

**On a Scale of 1 to 10: Nurses Assessing Patients' Pain in the Emergency Department**

Research Proposal  
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Gender, Race and the Complexities of Science and Technology  
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## Introduction

One of the challenges in health care is making sure everyone gets the best treatment available - treatment that is recognized to be the most effective for their condition or set of symptoms<sup>1</sup>. What treatment people should receive is established through scientific studies, which are translated into protocols in health care facilities, and applied by health care providers that assess patients' needs. Protocols do not always result in the standardization of how providers assess patients' needs. In this project, I examine two broad questions. First, how do nurses use protocols for pain assessment, the pain scale<sup>2</sup>, as part of their overall assessment of a patients' condition and needs? Secondly, how do nurses use information that patient tells them about their pain alongside other sources of information and indicators of pain?

Pain management has become an institutionalized part of medical care. Health care providers are expected to identify and treat the pain of patients as part of providing quality patient care. Pain is currently among the more subjective of symptoms that are measured in the hospital because it involves the use of patients' self-report and physiological signs (such as increased heart rate). There are studies about patients' subjective experience of pain and the tension between patient experience and professional judgment, usually based on biomedical knowledge or professional ethics. These studies do not focus on the ways that healthcare professionals are also bound to follow standards or protocols that may serve to mediate this tension between patient experience and professional knowledge.

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<sup>1</sup> For discussion of quality of care, see Institute of Medicine reports, *The Quality Chasm* (1999) and *To Err is Human* (2001). For discussion of racial disparities in treatment, see LeVeigh et al. 2008; Smedley, Stilt, Nelson 2001; Heins et al. 2006; Pletcher 2008.

<sup>2</sup> Pain scales are used as a standard way to measure how much pain a patient is feeling. They require that health care providers ask patients to report their pain

Using Timmermans and Berg's (1997) conception of the use protocols by health care providers, I intend to examine how nurses use pain scales to assess patient pain. I focus on nurses because they are central to the initial recording of symptoms and the assessment of patients. There are two sets of questions guiding this study. The first set of questions is about how pain scales are used by nurses. What techniques do nurses use to assess pain? In what circumstances do they modify or change the protocol? The second set of questions focus on the interplay between responses to pain scales and other indicators of pain. What relevance do nurses assign to varying types of information about a patients' pain? Does this vary based on the patients' characteristics including their health status, or their perceived race, class, sex? How do nurses use pain scales to affirm or disaffirm other indicators of pain (or lack of pain)? What role does information about pain play in the overall assessment of the patient's condition?

To address these questions, I propose conducting an ethnographic study. I would observe interactions between nurses and patients in a hospital emergency room for a period of 9 months and interview 40 nurses about their experiences of dealing with patients suffering from pain.

In the following sections, I will review literature about the subjective nature of pain and the tension between patients' experience of pain and professional understandings of pain. I will outline Timmermans and Berg's conceptualization of protocols and explain how I will use this in my own work. I will then review my research questions and methods. I conclude by discussing the importance and possible implications of this project.

## **Literature**

In this section I will review some of the literature on subjective experiences of pain and studies of the tension between patient experience and professional judgment, usually based on biomedical knowledge or professional ethics. The tension identified in these studies is typically framed in terms of differences in experience or knowledge. However, external standards, such as hospital protocols, often mediate this relationship. I propose using Timmermans and Berg's conceptualization of protocols to understand the way that nurses use pain scales to assess patients' pain.

There are numerous studies about patient subjective experiences with chronic pain and how these subjective experiences conflict or are negotiated within biomedical approaches to treatment. Studies of pain sufferers tend to analyze the ways that patients interpret their pain, and the use of narratives to cope with pain and maintain a coherent identity (Werner and Malterud 2003; Jackson 1992; Kleinman, 1992; Kotarba 1979; Kugelman 1999). In Jackson's (1992) study of patients at a pain clinic, she finds that patients found it difficult to reconcile their experience with pain with the pain clinic's language for explaining pain. These studies identify significant aspects of patient experience and the discrepancies that can occur between patient experience of pain and providers interpretations of pain. However, these studies are typically limited to chronic pain and pain conditions that have a contested status within traditional medicine.

