of a range if adverse reactions including anaphylaxis.
4) When patients need something and can't summon help, they may try to move or reach for an object and fall and sustain injuries that require additional surgery and extend their hospital stay.
5) When patients are unable to speak, they are often left out of medical decision making even when they are fully competent and should be involved.
6) When patients are isolated, communication barriers contribute to increased stress and makes the patients more prone to experience delirium and post-ICU PTSD.

当患者能够与护士有效沟通时，护理起来会容易得多。我们2018年发表在《美国呼吸学会期刊》（AAC）上的《美国呼吸学会观点》（ASHA Perspectives）上的论文，提供了一些案例，阐明了沟通障碍如何影响护理的关键环节。该论文还详细分析了沟通障碍对可预防不良医疗事件的影响：

1) 当患者能够有效地沟通疼痛时，护理人员可以提供镇痛药来缓解疼痛，但更重要的是，找出疼痛的原因。早期识别疼痛可以降低患者出现压疮的可能性，并降低可能导致败血症甚至死亡的感染风险。
2) 当使用呼吸机的患者能够沟通呼吸困难时，他们患肺炎的可能性较小。如果患者无法沟通自己需要吸痰，他们出现粘液栓的风险就会更高，这可能会导致死亡。
3) 当患者使用新的药物或血液制品时，护士监测不良反应非常重要。至关重要的是，患者能够有效地告知护士任何

新的感觉或疼痛。如果他们无法做到这一点，就有可能出现一系列不良反应，包括过敏反应。

4) 当患者需要帮助而无法寻求帮助时，他们可能会试图移动或伸手去拿东西，从而摔倒并受伤，这需要额外的手术并延长住院时间。

5) 当患者无法说话时，即使他们完全有能力参与医疗决策，也常常被排除在外。

6) 当患者被隔离时，沟通障碍会增加压力，使患者更容易出现谵妄和ICU出院后创伤后应激障碍（PTSD）。

Barriers to Patient-Provider Communication:
Negative Impacts on the Patient and the Caregivers
医患沟通障碍：对患者及其照护者的负面影响

Patient Experience

- Frustration/Stress
- Risk of Adverse Events (HAC)
- Risk of Delirium
- Increased LOS
- Inability to maintain autonomy and personality
- Perceived Value of Care

Nurse Experience

- Frustration/Stress
- Inability to see the patient and understand the patient's needs
- Potential for errors in care (HAC)
- Need to provide Extra cares
- Wasted time
- Burnout

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The breakdown in patient-provider communication has negative impacts on **both** the patient and the caregivers.
1) Poor communication increases frustration and stress for both the patient and the caregiver.
2) Patients who can't effectively communicate are at a heightened risk of experiencing a HAC and delirium which can result in an increase length of stay.
When nurses can't understand their patients, there is a potential for errors in the care they provide which can result in needing to provide extra cares.
3) Allowing a patient to express anger and humor, while not directly tied to any particular bedside care, does effectively establish a critical rapport between the patient and the care provider.
4) Poor patient-provider communication has been shown to influence patient and family member perceptions of their care.
Research has also shown that nurses report that communication barriers result in wasted time and burnout.
5) While many of the traditional communication tools currently used in hospitals focus on basic needs, they do little to allow the patient to be themselves and to allow the caregivers to see the patients as more than just a body that they are treating.

医患沟通障碍会对患者和护理人员产生负面影响。
1) 沟通不畅会增加患者和护理人员的挫败感和压力。
2) 无法有效沟通的患者更容易出现心律失常（**HAC**）和谵妄，从而延长住院时间。
当护士无法理解患者时，他们提供的护理可能会出现失误，从而需要提供额外的护理。
3) 允许患者表达愤怒和幽默，虽然与任何特定的床边护理没有直接关系，但确实能有效地在患者和护理人员之间建立起至关重要的融洽关系。
4) 研究表明，医患沟通不畅会影响患者及其家属对护理的看法。
研究还表明，护士表示沟通障碍会导致时间浪费和倦怠。
5) 虽然目前医院使用的许多传统沟通工具都侧重于基本需求，但它们并没有让患者做回自己，也没有让护理人员将患者视为他们正在治疗的不仅仅是一个身体。

Incidence and Estimated Treatment Costs
发病率和估计治疗费用

Hospital-Acquired Conditions (Drug Reaction, Fall, Pressure Ulcer & Ventilator Associated Pneumonia) Per 1000 Discharges	U.S. Agency for Healthcare Research and Quality **2019 Goal**
Total Hospital Population	**51.7**
Avoidable Treatment Costs	**$17.5 Billion**
For Patients Facing Communication Barriers*	79.9
Additional Treatment Costs	**$9.6 Billion**

