Physicians' Perspectives Regarding the Use of Shared Decision-Making in the Emergency Department

A thesis submitted by

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Abstract

Shared Decision-Making (SDM) is the "process in which clinicians and patients work together to select tests, treatments, (and) management…based on clinical evidence and the patient's informed preferences."[1] It has been shown to inform and engage patients,[2-6] temper uncertainty,[5-7] and in specific scenarios, to decrease utilization and costs.[6,8-12]

Despite its potential to improve care, little is known about how and when SDM is used in the Emergency Department (ED). Several studies have examined SDM interventions in the ED, but very little stakeholder engagement has been published regarding this practice. Stakeholder engagement for ED SDM interventions should include ED clinicians ("providers"), ED patients and family members, nurses, hospital administrators, and payers. Because SDM is most frequently initiated by providers and not patients, understanding providers' perspectives may represent the theoretical crux needed to promote this patient-centered method of communication. Simply put, SDM will not occur if the provider does not initiate it.

Because little research exists regarding Emergency Physicians (EPs) perspectives regarding SDM, we sought to explore attitudes towards SDM (motivators, barriers, and facilitators) via qualitative inquiry. Via semi-structured interviews with a purposeful sample of EPs, we investigated the use of SDM in the ED, including the barriers to and facilitators of use, attitudes towards SDM, and motivations of EPs when SDM is used.

Our results demonstrated that while the name "SDM" is new to some EPs, the practice of SDM is used by all providers to some extent. Physicians recognized that SDM was good for patients – improving communication and providing value-congruent care – but also that

it was hard to do, and major barriers exist. Concrete barriers, such as lack of reliable follow-up care, often prevented the use of SDM. Emotional barriers also played a large role, such as the fear of a bad outcome or litigation. Our research also exposed numerous reasons why residents are not getting bedside training in SDM.

In summary, our qualitative analyses provided an in-depth exploration of providers' perspectives on the use of SDM in the ED, revealing both actionable challenges and generating testable hypotheses.

Dedication

This work is dedicated to my parents, David Schoenfeld and Ellen Schoenfeld-Beeks, for encouraging me to use science both to find truth in the world and to promote compassion and empathy, and to my husband, Pranay Parikh, for helping me find the time and energy to do so. It is also dedicated to Zivia Parikh and Aavi Schoenfeld, so that they may they know, at ages 5 and 7, that learning, experimenting, trying, failing, and succeeding are for people of all ages.

"Life might have its failures, but this was not it.
The only true failure can come if you quit."
Rosie Revere, Engineer. By Andrea Beaty

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Schoenfeld EM, Goff SL, Elia TR, Khordipour ER, Poronsky KE, Nault KA, Lindenauer PK, Mazor KM. The Physician-as-Stakeholder: An Exploratory Qualitative Analysis of Physicians' Motivations for Using Shared Decision Making in the Emergency Department. Acad Emerg Med 2016;23(12):1417–27.

List of Abbreviations

ED	Emergency Department
SDM	Shared Decision-Making
EP	Emergency Physician
ACA	Affordable Care Ace
PCORI	Patient Centered Outcomes Research Institute
AHRQ	Agency for Healthcare Research and Quality

Introduction

Shared Decision-Making (SDM) is a method that facilitates collaboration between patients and providers when healthcare decisions need to be made.[13] SDM enhances risk communication and facilitates informed decision-making,[2,7,14] potentially decreasing resource utilization, improving patient safety, and encouraging both patient engagement and patient-centered care.[15,16] Several states have passed legislation specifically promoting SDM, and the Affordable Care Act (Section 3506) calls for the creation of programs that encourage better provider-patient communication around decision-making.[15] Increasingly recognized as an ethical imperative similar to informed consent, many arguments for SDM are grounded simply in the basic principle of autonomy, exemplified by the expression, "nothing about me, without me."[17-19]

