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Pilot Testing the Clinically Aligned Pain Assessment (CAPA) Measure

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ABSTRACT

Background: Pain is one of the most common symptoms experienced by patients in acute care hospitals and acutely ill patients experience both acute and chronic pain. Unrelieved pain can have a profound negative impact on individuals' functional status, well-being, quality of life, and satisfaction with care. For providers, managing pain can be challenging. While the numeric rating scale is widely accepted and used, it measures only pain intensity. CAPA[®] pain assessment offers an alternative approach in which providers have a conversation with patients about pain and how it impacts five key areas.

Aims: The purpose of this pilot project was to evaluate provider and patient satisfaction with the CAPA[®] measure as compared to a numeric rating scale when evaluating patients' experience with pain.

Design: A mixed methods qualitative design was employed.

Setting: This study was conducted at a 247-bed community teaching hospital in Providence, RI.

Participants: The target sample included patients admitted to the study units and providers who delivered care to patients on the study units and used the numeric rating scale and the CAPA[®] method of assessment.

Methods: In focus groups, nurses and physicians were asked about satisfaction with evaluating patients' pain with the numeric rating scale as compared to CAPA[®]. During a one-to-one interview, patients were asked to describe their impressions of the two assessment measures.

Results: Nurses, physicians, and patients were satisfied that CAPA[®] effectively evaluated pain and provided more information about pain than the numeric rating scale.

Conclusions: CAPA[®] is recommended as a supporting assessment to evaluate patients' pain experience in acute care.

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Pain is one of the most common symptoms experienced by patients in acute care hospitals. The sensation of pain arises from acute or potential tissue damage; clinically, pain is whatever the person says it is (McCaffery & Pasero, 1999). Pain is differentiated along a continuum of duration. Acute pain is associated with tissue damage, inflammation, or surgery and is typically short term in duration. In contrast, chronic pain worsens and intensifies over time and may persist for months, years, or a lifetime (Fink, 2000). People hospitalized in acute care facilities may experience both acute and chronic pain, making management more challenging. Unrelieved pain can have a profound negative impact on individuals' functional status, physical and emotional well-being, quality of life, and satisfaction with care during the hospital stay.

Pain management in hospitals continues to be problematic, despite long-standing awareness of the problem and implementation of interventions to potentially manage pain, such as pain teams, patient-controlled analgesia, and epidural analgesia (Carr et al., 2013).

Accurate and comprehensive pain assessment is the cornerstone of effective pain management because inadequate pain assessment may result in suboptimal management. One-dimensional pain rating scales are quick and easy to use but measure only pain intensity. Research has supported the validity of pain intensity rating scales (Ferreira-Valente, Pais-Rebeiro, & Jensen, 2011; Hawker, Mian, Kendzerska, & French, 2011; Jensen, 2003). Hawker et al. (2011) reported high test-retest reliability for the Numeric Rating Scale (NRS) in both literate and nonliterate people and evidence of construct validity. The NRS correlated highly with the visual analog scale in patients with chronic pain. Conflicting results have also been reported (Krebs, Carey, & Weinberger, 2007), and patients sometimes find it difficult to simplify pain into a single score. This

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difficulty becomes further apparent when conditions such as cognitive impairment exist. Although practitioners often base treatment decisions on the use of intensity scales such as the NRS, additional features of the patients' pain experience are needed to adequately treat the pain (Radnovich et al., 2014). The American Society for Pain Management Nursing (ASPMN) advocates that prescribing opioid analgesics based only on patients' pain intensity should be prohibited (Pasero, Quinlan-Colwell, Rae, Broglio, & Drew, 2016). This is based on the disregard for other essential elements of assessment and that this practice may lead to a variety of untoward patient outcomes, including poor pain management (Pasero, 2014; Pasero et al., 2016).

The purpose of this pilot study was to evaluate provider and patient satisfaction with the Clinically Aligned Pain Assessment (CAPA) measure compared with the existing numeric pain assessment measure when evaluating the patients' experience with pain. Although Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores at the study institutions related to the question "How often was patients' pain well controlled?" were slightly higher than the national average (72% vs. 71%, respectively), the institution as well as the primary author and Chair of the Pain and Palliative Committee supported the need to improve pain scores.