There are studies about differences in the ways that providers and patients think about pain (Whelan, 2003; Eccleston, Williams, Stainton Rogers. 1997; AANA 2003; Nash. 1999; Haskard, DiMatteo, Heritage 2009). For example, patients suffering from chronic pain often do not want to think about their pain as untreatable or psychological (not having a physical origin) yet medical professionals often classify chronic pain in this

way (Kotarba 1979). Providers may also have concerns about the risks of drug addictions resulting from pain medications that may make them reluctant to treat patient pain (Becker et al. 2009; Conrad and Schneider 1980).

Studies of biomedical models of measuring patients' pain experience tend to critique provider methods of assessing pain and the search for verifiable physiological causes. In an analysis of pain scales developed by the gynecological community to measure endometriosis pain, Whelan (2003) argues that these scales do not measure pain, but rather the patient's accounts of pain. Using the pain scale shifts attention away from the pain itself to the patient's accounts of pain. Rather than being an objective measure of patient conditions, Whelan argues, pain scales are products of the epistemological communities that create them.

Various studies elaborate on the tension between patients and health care providers. This tension is usually framed as being a conflict between patient experience and professional judgment, based on knowledge and professional ethics. By limiting these studies to differences in individual patients and individual sufferers, we may be missing other external factors that shape interactions between patients and providers. The external factor that I will focus on in this study is the use of mandatory protocols. Given the increasing bureaucratization of hospitals and national push for standardization of care, it is likely that provider relationships with patients are often mediated by standards and regulations that are external to individual differences in experience or knowledge. Looking more closely at the ways that providers use protocols and how they enter into the interaction between providers and patients may illuminate additional factors that shape tensions between providers and patients. In a study of two medical protocols

(ABC and FRAM-6<sup>3</sup>), Timmermans and Berg (1997) examine how protocols are used and maintained in work practice by actors with their own goals and trajectories. Building upon Bruno Latour's discussion of universality in science, they elaborate on the nature of the tension between new networks that occur when new protocols are adopted and existing networks. They also argue that numerous actors, rather than one central actor, are actively involved in implementing and maintaining the protocol, which many actors use and modify to meet their own goals<sup>4</sup>.

Timmermans and Berg's study of protocols is useful in explaining how healthcare providers adapt protocols based on scientific knowledge into their existing routines. Pain scales have been widely used among health care workers since 2001 when professional medical associations recognized pain as the 5<sup>th</sup> vital sign and the national hospital accreditation agency mandated its use. While the protocol for using pain scales is an attempt to standardize information about patients' pain experience, pain scales are unique because input from patients are built into the protocol<sup>5</sup>. In this sense pain scales are both a part of work practice and also largely influenced by the interaction and communication between providers and patients. In this study, I intend to examine the ways that healthcare providers use pain scales and how they balance this protocol with other indicators of how much pain a patient is experiencing.

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<sup>3</sup> ABC is an international protocol used in CPR. FRAM-6 is a protocol used to treat patients for whom chemotherapy has failed; this protocol is used for clinical studies with these patients.

<sup>4</sup> While most STS scholars have focused on scientists applying protocols, as Timmermans & Berg (1997) have shown medical providers can also function as applied users of science.

<sup>5</sup> We see this in the development and testing of new pain scales that can be used by non-English speakers, persons with cognitive disabilities and children.

## Research Design and Methods

In order to understand how health providers use pain scales as part of a range of available information to assess pain that patients are experiencing, I will use participant observation and in-depth interviewing. I will conduct interviews with 40 registered nurses and observe for 9 months in one hospital Emergency Department.

Nurses are the focus of this study because they are central to the recording of symptoms and are first to assess patients when they enter the hospital. The interpretation and recording of information that nurses do are part of hospital records, which are shared with doctors and other health care providers, billing forms, and a patients' lifelong medical record.