* Assumes 3X higher incidence, Bartlett et al. 2008

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The incidence of preventable hospital acquired conditions has continued to be unacceptably high and add significantly to the cost of healthcare. When patients are unable to effectively summon help and communicate about symptoms, they are at a 3 times higher risk of developing an HAC. Using the data from U.S. Agency for Healthcare Research and Quality for the hospital population at large, we calculated the expected HAC incidence rates for patients facing barriers to communication. Even assuming the 20% reduction that AHRQ expected in 2019, patients facing communication barriers were still expected to have an HAC rate of 79.9 per 1000 discharges and hospitals would face having to absorb an additional $9.6 billion in avoidable treatment costs. For many reasons including the spike in Covid-19 related hospitalizations, we continue to see unacceptably high HAC rates. Perhaps in part due to the communication barriers patients continue to face.

可预防的院内感染发病率持续居高不下，显著增加了医疗成本。当患者无法有效地寻求帮助并沟通症状时，他们发生院内感染的可能性会高出三倍。我们利用美国医疗保健研究与质量局 (AHRQ) 提供的综合医院人群数据，计算了面临沟通障碍的患者的预期院内感染发病率。即使假设该数字比 AHRQ 2019 年的预测下降 20%，面临沟通障碍的患者预计每 1,000 例出院患者中仍有 79.9 例院内感染，医院将不得不额外承担 96 亿美元的可避免成本。由于多种原因，包括新冠疫情相关住院人数激增，我们持续看到院内感染率居高不下。或许部分原因在于患者持续面临的沟通障碍。

Using Assistive Technology in Acute Care Reduces HACs
在急性护理中使用辅助技术可以减少医院内感染。

AHRQ Report Comparison	Chi-Squared	p value
2019 Goal	5.6154	<0.02
2019 Goal Higher Risk Estimate	8.9444	<0.03

Hurtig, R.R., Alper, R., Altschuler, T., Gendreau, S., Gormley, J., Marshall, S., Santiago, R. & Scibilia, S. (2020) Improving Outcomes for Hospitalized Patients Pre- and Post-COVID-19. Perspectives of the ASHA Special Interest Groups Vol.5, 1577-1586. https://doi.org/10.1044/2020_PERSP-20-00144

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To specifically address the access and communication needs of patients in acute care, my team developed a smart switch that can detect small intentional gestures and enable patients to summon help and to control the noddle-chat communication device. Our National Institutes of Health supported clinical trial revealed that the patients who received assistive technology did not experience any hospital acquired conditions during the course of their hospitalizations. The comparisons of the clinically observed incidence with the expected incidence for the population as a whole and for those facing communication barriers were statistically significant.

为了专门满足急症护理患者的访问和沟通需求，我的团队开发了一种智能开关，它可以检测细微的有意手势，使患者能够寻求帮助并控制点聊通讯设备。我们由美国国立卫生研究院支持的临床试验表明，接受辅助技术的患者在住院期间没有出现任何医院内感染性疾病。
临床观察到的发病率与总体人群以及面临沟通障碍人群的预期发病率的比较具有统计学意义。

Case Study: Need for Yes/No/Maybe/Later
案例研究：需要"是/否/可能/稍后"

- Mrs. Jackson
- 67 years old
- Admitted for Cardiac Surgery
- On Ventilatory Support Receiving Intermittent Sedation Protocol
- Instructed to use thumbs up/thumbs down for yes/no
  - Problem with using yes/no
 - Advantage of using low tech yes/no/maybe later communication strategy

YES NO MAYBE LATER DON'T UNDERSTAND
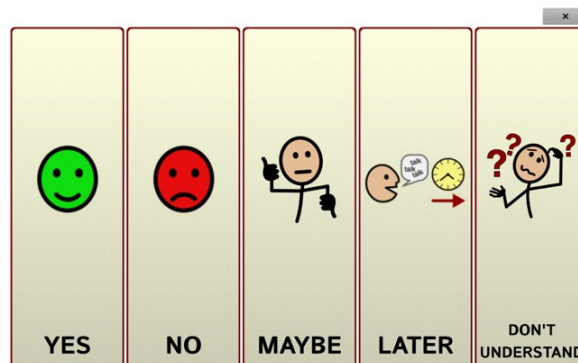
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If the nurse were to have come to the bed to ask the patient if she wanted to be sedated and the patient was aware that family members were about to arrive, the patient was in a bind if her response options were just "yes" and "no". If she responded "yes" she worried that she would not be able to enjoy her visitors. If she responded "no", so that she would be alert for her visitors, she was worried that the nurse would not come back and offer her the medication later. By giving the patient a low-tech response strategy that offered "yes/no/maybe/later" the patient was able to be alert for her visitors and confident that she would get sedated after the visit.