Literature Review

Multidimensional measures assess numerous aspects of the pain experience, including how pain interferes with functioning. Most currently available, commonly used multidimensional measures assess chronic pain but may be applicable to acute pain (Radnocich et al., 2014). Gordon (2015) suggested that pain assessment is a "more complex communication process between the patient and clinician comprised of diverse interpersonal and intrapersonal dimensions that interact and affect each other" (p. 567). The CAPA was designed to serve as a guide to gather information in five assessment categories: comfort, changes in pain, pain control, functioning, and sleep, during the course of a conversation with a patient (Donaldson & Chapman, 2013). Standardization as a baseline for communications could promote continuity of care and improved outcomes (Harmon, Higgins, Summons, & Bellachambers, 2010); the CAPA measure could provide a method for standardizing communication around pain assessment. Routine screening should be coupled with a comprehensive assessment and targeted pain interventions (Carr et al., 2013).

The CAPA differs from traditional pain assessment measures in that it is built on the conceptualization of pain assessment as a social transaction. CAPA was designed to increase dialogue with patients about their pain experience (Donaldson & Chapman, 2013). The specific information is gathered during a natural conversation and is clarified and confirmed with the patient. Rather than numbers, responses are identified within each of these categories. For example, comfort responses include intolerable, tolerable with discomfort, comfortable manageable, and negligible pain. The intent of the measure is that each question serves as an independent dimension and that neither the individual questions nor the questions overall should be totaled numerically (Donaldson & Chapman, 2013).

Although the authors provided detailed handouts and information about the CAPA, they also acknowledge that validity has not been established (Donaldson, 2014). CAPA has been implemented at some sites such as the University of Minnesota Medical Center, but evidence to support the impact of CAPA on HCAHPS pain scores over time, delivered to patients by Press Ganey, is lacking. Recently, authors from the University of

Minneapolis (Topham & Drew, 2017) completed a quality improvement project aimed at implementing CAPA at the University Medical Center and examining the impact on patient satisfaction with pain management scores. The authors reported an upward trend and modest increase in scores. Although the authors of CAPA stated that the measure "seems to have greater pragmatic validity and acceptance" and that "nurses prefer CAPA over the numeric rating scale by 3:1," further work is needed (Donaldson & Chapman, 2013).

The scope of the pain management challenge has led over time to various institutional, local, state, and national initiatives designed to improve quality of care. Many of these, such as HCAHPS (Centers for Medicare & Medicaid, 2017), have focused on patient satisfaction with various aspects of the hospital experience, including pain management. The HCAHPS is administered to a random sample of adult patients across medical conditions and is administered between 48 hours and 6 weeks after discharge. The survey contains questions about critical aspects of patients' hospital experiences. Before January 2018, there were two specific questions related to pain management, which allowed for valid comparisons to be made across hospitals locally, regionally, and nationally. As of January 2018, Press Ganey changed the two pain experience questions to "During this hospital stay, how often did hospital staff talk with you about how much pain you had?" and "During this hospital stay, how often did hospital staff talk with you about how to treat your pain?" (Mahoney, 2017). Also beginning in January 2018, the Joint Commission (TJC) implemented new pain management and assessment standards (TJC, 2017). One significant change is the focus on reassessment of interventions to treat pain. The new standard states, "Using the numerical pain scales alone to monitor patients' pain is inadequate." Emphasis is placed on increasing patients' function to enhance the ability to meet treatment goals. CAPA helps in meeting this new standard because it includes assessing patients' function. The ASPMN also recommends using CAPA to assist in meeting this standard (ASPMN, n.d.). Another change resulting from TJC revised standards (2017) is including patients in pain management treatment by helping them establish realistic goals for pain management. The conversation that CAPA elicits facilitates patient involvement in setting pain management treatment and goal setting.

Methods

Setting and Sample

This study occurred at The Miriam Hospital, a 243-bed acute care hospital located in Providence, Rhode Island, that is part of the Lifespan system. The Miriam Hospital is affiliated with Brown University Medical School and is a five-time Magnet-designated institution. The sites for this pilot study included a 13-bed gastrointestinal (GI) surgical unit and a 25-bed medical oncology (solid tumors) and medical unit. Common noncancer medical diagnoses of patients are pneumonia, acute kidney disease, chronic obstructive pulmonary disease, and diabetes.