The Emergency room is a useful site because patients often enter emergency departments suffering from a range of conditions; oftentimes conditions that providers are not initially aware of<sup>6</sup>. The influx of new patients may make collecting information about symptoms more salient in this setting than in in-patient units, clinics, or private physicians offices where patients and providers may have ongoing relationships or medical records. ER patients are disproportionately uninsured and may not have seen a doctor in a substantial amount of time. This is the case even in more affluent hospitals in urban areas.

I will observe at a hospital that is actively incorporating health care quality improvement efforts. To measure a hospital's use of health care quality efforts I will use rankings from a national hospital accreditation agency and a nationally recognized quality organization. Although not all hospitals are incorporating quality measures, all

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<sup>6</sup> The exception to this is that there are "regulars," usually locals without health insurance, that go to Emergency departments regularly.

hospitals use some protocols in providing treatment. By observing at a hospital with programs to improve quality of patient care, I expect to have more opportunities to closely observe how nurses implement standardized ways of dealing with pain.

### Observation

I will conduct participant observation in one hospital for 9 months. I will observe in an unobtrusive manner, mostly by asking nurses for permission to “shadow” them during a work shift. I will observe during day and night shifts about 3 times a week. I will try not to be intrusive while observing (Bosk 1979; Lareau 2003; Lofland and Lofland 1995; Weiss 1994). The days when I am not working will be spent writing detailed field notes. Field notes will be written within 24 hours of conducting an observation. When possible, I will request permission to collect relevant documents from both hospitals, including hospital policies and blank copies of administrative forms that health care providers use to document pain.

I will use participant observation to answer my research questions in the following way:

#### 1. What techniques do nurses use to assess pain?

To study the assessment of patients, I will observe how nurses chart or record what patients tell them, whether and how they repeat the information back to patients, and how they talk to patients about their condition. For example, nurses may use language like, “since you are in considerable pain,” “a lot of pain,” etc. I will also look for the ways they respond to patients talking about their pain, do they demonstrate sympathy, sadness, concern, disbelief? I will observe what nurses say to coworkers or doctors about their patient. For example, when nurses speak with doctors about the patients’ condition, how

do they describe the patients' pain? Do they make reference to things they patient has told them, the appearance of the patient, the particular condition a patient has?

2. In what circumstances do nurses modify or change the protocol (pain scale)?

To answer this question, I will look for whether nurses read the pain scale script in its entirety. I will look for whether they add information or explanations, and if so, in what circumstances? What happens if a patient does not understand the question or is unable to reply?

My second set of questions seeks to understand the interplay between pain scale protocols and other indicators of pain. I will use observations to answer these questions in the following way:

3. What relevance do nurses assign to varying types of information about a patients' pain? And does this vary based on the patients' characteristics including their health status, or the nurses' perception of the patients' race, class, sex?

I will look for signs that nurses use pain scale information in their assessment of patients' pain. I will look for variability in how much weight nurses assign to different types of information. For example, some nurses may rely on patients' appearance while others may rely more heavily on patients' heart rate and yet others may rely mostly on what patients report as their level of pain. Are there cases when nurses veer from their norm?

I will look for examples of nurses making exceptions or weighing information differently for some patients than others. I will look for signs that nurses are consistent in the way they assess pain for all patients. I will also look for counterevidence - signs that external

factors, such as time constraints, directives or opinions by supervisors, and regulations and *not* patients, lead to changes in their normal assessment of pain.

4. How do nurses use pain scales against or in support of other indicators of pain?

I will observe to see if when nurses speak about indicators of pain, such as patients' appearance, their illness, they also reference the patients' response to pain scales? I will look for instances when nurses are leaning in one direction, but use information for the pain scale to affirm or change their impression of a patients' pain state. For example, if a nurse believed a patient was in severe pain, but the patient states that they are only experiencing pain mild pain, how does the nurse assess the patient at this point? This may also come up in cases where family members may provide one narrative about a patients' pain and the patient may provide another account.