如果护士来到病人床边询问她是否需要镇静剂，而病人知道家属即将到来，如果她的回答只有"是"或"否"，她就会陷入困境。如果她回答"是"，她担心自己无法享受与家人的会面。如果她回答"否"，为了保持警惕，等待来访者，她又担心护士稍后不会回来给她镇静剂。通过为病人提供"是/否/可能/稍后"这种低技术含量的回答策略，病人能够保持警惕，等待来访者，并确信自己会在来访后获得镇静剂。

Communication Tools to Support Bedside Interactions
支持床边互动的沟通工具

PPT as Noddle-Chat

HURTIG
AAC-LAB

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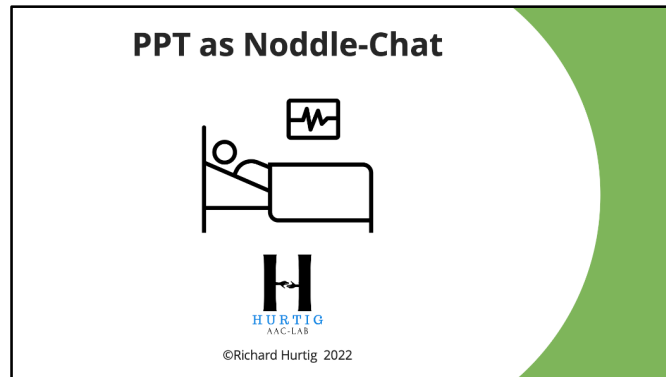
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Ideally, every facility should have a range of communication tools that would enable non-speaking individuals to actively participate in bedside cares and indicate their needs & preferences and not be limited to making only binary yes/no responses. In the following slides I will show examples of tools that I have developed.

理想情况下，每个机构都应该配备一系列沟通工具，使非语言人士能够积极参与床边护理，表达他们的需求和偏好，而不是局限于"是/否"的二元回答。在接下来的幻灯片中，我将展示我开发的这些工具的示例。

Here is an example of a single page communication tool that I created using PowerPoint. In this case a digitized audio file has been assigned to each of the text boxes. When the user clicks on a text box the assigned sound file will be played. Note that it is important to provide the user with the ability to respond to questions with more than. just a simple yes/no response.

以下是我用 PowerPoint 创建的单页沟通工具示例。本例中，每个文本框都分配了一个数字化的音频文件。当用户点击文本框时，就会播放分配的声音文件。需要注意的是，让用户能够回答问题，而不仅仅是简单的"是/否"回答。

Communication Tools to Support Medical Decision Making
支持医疗决策的沟通工具

- Have a range of communication templates.
- Make it easy for individuals to demonstrate an understanding of the consequences of their decisions.
- Ensure that their wishes are as unambiguous as possible.

Medical Decision Making and End of Life
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As I have mentioned, for patients to be able to be active participants in their care, they will need communication tools that allow them to participate in medical decision making. To that end hospitals should:
1) Have a range of communication templates that would enable non-speaking individuals to participate in medical decision making.
2) These templates should make it easy for individuals to demonstrate an understanding of the consequences of certain decisions about their care.
3) The tools should make it possible for patients wishes to be as unambiguous as possible and clearly grounded in their current situation.

正如我所提到的，为了让患者能够积极参与自身护理，他们需要能够参与医疗决策的沟通工具。
为此，医院应该：
1) 提供一系列沟通模板，使无法说话的患者也能参与医疗决策。
2) 这些模板应便于患者理解某些护理决策的后果。
3) 这些工具应尽可能明确患者的意愿，并清晰地基于他们当前的处境。
以下是我开发的一款支持患者医疗决策的工具示例。

Case Study: Supporting Medical Decision Making
案例研究：支持医疗决策

- Mr. Jones
- 84 years old
- Admitted to ICU with C3 spinal cord injury and multiple fractures
- Lock-in and ventilator dependent
- On intermittent sedation
- The patient did not have a living will or health care proxy
- Prognosis poor: quadriplegia requiring ventilatory support and tube feeding.
  - Problem: No communication tools at the bedside, adult daughters arguing about medical/end of life.
  - Introduction of communication tool with partner-aided scanning allowed patient to be be an active participant.