The target sample included providers (nurses and physicians) who delivered care to patients on the study units and used both the numeric scale and the CAPA method of pain assessment. Recruitment flyers were placed on the study units to inform providers about the upcoming study and solicit potential volunteers. Convenience sampling was used to recruit both nurses and physicians. Also, patients hospitalized on these units during the study period who had been assessed for pain and who were able to communicate verbally were recruited.

Table 1
Provider and Patient Interview Questions

Provider Questions	Patient Questions
What is your opinion about the usefulness of the NRS/CAPA in describing a patient's pain? Please describe what the NRS/CAPA tells you about a patient's pain?	Does describing your pain on a 0 to 10 scale make sense to you? Why or why not? Do you think when you give the nurse or doctor a number to describe your pain that the number correctly reflects your pain? Why or why not?
Is there anything else you want to know about the patient's pain that is NOT included in the NRS/CAPA? Describe how you use the number provided/patient's responses to CAPA by the patient during the pain assessment.	Is there something about your pain that you think the 0 to 10 scale does NOT address? When you gave the nurse or doctor a number that describes your pain, in your opinion have they managed your pain based on that numbers?
Describe when, where, and how you have documented CAPA assessment?	We have been trying out a different way to determine patients' pain. This includes asking people about their comfort, if there has been a change in pain and pain control, and if pain has interfered with activity and sleep. Have nurses asked you these questions about your pain? If no, the interview is over. If yes, interview continues with: Did these questions about your pain make sense to you?
Are there advantages to using the CAPA measure? Are there any challenges to using the CAPA measure; if so, how might they be managed?	Do you think when you gave the nurse or doctor your answers to these questions that it correctly reflected your pain? Why or why not?
Overall what is your opinion of the CAPA measure? Would you use it in your practice and why or why not?	Is there something about your pain that you think those questions (comfort, if there has been a change in pain and pain control, and if pain has interfered with activity and sleep) does NOT address?
Do you use any other pain assessment measure? If so, what other assessment(s) do you use and why?	When you give the nurse or doctor your answer to these questions, in your opinion have they managed your pain based on those answers? Do you have any other comments to add about your pain or the management of your pain while you have been hospitalized?

NRS = Numeric Rating Scale; CAPA = Clinically Aligned Pain Assessment.

Design

A mixed-methods design using qualitative methods was employed.

Procedures

Nurses and physicians on the study units were trained by the primary author in the use of the CAPA assessment measure. Training emphasized that CAPA was a measure to evaluate patients' experience with pain during a brief conversation.

Focus Groups

Focus groups with staff nurses and physicians were completed to explore satisfaction with the CAPA measure. An Institutional Review Board (IRB)-approved informational letter describing the study procedures and purpose was distributed and discussed before the start of the focus groups. The focus group methodology was heavily influenced by the work of Krueger (2000). The primary author facilitated the focus groups along with cofacilitators; one facilitator held a master of science degree in nursing and the other a master of public health degree. A doctor of philosophy degree (Ph.D.)-prepared nurse served as recorder. The facilitators were trained by the Ph.D.-prepared team member, who was experienced with focus group methodology and who also developed guidelines to direct the process.

The focus groups were conducted in a private area with minimal distractions and no attendees other than study participants. The primary facilitator was known to the nurses and physicians and provided the necessary introductions, described the study's purpose, provided assurances of confidentiality with no names used or recorded, and described the participation guidelines and format for

questions. The cofacilitator distributed the IRB-approved informational letter, assisted with answering questions before starting the focus group, and managed time.

No demographic or identifying information was obtained or recorded. The same order of questions was used in each group. The facilitator encouraged conversation through use of prompts and probing and elicited feedback and clarification from participants when indicated. After each question, when no further unique responses were obtained, the facilitator proceeded to the next question. The Ph.D.-prepared team member recorded key words derived from the discussions and clarified notes immediately after the meeting. Two focus groups were conducted with a total of 14 nurses and one was conducted that included 10 physicians; each lasted approximately 1 hour.

Patient Interviews

Via an IRB-approved e-mail script, patients meeting the study criteria were approached by the first author, who described the study's purpose and procedures. People who expressed an interest in participating in a brief face-to-face interview were provided with an IRB-approved informational letter that was explained and discussed. Patient interview questions were asked in the same order each time and responses were hand recorded and not audiotaped. The interviewer clarified responses as needed and transcribed key points at the time of the interview and expanded and clarified notes recorded immediately after completion of the interview.