5. What role does information about pain play in the overall assessment of the patient's condition?

I will be attentive to instances when nurses make statements about the general condition of a patient. I will look for examples when pain is a part of this explanation and times when it is not. I will look for signs that whether or not a patient is in pain is central to a nurses' understanding of a patients' condition.

### Interviews

I will conduct interviews during the last 2 months that I am conducting participant observations. Most interviews will be conducted in English because I expect that registered nurses will speak English fluently. Interviews with nurses will be conducted in

their homes if possible. If they prefer to conduct the interview elsewhere, I will avoid conducting interviews in the workplace. Interviews will last about 90 minutes depending on how much respondents have to tell me. After interviews I will write field notes about the setting where interviews were conducted as well as the tone of the interview. All interviews will be recorded and transcribed verbatim.

In interviews I will ask nurses about experiences with patients that are in pain. I will ask about how they began using the pain scale, when it is helpful and when it is a hindrance. I will listen for signs that nurses identify with some patients, illnesses, or situations. I will ask nurses to tell me stories about patients that they believed were in serious pain, moderate pain, or not in pain at all. I will listen for cues about how they understood that patients were in pain. I will ask about times when they believed their coworkers handled a patients pain well and times when they believed coworkers were mistaken in their assessment of a patients' pain.

### Analysis

I will code field notes and interviews for themes about how nurses assess a patients' pain. Events and themes that emerge from field notes will be used to guide interviews (Bosk 1979). I will use NVIVO software to code interviews and field notes. I will write analytic memos as I am coding interviews to see what themes are emerging (Lareau 2003).

### **Conclusion**

This project aims to examine the ways that scientific knowledge, which gets translated into standards and protocols, is applied among health care providers.

Oftentimes standard procedures are developed to create uniformity of treatment in different locations and for different people (Timmermans and Berg 1997). In the case of pain treatment, this is an especially delicate task because medical protocols such as the pain scale are explicitly incorporating patients' subjective experience. By conducting observations in a hospital emergency room and interviews with nurses, I intend to explore the ways that providers use different types of information, including pain scales, to assess patients' pain.

This work may inform policies about how to improve standards and protocols that are used in hospitals. I may find that there are certain aspects of protocols that make them difficult for healthcare providers to follow or that protocols are not well integrated into the natural interaction between providers and patients. At a time when there is increasing awareness in differential treatment, often resulting in African Americans and other minority groups receiving inferior care, it is critical to understand how protocols that are intended to standardize care are actually used by health care providers. Standardizing best practices have been proposed as a solution to the health disparities problem, yet we know very little about how health care providers use protocols in the midst of complex interactions with patients, workplace demands, and expectations of their coworkers. Understanding how healthcare providers use protocols as they make decisions about how to treat patients may provide insight into different factors that structure differences in care.

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Appendix.

### Interview Guide

Tell me about how you became a nurse?

Probe about nursing school – surprises? Things you really enjoyed.

Probe about how they began working in this particular hospital.

Walk me through what you do when you are assigned a new patient. Who assigns it?  
How do you start? When you walk into the room – what's usually on your mind? What are your first steps.

Do patients often come in for pain? Tell me about that.

Can you think of a time a patient came in with a lot of pain and you felt like you really handled it well. Tell me about that.

Probe: What's it like for you when a patient is in pain.

Think back to the last patient you had who was in a lot of pain. Tell me about that.

Can you think of a time when a patient came in with a lot of pain and you felt like things did not go as well. Tell me about that.

If they mention treatment of pain, ask them how they treat pain. Do they need doctor to order medication? How do they get meds?

Do you ever work in pediatrics? Tell me about that.

Probe about family members of patients.

Give them vignettes of patients with different types of pain – ask them questions like:  
Some E.D. get patients where they don't know what's wrong with them.

Can you think of a time when you were in pain while at work. Tell me about that.