What happened to me?	Why can't I move my arms & legs?	Will I regain my ability to move?	Please explain that to me?
Why am I on a ventilator?	Will I ever be able to breathe on my own?	I understand that my condition is irreversible	I do not want to be kept on life support.
Please ask my daughters to come in.	I want you to know what my decision is.	Please let the rest of the family know.	I love you.
YES	NO	MAYBE	LATER

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When the ICU staff informed the patient's daughters of their father's poor prognosis, the daughters began to argue passionately about whether their father wanted to be bedridden, unable to be discharged, and on a ventilator. One daughter said her father was a fighter who would never give up. Another daughter countered that her father was energetic, independent, and active and did not want to be immobilized and completely dependent on others. An ICU nurse was in the room at the time and noticed that the patient was alert and seemed troubled by the daughters' arguments.

The nurse immediately contacted a speech-language pathologist (SLP) who developed some low-tech communication boards for partner-assisted scanning so that the patient could participate in medical decision-making conversations with the staff and his daughters. The patient quickly demonstrated that he understood how to use these communication tools and was able to participate in medical decision-making.

These communication tools allowed the patient to express his wish to be taken off life support. He also requested permission to have an end-of-life conversation with his family to explain his decision.

Ultimately, the decision was his, which also avoided the hostility that his daughters might have developed toward each other if the decision was in their own hands.

当ICU的工作人员告知病人的女儿们其父亲的预后不佳时，女儿们开始激烈地争论，她们的父亲是否愿意卧床不起、无法出院、需要使用呼吸机。一个女儿说，她的父亲是一个永不放弃的斗士。另一个女儿反驳说，她的父亲精力充沛、独立、活跃，不想动弹不得、完全依赖他人。当时，一名ICU护士在房间里，注意到病人很警觉，似乎被女儿们的争论所困扰。

护士立即联系了一位语言病理学家(SLP)，SLP开发了一些用于伴侣辅助扫描的低技术含量的沟通板，以便病人能够与工作人员及其女儿们参与医疗决策对话。病人很快表明他理解了如何使用这些沟通工具，并且能够参与医疗决策。

这些沟通工具让病人能够表达他希望停止生命支持的愿望。他还请求允许与家人进行临终谈话，解释他的决定。

最终，决定权在他手里，这也避免了如果由女儿们自己做决定，她们之间可能会产生的敌意。

Case Study: Need to ask about medical intervention
案例研究：需要询问医疗干预

- Mr. Williams
- 34 years old
- Admitted for ICU with diagnosis of neurodegenerative disease.
- Orally intubated and on ventilatory support
- Unable to be weaned from the ventilator
- Using low tech communication to respond to yes/no questions.
- Will need tracheostomy for long-term ventilatory support
  - Problem: Yes/No responses appeared to indicate patient did not want to continue ventilatory support.
  - Use of communication tool identified that is not the case.

Explain how you perform a tracheostomy?
Will it hurt when you do that?
Will I be awake during the procedure
I understand
I don't understand, explain it another way.
I want to have you do the tracheostomy.

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The reason this patient had indicated "no" to consenting to go forward with having a tracheostomy was that he mistakenly thought that the procedure, like when he needed to be orally intubated, would be done without sedation. When he was able to use a communication tool to ask about the how the procedure was to be done, he said he definitely wanted to have it done. Without the introduction of communication tool, staff would have interpreted the patient's negative responses as an indication that he did not want to have life sustaining ventilatory support.

这名患者拒绝接受气管切开术的原因是，他误以为该手术（就像需要经口插管一样）无需镇静即可完成。当他能够使用沟通工具询问手术方法时，他表示自己绝对希望接受手术。如果没有沟通工具，医护人员可能会将患者的否定回答解读为他不想接受维持生命的呼吸机支持。

Supporting Patients with Limited Proficiency in their Provider's Language
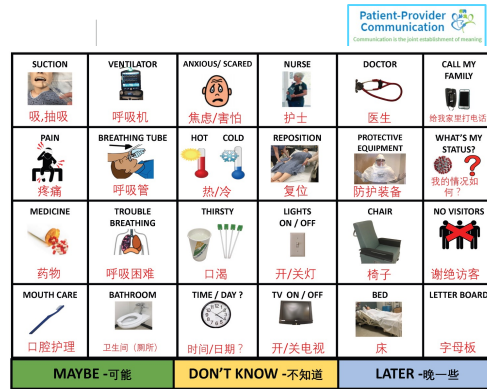**为医疗服务提供者语言能力有限的患者提供支持**

Provide live or remote interpreter services at the bedside.