The critical components of provider-initiated SDM are listed in Table 1. In a practice paradigm without SDM, many borderline clinical cases in the Emergency Department (ED) are decided without input from patients. This can lead to practice variability and the potential for overutilization of resources as external pressures (such as defensive medicine) may trump patient input.[21] Examples of this can include admitting elderly patients who may have preferred to go home, placing them at risk for hospital-acquired infections and falls; performing a CT scan on a young patient with abdominal pain who may have preferred watchful waiting, which exposes her to radiation; or over-testing a patient with chest pain who is at low risk for heart attack because the physician overestimated the patient's need for a definitive diagnosis, and didn't discuss the issue of clinical uncertainty with the

Table 1. Elements of Shared Decision-Making:[13,20]

1. Provider affirms *options* exist.
2. Provider affirms plan to inform patient and work together for deliberation.
3. Provider gives information (options, risks/benefits, pros/cons) and checks understanding.
4. Provider elicits preferences.
5. Provider and patient integrate preferences and arrive at decision.

patient. In each of these situations, a forthright discussion of the risks, benefits, and uncertainties around the clinical issues could lead to multiple reasonable decisions. Undoubtedly, SDM improves the *communication* of risk, but advocates argue that the benefits go further (Table 2).

Table 2. Evidence for Shared Decision-Making:
1. *Improved Patient Engagement[2-5]
2. Improved Communication of risk/more accurate risk perception[7,22]
3. *Improved knowledge[3-5,22-24]
4. Decreased health care disparities[2,3]
5. *Decreased resource utilization (testing, surgery, admissions) [9-12,23,25-29]
6. Decreased medical liability[30]
7. Provide care more congruent with patient values[7,22]
8. Decrease expenses at end of life[12]
9. *Improved patient satisfaction[5,14,23,24]
10. Decrease costs[25,9-12]
11. Decrease decisional conflict[2,5,7,14,24]
*Includes studies done in the ED

Studies of decision aids and the SDM process have been consistently positive with regard to improvements in patient engagement, communication of risk, and patient satisfaction.[2-5,7,14] There is evidence that SDM has the potential to reduce healthcare disparities and decrease elective surgical procedures, medical liability, expenses at the end of life, admissions, and diagnostic testing. Although critics have disputed some of the conclusions of trials of SDM and patient decision aids,[31] beneficial outcomes suggested by these trials are listed in Table 2.

While research on shared decision-making has often focused on where there is strong scientific evidence supporting two or more management options, experts in SDM have suggested that SDM may be even more important when such evidence is low, such as in many emergent situations.[32] In low-certainty clinical encounters, SDM can “foster shared acceptance of uncertainty, close the gap in knowledge between the patient and physician,

promote patient empowerment, and enhance trust through transparent communication,"[32] all things critically important to a brief ED encounter. This is significant because most SDM studies have focused on high-evidence clinical scenarios, and little is known about low-evidence clinical encounters.

Innumerable decisions are made daily in EDs across the U.S. In a setting of such high decision density, if SDM is appropriate for even a fraction of those decisions, the benefit to patients could be substantial. This makes extending the study of SDM into the ED highly significant, as well as overdue.

Examining ED providers' *perspectives* regarding SDM will improve our understanding of barriers and facilitators to the use of SDM in the ED, and identify the clinical scenarios where providers perceive SDM has the greatest potential for impact in the ED, providing us with information that will create the framework for ED-based SDM research. This understanding will offer a foundation for the development and implementation of interventions to optimize SDM in the ED. We can then bring SDM and its potential benefits to populations that have not experienced this patient-centered practice.

By systematically assessing and addressing the perspectives of the Emergency Department (ED) physicians as part of the groundwork for an SDM-based intervention, this work creates a framework that contributes to the generalizability and effective translation into the ED. By addressing stakeholder concerns early in design, this research contributes to the applicability of future work in this area and is essential for building the foundation for effective and translatable research in this area.