Interview Questions

Focus group and patient interview questions were constructed from the expert clinical knowledge and experience in pain management of the primary author and were guided by the review of

the literature and input from the Ph.D.-prepared researcher. Patient and provider questions began with an introduction to the assessment being focused on (NRS or CAPA). Provider and patient questions are illustrated in Table 1; the first four provider questions were asked in relation to the NRS first and then repeated for the CAPA assessment. The final five questions were specific to the CAPA; these questions were used to learn more about providers' opinions of this piloted measure.

Data Analysis

The handwritten responses to focus group and patient interview questions were analyzed for common themes using conventional content analysis. The two researchers independently reviewed the transcripts, identified themes from the data, and then coded them. The coded themes were then reviewed for agreement and discussed by the two researchers to achieve consensus. Recoding of themes occurred to better reflect the study data as indicated. Overall the identified themes in the nurse and physician focus groups were remarkably similar; in addition, common themes were identified from the patient interview responses.

Results

Focus Groups: Nurses and Physicians

Nurses (n = 14) and physicians (n = 10) participated in the focus groups. Data are presented by assessment measure.

NRS

Specific to using the NRS for assessment, three themes emerged: "pain is just a number"; "pain is very subjective"; and "easy to use." Each theme and quotations are illustrated next:

- Pain is just a number:

"It just gives intensity, nothing more than that" (nurse).
 "Good for intensity, but does not describe" (physician).

- Pain is very subjective:

"One person's 2 is another person's 10" (nurse).
 "Differs between people, so number is not valuable, the trend is."

- Easy to use:

"It is straight and to the point" (nurse).
 "Quick and easy to document" (physician).
 "Easy to check improvement."

In terms of using the NRS for pain management, the theme "guides medical management" emerged.

"Used to assess how medication is working based on current score and prior dose" (nurse).

"Convert it to my own perception in my head based on what I see" (physician).

"I respond more quickly if more severe."

CAPA

In terms of using the CAPA for assessment, the theme "more specific/in depth information" about the patients' pain was evident.

"Provides information about how pain impacts functioning" (nurse).

"More detailed and conversational" (nurse).

"How it impacts function" (physician).

"More holistic view" (physician).

Both provider groups acknowledged challenges in the current system with relying on the CAPA assessment alone to guide pain management because it does not align with the pain management orders and in the view of one physician participant "it potentially takes more time." In terms of using the CAPA for pain management, the theme "use to determine success with pain management" emerged.

"Can use to determine if are using best medication/dose for the patient" (nurse).

"Provide more information if need to call the Dr." (nurse).

"I am more likely to think about non-medication strategies, such as repositioning" (nurse).

"Uses different ways to formulate questions; interventions are about the same" (physician).

Nurses and physicians agreed that the CAPA was more comprehensive and reinforced the need for in-depth assessment and re-assessment. Both also identified that CAPA may potentially improve patient satisfaction as a result of the conversations that occur and the potential for improved pain control.

Patient Interviews

NRS

Patients were asked if describing pain on a 0-10 scale "made sense" to them. Of the 16, 9 stated it made sense to them, 4 stated it did not, and 3 said it was hard to judge.

"Gives a picture of how bad the pain is" (makes sense).

"Should have more conversation when asking the number" (does not make sense).

"When pain is in different areas it is hard to tell" (hard to judge).

Patients were also asked if, when they gave the provider a number, they thought the provider managed the pain based on that number. The majority (n = 14) believed that providers did use the number to guide management.

CAPA

Patients were asked if describing pain using CAPA made sense to them. The majority (15/16) stated that the CAPA assessment made sense to them, and most believed the responses to the questions accurately reflected their pain experience.

"Seems to be a priority and one of the most important things to them [the provider]."

One patient who noted that the questions did not make sense to her stated, "I have been distracted by the pain itself."

Patients were also asked if they thought the provider managed the pain based on the CAPA assessment. All 16 participants believed that providers used the information derived from CAPA to manage their pain. "It is so important to do this, talk about pain. They have done their best to make me comfortable."