Provide written materials officially translated into the patient' language.

Provide officially translated bilingual low-tech communication boards (include icons for patients who are not literate).

Provide bilingual speech generating devices/apps

Do not rely on translation apps to communicate with patients.

Dept of Communication Sciences and Disorders

Hospitalized patients who have limited proficiency in the language spoken by the care providers should be provided access to interpreters as well as to have written materials translated for them. Realistically it is not possible to have interpreters at the bedside 24/7 and so it is imperative that patients and their nurses have communication tools that can support the bedside interactions critical to provision of care.
Caution: Translation apps may not accurately represent the to intended message.
This slide shows an example of a bilingual communication board developed by the Patient-Provider Communication Network.

住院患者如果对护理人员使用的语言能力有限，应为其提供口译服务，并为其翻译书面材料。实际上，不可能全天候在床边配备口译员，因此，患者及其护士必须配备沟通工具，以支持对护理至关重要的床边互动。
注意：翻译应用程序可能无法准确传达预期信息。
此幻灯片展示了由患者-提供者沟通网络开发的双语沟通板的示例。

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Communication Tools to Support Patients with Limited Chinese Proficiency: Medical Decision Making
支持中文水平有限的患者的沟通工具：医疗决策

Medical Decision Making- Main Menu
医疗决策 - 主菜单

Questions about Condition 关于医疗状况的问题	General Questions 一般问题	General Conversation 一般对话	Emotions 情绪
Discuss Prognosis 讨论预后	Reaction to Prognosis 对预后的反应	Discuss Advanced Directives 讨论预先指示	Questions about Advanced Directives 关于预先指示的问题
Ventilation 医疗通风系统	Dialysis 透析	Nutrition & Hydration 营养与水分	Religion & Spirituality 宗教与灵性
YES 是的	NO 不	Maybe 或许	Later 他日
			English Keyboard 英文键盘

Questions About My Medical Condition
关于我的医疗状况的问题

What is my diagnosis? 我的诊断是什么？	What is my prognosis? 我的预后如何？	What are my options? 我有哪些选择？	I am confused. 我很困惑？
Tell me more. 告诉我更多。	What does that mean? 这意味着什么？	What happens is we do nothing? 如果我们都不做会发生什么？	I can't deal with this now. 我现在无法处理这个问题。
Let's talk about this later. 我们稍后再讨论这个问题。	Why can't I get better? 我为什么不能好起来？	What happens if we do that? 如果我们这样做，会发生什么？	I want to think about that. 我想考虑一下。
Let me talk about this with my family. 让我和家人讨论一下这个问题。	Can I have an advocate present? 我可以请一位医疗倡导者在场吗？	Will I be able to change my mind? 我可以改变主意吗？	Let's change the subject. 我们换个话题吧。
Go back to main menu 返回主菜单。			

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To address the needs of patients with limited proficiency in the language used by their caregivers, it is important to realize that the tools we use will need to support the needs of both the patients and their nurses. Here is an example of a low-tech version of the multi-page communication tool we developed to support patient medical decision making. As you can see each communication option is presented in English and Chinese.
On the left side of the slide, is an image of the "main menu" from which the patient can select specific discussion topics. On the right side of the slide, is an image of the set of questions patients can ask about their condition.

住院患者如果对护理人员使用的语言能力有限，应为其提供口译服务，并为其翻译书面材料。实际上，不可能全天候在床边配备口译员，因此，患者及其护士必须配备沟通工具，以支持对护理至关重要的床边互动。
注意：翻译应用程序可能无法准确传达预期信息。
此幻灯片展示了由患者-提供者沟通网络开发的双语沟通板的示例。

Communication Tools to Support Patients with Limited English Proficiency
支持英语水平有限的患者的沟通工具

Medi-Bilingual Spanish (RH-AACLAB):
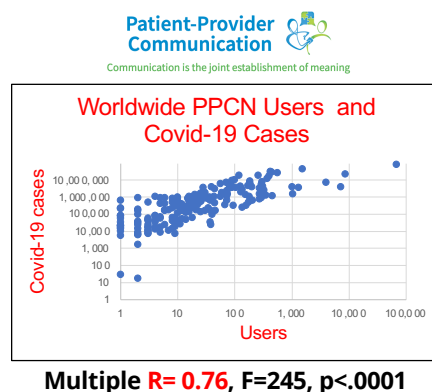**A Bilingual-Bidirectional Tool**
双语双向沟通工具