Chapter 1, a previously published manuscript, explores why EPs use SDM at all – that is, what motivates them to use this tool when barriers exist. Chapter 2 explores a surprising finding – evidence that various forces lead to less use of SDM in the settings where residents are trained. Chapter 3 explores barriers and facilitators. Lastly, Chapter 4 is the survey developed based on the qualitative work. This survey will be cognitively tested, piloted, and then administered to large sample via the Massachusetts chapter of the American College of Emergency Physicians and via a large community group of EPs, AppolloMD.

Chapter 1

The Physician-as-Stakeholder: An Exploratory Qualitative Analysis of Physicians' Motivations for Using Shared Decision Making in the Emergency Department

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Schoenfeld EM, Goff SL, Elia TR, et al. The Physician-as-Stakeholder: An Exploratory Qualitative Analysis of Physicians' Motivations for Using Shared Decision Making in the Emergency Department. Acad Emerg Med 2016;23(12):1417–27.

ABSTRACT

Background: Shared decision-making (SDM) is increasingly recognized as an important facet of patient-centered care. Despite growing interest in SDM in the emergency department, little is known about emergency physicians' (EP) motivations for using SDM. Understanding current patterns of SDM use and EP's rationale for using SDM is essential for the development of interventions to increase use.

Objectives: Recognizing the emergency physician as an important stakeholder in SDM research, we sought to identify and explore factors that may motivate emergency physicians' engagement in shared decision-making.

Methods: In this qualitative study, informed by the Theory of Planned Behavior and Social Cognitive Theory, we conducted semi-structured interviews with a purposeful sample of EPs. Interviews were recorded and transcribed verbatim. Using a directed qualitative content analysis approach, 3 members of the research team performed open coding of the transcripts in an iterative process, building a provisional code book as coding progressed. Respondent validation was employed to ensure methodological rigor.

Results: Fifteen emergency physicians, ages 31-65, from both academic and community practice settings, were interviewed. Several had not heard of the specific phrase "shared decision-making," but all understood the concept and felt they used SDM techniques to some degree. Most noted they had often had an agenda when they used SDM, which often motivated them to have the conversation. Agendas described included counteracting an algorithmic or defensive approach to diagnosis and treatment, avoiding harmful tests, or sharing uncertainty. All participants believed patients benefited from SDM in terms of satisfaction, engagement, or education. Nearly all participants identified research

outcomes that they felt would encourage their use of SDM (e.g. improvements in patient engagement, mitigation of risk) and many prioritized patient-centered outcomes over systems outcomes such as improved resource utilization. Little consensus was seen, however, regarding the importance of individual outcomes: of eight potential research outcomes participants endorsed, no single outcome was endorsed by even half of the physicians interviewed.

Conclusion: Emergency physicians identified many factors that motivated them to use SDM. This study informs current research on SDM in the ED, particularly regarding the motivations of the physician-as-stakeholder.

INTRODUCTION

Shared Decision-Making (SDM) improves patient engagement and knowledge, facilitates communication, and improves resource utilization.[1-7] Defined as "a collaborative process that allows patients and their providers to make health care decisions together, taking into account the best scientific evidence available, as well as the patient's values and preferences,"[8] shared decision-making has been called the "pinnacle of patient-centered care" and promoted as an ethical imperative based on principles of patient autonomy.[9,10]

Despite increasing interest in the impact of shared decision-making in the emergency department,[11-16] little research has focused on the emergency physician (EP) as a *stakeholder* in SDM research. "Stakeholders" are defined as "Individuals, organizations or communities that have a direct interest in the process and outcomes of a project, research or policy endeavor."[17] While there are many stakeholders in SDM research, including patients and families, policy-makers, and payers, EPs are possibly the most critical stakeholders regarding the translation of SDM research into clinical practice.