Discussion

The value of both the NRS and the CAPA assessment was validated by both nurses and physicians as well as patients. Although the NRS is widely accepted and used, it also has limitations because it only measures pain intensity. The CAPA measure evaluates how pain affects a patient in five different categories, including comfort, change in pain, pain control, functioning, and sleep. This evaluation takes place during a conversation between the health care provider and the patient and allows the patient to express information about how pain is affecting him or her in many areas. This information gives an overall picture of how the pain is limiting functioning, which allows for a more comprehensive and individualized pain management plan of care. Some

patient participants perceived an increased interest and level of caring from health professionals about their pain after having the conversation about the CAPA measure. Overall, patient responses were extremely positive.

Although it was anticipated that the CAPA measure would present major barriers and challenges related to time to conduct the assessment, especially compared with the NRS, that was not a major theme identified by provider participants. Nurses generally did not view the CAPA as taking more time because they stated that they typically integrated many of the questions while delivering care. One physician expressed concern that the CAPA could overburden doctors in conversation about pain. He further explained, “I’m concerned I will get involved in a 30-minute conversation with a patient about pain.” Physicians typically see patients once a day, in contrast to nurses, who are a constant presence at the bedside. This may make having a conversation with patients more challenging. Nurses reported having a conversation with CAPA “did not take too long,” averaging, in their opinion, about 5 minutes.

One patient reported that he or she was unable and unwilling to participate in the conversation based on the level and intensity of pain that the patient was experiencing: “The pain makes it difficult to communicate; sometimes I simply cannot communicate because of the pain.” Some nurses also commented that the CAPA assessment may be more useful in chronic versus acute pain situations. The CAPA facilitates dialogue with patients about the pain experience and allows for accurate clarification of pain, both acute and chronic.

Strengths and Limitations

One strength of this pilot study was that the nurses caring for the patients in this study and participating in the focus groups were experienced in pain management. This enabled the nurses to provide detailed and objective feedback. The physicians were residents continuing to learn about pain management but could give thoughtful feedback about the CAPA measure. Also, medical, oncology, and GI-surgical patients were included in this pilot study.

There were limitations to this pilot study. A significant limitation was that although the NRS was integrated into the electronic record, the CAPA assessment was not, and thus documentation of CAPA assessment was challenging, particularly for nurses who are expected to assess, manage, and document regularly and frequently. A sample of 16 patients was recruited for this pilot study as follows: four oncology patients, seven medical patients, and five GI surgical patients. A larger sample size, including other surgical patients, such as orthopedic surgical patients and medical patients, is recommended. A larger, more diverse sample of providers, including attending physicians, would also be useful.

Implications for Practice

Given the reality that the NRS drives pain management orders in the EPIC Lifespan system, and the fact that the NRS is validated and widely used across the country, it is recommended that the NRS continue to be used as it is currently structured. It is further recommended that the CAPA assessment be added as an additional assessment in the pain assessment flow sheet. According to the originators, and supported by this study, “Pain management is more than just a number” (University of Utah Health Care, 2013). Given the national opioid crisis, accurate and comprehensive pain assessment is a must in providing individualized pain management to patients across the spectrum of care.

Conclusions

National events, such as the opioid epidemic, changes in pain management and assessment standards, and new guidelines, have created a tipping point to look to new measures for pain management and assessment. According to the Centers for Disease Control and Prevention (2017), the number of deaths involving opioid overdose was five times higher in 2016 compared with 1999, and nationally there are an average of 115 opioid overdose deaths each day. In Rhode Island, opioid overdose is the leading cause of accidental death (Rhode Island Department of Health, 2018). Beginning in January 2018, TJC issued new pain management and assessment requirements, which included several significant changes such as focusing on patient involvement with pain management goals, increasing patient functioning to help meet treatment goals, and emphasizing nonpharmacologic pain management interventions. The focus on patient involvement and evaluating functioning opens the opportunity for the use of new pain assessments such as CAPA. CAPA will help meet the new TJC 2018 pain management and assessment guidelines and increase communication between patients and nurses, which will help patients establish daily goals with pain and function and potentially affect the new Press Ganey HCAHPs pain-related questions. These conversations will afford an opportunity to provide more individualized care, increase patients’ participation in their care, and assist patients to achieve treatment goals.

CAPA has been approved for use with patients in the health care system where this research was conducted. This year we will be integrating CAPA into pain assessment and reassessment. The new pain assessment method will represent a change in how we communicate about pain and interventions used to treat and manage pain, providing us an opportunity to expand and improve our care and build partnerships with our patients.

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