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Here is an example of the tool that I developed to support bedside communication for patients with limited English proficiency (LEP) and their caregivers. While not a replacement for interpreter services, it facilitates immediate interaction to address basic needs. Using a shared tablet, patients select Spanish-labeled buttons with icons, generating spoken English messages, while caregivers select English-labeled buttons, generating spoken Spanish responses. Medi-Bilingual Spanish covers a range of essential topics. It also includes buttons for requesting and confirming interpreter assistance. The "Medi-Bilingual Spanish" vocabulary file for "TouchChat" will be available for free downloads later this year.

以下是我开发的用于支持英语水平有限 (LEP) 患者及其护理人员床边沟通的工具示例。虽然它不能替代口译服务，但它有助于即时互动，满足基本需求。患者使用共享平板电脑，选择带有图标的西班牙语按钮，即可生成英语语音消息；护理人员选择带有英语按钮，即可生成西班牙语语音回复。Medi-Bilingual Spanish 涵盖了一系列重要主题，并包含请求和确认口译协助的按钮。"TouchChat"的"Medi-Bilingual Spanish"词汇文件将于今年晚些时候提供免费下载。

Meeting the Challenge of Covid-19
应对新冠疫情的挑战

- Infection protocols limited who could be at the bedside in the Covid-19 ICUs.
- Infection protocols limited what equipment could be at the bedside in the Covid-19 ICUs.
- The PPCN formed a task force to quickly develop free downloadable communication tools and instructions on how they could be used.
- By June 5, 2022, **105,233** unique users from **191** countries accessed the PPNC website for a total of **316,236** pageviews.

https://www.patientprovidercommunication.org/covid-19-tools/supporting-communication-with-patients-who-have-covid-19/
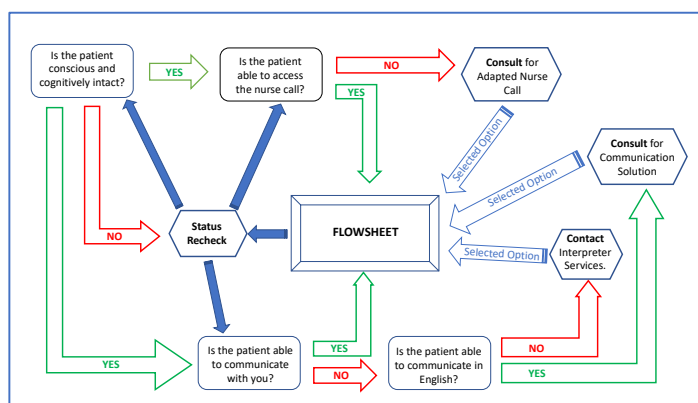
Patient-Provider Communication
Communication is the joint establishment of meaning

Worldwide PPCN Users and Covid-19 Cases

Covid-19 cases / Users

Multiple R= 0.76, F=245, p<.0001

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In early March of 2020 as the pandemic spread and it became apparent that hospitals could not implement many of the communication tools and strategies that had become part of standard practice. I reached out to colleagues at the Patient-Provider Communication Network to see if we could quickly develop and distribute low-tech communication tools and strategies that could be used in hospitals treating Covid-19 patients. The task force used their collective years of experience addressing the communication needs of pediatric and adult patients to develop a set of communication tools that could be quickly and easily deployed in Covid-19 ICUs. By the third week of March, these tools were made available on the PPCN website and announcements were posted on social media and to various speech-language pathology and nursing list serves. By June 5, 2022, **105,233** unique users from **191** countries accessed the PPNC website for a total of **316,236** pageviews. I performed a regression analysis on the data for 185 countries for whom we had both website usage data and WHO reported cases rates. I also performed a regression analysis for the 43 countries with 100 or more website users. Both analyses revealed significant positive relationships between reported Covid-19 cases and downloads of our communication tools.