Therefore, understanding the perspectives and needs of this group is essential. Specifically, an understanding of the factors that may contribute to an EP's *motivation* to engage or not engage in SDM could help policy-makers promote SDM as well as help researchers study SDM. Additionally, the early involvement of stakeholders "helps to ensure that the research reflects the various needs of all diverse users."[18,19] Although two surveys about emergency physicians' views on SDM were recently published,[15,20] neither study examined *why* EPs engage in SDM or explored factors that may encourage physicians' use of SDM, such as attitudes, beliefs, or local practice norms. Because factors that may contribute to motivation have not previously been studied in an exploratory manner, qualitative research provides the necessary foundation for further investigation.

The purpose of this study was to explore emergency physicians' views on shared decision-making in the emergency department (ED). Specifically, we sought to examine what motivated individual providers to use SDM, what benefits they perceived from the use of SDM, and what effect various research findings might have on providers' motivation to use of SDM. This data may then inform future research seeking to study and implement SDM in the ED by identifying factors and outcomes that EPs find "motivating."

METHODS

Study Design

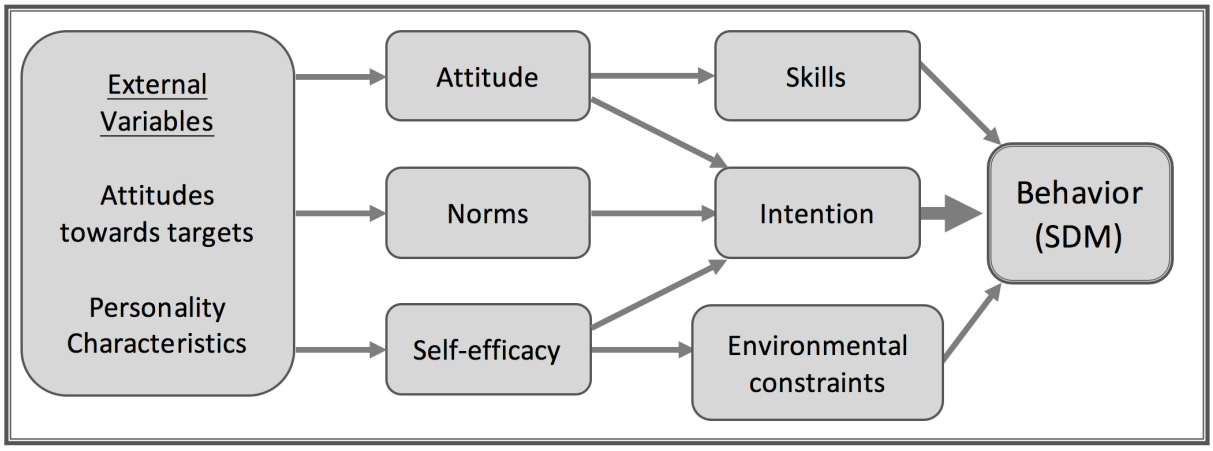
This was a qualitative study utilizing semi-structured interviews with practicing emergency physicians. The study was granted exempt status by the local Institutional Review Board, but utilized written informed consent due to recording of participants. Participants were reimbursed $25 for their time. The study was designed to comply with published standards for reporting qualitative research.[21-23]

Interview Guide

The initial interview guide was developed using an integrative theoretical model that combined the Theory of Planned Behavior and Social Cognitive Theory (Figure 1).[24]

The theoretical framework

Figure 1.1. The theoretical framework (Integrative Model: Social Cognitive Theory &Theory of Planned Behavior[24]) demonstrating how various factors affect a behavior (Shared Decision-Making).



organizes the factors that potentially influence an individual's performance of a behavior, such as initiating a shared decision-making conversation. For example, the decision of whether or not to engage in SDM (Behavior) may be influenced by the provider perceiving that they communicate well (Skills and Self-Efficacy), that the behavior is expected of them (Norms), or that the ED is too busy to take the time (Environmental constraints). We also incorporated findings from qualitative studies of non-emergency physicians, due to the paucity of related studies with EPs.[25-28] Table 1 demonstrates

Table 1.1. Factors derived from the theoretical framework, resultant interview questions, and example responses.