2020年3月初，随着疫情蔓延，医院显然无法实施许多已成为标准做法的沟通工具和策略。我联系了医患沟通网络（PPCN）的同事，希望我们能快速开发和分发一些低技术含量的沟通工具和策略，供收治新冠肺炎患者的医院使用。工作组利用多年来在满足儿科和成人患者沟通需求方面的集体经验，开发了一套可在新冠肺炎重症监护室快速便捷地部署的沟通工具。
到3月的第三周，这些工具已在PPCN网站上发布，并在社交媒体以及各种言语语言病理学和护理邮件列表上发布了公告。截至2022年6月5日，来自191个国家的105,233名独立用户访问了PPNC网站，总页面浏览量达316,236次。我对185个国家的数据进行了回归分析，我们掌握了这些国家的网站使用数据和世卫组织报告的病例率。我还对43个网站用户超过100人的国家进行了回归分析。两项分析都显示，报告的新冠肺炎病例与我们的通讯工具下载量之间存在显著的正相关关系。

Summary: Formalize a "Culture of Communication"
摘要：规范"沟通文化"

- Make Patients' Communication Needs Part of the EMR.
- Identify Communication Champion and Build Consult Team.
- Build Communication Toolkits.
- Build Inservice Training on Patient-Provider Communication.

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In order to address the range of barriers to effective patient-provider communication, it is essential that the bedside caregivers engage in dynamic assessment of each patient's ability to summon help and to effectively communicate. Working with the Department of Nursing at UIHC, we developed a way of building such a dynamic assessment into the clinical flowsheet and trigger consults for patients who cannot use the nurse call system and/or are unable to use speech or writing to communicate with their nurses. This dynamic assessment protocol also addresses the communication needs of patients with limited English Proficiency. One of the reasons it was important to integrate the state of patient-provider communication into the flowsheet, was the realization that there was a problem with getting adequate handoff from one nursing shift to another or when patients were transferred to another unit or to another facility. This protocol was in part designed to address the specific Joint Commission standards that mandated on going assessment of communication barriers.

The success of implementing any program to address communication barriers will require a workflow that should include "communication champions" among the professionals who have direct patient contact. Depending on how each institution is structured, the champions could be Speech-Language Pathologists, Nurses, Physicians, Physical Therapists, Occupational Therapists or even Respiratory Therapists. No matter how skilled the champions may be at providing tools to overcome communication barriers, the successful implementation of communication tools and strategies will require a hospital wide engagement in ongoing education, training & support of all hospital staff who will be working with patients.

为了解决医患有效沟通中存在的各种障碍，床边护理人员必须对每位患者寻求帮助和有效沟通的能力进行动态评估。我们与伊利诺伊大学健康中心（UIHC）护理部合作，开发了一种将这种动态评估纳入临床流程的方法，并为无法使用护士呼叫系统和/或无法使用语音或书面形式与护士沟通的患者触发咨询。该动态评估方案也满足了英语水平有限的患者的沟通需求。将医患沟通状况纳入流程非常重要的原因之一是，我们意识到在护理轮班之间，或在患者转诊至其他科室或其他医疗机构时，存在着难以进行充分交接的问题。该方案的部分设计目的是为了满足联合委员会关于持续评估沟通障碍的具体标准。

任何解决沟通障碍的方案要想成功实施，都需要一个工作流程，其中应包括与患者直接接触的专业人员中的"沟通倡导者"。根据各机构的架构，倡导者可以是言语治疗师、护士、医生、物理治疗师、职业治疗师，甚至是呼吸治疗师。无论倡导者在提供克服沟通障碍的工具方面多么熟练，成功实施沟通工具和策略都需要全院参与，为所有将与患者打交道的医护人员提供持续的教育、培训和支持。

Free Downloadable Communication Tools
免费下载通讯工具

Patient-Provider Communication — Communication is the joint establishment of meaning	https://www.patientprovidercommunicatio n.org/tools-and-resources/communication-tools-and-materials/
HURTIG AAC-LAB	http://www.hurtig-aaclab.net/
WidgitHealth	https://widgit-health.com/downloads/for-professionals.htm

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In addition to some free communication tools that can be found on AAC vendor websites, you can find a range of free generic communication tools at my personal website as well as those of the Patient-Provider Communication Network and of WidgitHealth in the U.K. It is worth noting that the bilingual tools originally developed to address the needs of patients with Covid-19, were used to address the needs of pediatric and adult patients who had to be evacuated to other countries because of the Russian invasion of the Ukraine.
除了可以在 AAC 供应商网站上找到的一些免费沟通工具外，您还可以在我的个人网站以及患者-提供者沟通网络和英国 WidgitHealth 的网站上找到一系列通用沟通工具。值得注意的是，最初为满足 Covid-19 患者的需求而开发的双语工具被用于满足因俄罗斯入侵乌克兰而不得不撤离到其他国家的儿科和成人患者的需求。

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问答

I would now be happy to address any questions about this presentation.

我很乐意现在回答有关本次演讲的任何问题。

References-1
参考文献-1

- **Altschuler T., Santiago, R., Gormley, J.** Ensuring communication access for all during the COVID-19 pandemic and beyond: supporting patients, providers, and caregivers in hospitals. *Augmentative and Alternative Communication*. 2021 Aug 2:1-13. doi: 10.1080/07434618.2021.1956584.
- **Happ, M. B., Seaman, J. B., Nilsen, M. L., Sciulli, A., Tate, J. A., Saul, M., & Barnato, A. E.** (2015). The number of mechanically ventilated ICU patients meeting communication criteria. Heart & Lung, 44, 45–49. https://doi.org/10.1016/j.hrtlng.2014.
- **Hurtig, R.R., Alper, R., Altschuler, T., Gendreau, S., Gormley, J., Marshall, S., Santiago, R. & Scibilia, S.** (2020) Improving Outcomes for Hospitalized Patients Pre- and Post-COVID-19. Perspectives of the ASHA Special Interest Groups Vol.5, 1577-1586. https://doi.org/10.1044/2020_PERSP-20-00144
- **Hurtig, R. R., Alper, R. M., & Berkowitz, B.** (2018). The cost of not addressing the communication barriers faced by hospitalized patients. *Perspectives of the ASHA special interest groups*, *3*(12), 99–112. https://doi.org/10.1044/persp3.SIG12.99
- **Hurtig, R.R., Alper, R.M., Bryant, K.N.T., Davidson, K.R, & Bilskemper, C.** (2019) Improving patient safety and patient-provider communication. *Perspectives of the ASHA Special Interest Groups Vol.4 1017-1027, October 2019.* doi.org/10.1044/2019_PERS-SIG12-2019-0021.
- **Hurtig, R., Czerniejewski, E., Bohnenkamp, L., & Na, J**. (2013). Meeting the Needs of Limited English Proficiency Patients. *Perspectives on Augmentative and Alternative Communication*, *22*(2), 91-101.

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Thank you for taking the time to hear my presentation. This slide and the next provide you with a list of our publications related to today's talk.

感谢您抽出时间聆听我的演讲。这张幻灯片和下一张幻灯片列出了我们与今天演讲相关的出版物。

References-2
参考文献-2

- **Hurtig, R., Nilsen, M., Happ, E.B. & Blackstone, S.** (2015) Acute Care/Hospital/ICU-Adults. In Patient Provider Communication in Healthcare Settings: Roles for Speech-Language Pathologists and Other Professionals. Blackstone, S., Beukelman, D. & Yorkston, K (Eds.) Plural Publishing Inc. San Diego, California. https://www.pluralpublishing.com/publication_ppc.htm

- **Marshall, S. & Hurtig, R.R.** (2019) Developing a Culture of Successful Communication in Acute Care Settings: Part I Solving Patient Specific Issues. *Perspectives of the ASHA Special Interest, Vol.4, 1028-1026, October 2019.* doi.org/10.1044/2019_PERS-SIG12-2019-0015.

- **Marshall, S. & Hurtig, R.R.** (2019) Developing a Culture of Successful Communication in Acute Care Settings: Part II Solving Institutional Issues. *Perspectives of the ASHA Special Interest Groups Vol 4., 1037-1043, October 2019.* doi.org/10.1044/2019_PERS-SIG12-2019-0016.

- **Santiago, R., Altschuler, T., Howard, M., & Costello, J.** (2018, November 15–17). Bedside AAC service delivery by SLPs in acute care: Current practice and a call to action. [Paper Presentation]. American Speech-Language Hearing Association Conference, Boston, MA, United States.

- **The Joint Commission** (2010). *Advancing effective communication, cultural competence, and patient-and family-centered care: A roadmap for hospitals.* Oakbrook Terrace, IL: The Joint Commission.

- **Zubow, L., & Hurtig, R.** (2013). A Demographic Study of AAC/AT Needs in Hospitalized Patients. *Perspectives on Augmentative and Alternative Communication*, *22*(2), 79-90.

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For more information on my work in AAC check out my website.

有关我在增强和替代沟通方面的工作的更多信息，请查看我的网站。
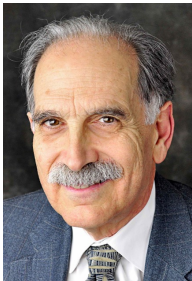
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AAC-LAB

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For more information on my work in AAC check out my website.
有关我在增强和替代沟通方面的工作的更多信息，请查看我的网站。