Factor	Domain/question	Example Response
Intention	Facilitators: What made you decide to use SDM in that scenario?	*"it was…that sort of almost flip of the coin decision point, and I really could have gone either way."* (Female academic EP) *"often it's where I'm going down a path I don't want to go down… We're gonna get a CTA, I*

		don't want to get a CTA. We're going to tube (intubate) you, I don't want to do it. So it's when it's when I'm not convinced it's the right path and so I often will present it to them." (Male academic EP)
Attitude	Benefits: How do you think using SDM effects your patient encounters?	*"…you often end up doing the right thing, or doing what will make the patient understand and sort of embrace the right work up."* (Female academic EP) *"I think it's almost always appreciated. I think the patients feel understood, they feel listened to."* (Male academic EP)
Norms	Barrier/Facilitator: Do you think your colleagues use SDM? Have you ever received training?	*"I think they probably, many, most of them use shared decision making whether they call it that or not. I think there might be a few outliers that sort of feel they can decide and instruct the patient, but I think it's being sort of widely used."* (Female academic EP)
Skills/Self-efficacy	Barrier/Facilitator: How comfortable do you feel using SDM techniques?	*"I think pretty comfortable."* (Female community EP)
Environmental constraints	Barriers: What stands in the way of using SDM more?	*"Hallway beds."* (Male academic EP) *"Time."* (Noted by nearly all EPs)
External Variables	Facilitator: What research findings or policies would encourage you to use SDM?	*"I don't know… if [SDM] somehow increased my productivity…"* (Male community/academic EP)

how the theoretical framework guided the development of the interview guide. The interview guide was piloted and was then iteratively revised during the interview process. (Supplement A) No changes were made to the guide after the 5th interview. Since the interviews were *semi*-structured, however, the content and questions of each interview diverged from the guide as needed during interviews. Both interviewers took field notes during interviews and discussed these notes after interviews. Interviews were designed to be 20-45 minutes long.

We asked participants to first discuss a scenario where they needed to make a decision, how they made that decision, and who they involved in that decision-making

process. We then asked participants if they were familiar with the term "shared decision-making" and shared an accepted definition.[8] We then asked participants to discuss scenarios where they used SDM, rather than asking directly, "what motivates you to use SDM?" This allowed further discussion of the motivators in the scenarios the participants provided. They were then asked to discuss scenarios where they could have used SDM but chose not to. Lastly, they were presented with a verbal summary of the Chest Pain Choice trial as an example of SDM research in the ED,[2] and asked what the findings meant to them. This led into a discussion of whether various research findings (particular outcomes) were meaningful to them in a way that would potentially influence their behavior.

Study Setting, Participants, and Recruitment

A *purposeful* sample seeks to intentionally sample based on criteria that may be important to a particular study, under the presumption that a homogenous cohort may limit the breadth of responses.[29] We chose a purposeful sample of EP physicians based on gender, years in practice since residency, region (rural/suburban vs. urban) of primary employment, academic versus community practice setting, and location of training (inside versus outside of the state). Physicians meeting these pre-determined criteria were identified by convenience sampling and by utilization of networks to identify physicians likely to have different perspectives, similar to snowball sampling techniques.[30] For example, professional networks were used to identify several physicians new to the region, with the expectation that they may contribute new perspectives. Physicians were initially contacted by the investigators via an email asking to conduct an interview about "clinical decision-making." Initial study design planned for at least 12 interviews, with the option to conduct additional interviews if thematic saturation had not been reached.[29] (Thematic saturation refers to the point where new interviews fail to generate new ideas.)

Previous research has shown that 15 interviews is generally enough to reach thematic saturation.[31]

Data Collection

After agreeing to meet for an interview, participants provided written informed consent and filled out a demographics form. Interviews were conducted in person at private residences or private offices per participants' choice. The interview team consisted of two female, practicing EPs (EMS and TRE) who trained and piloted interviews under a senior investigator with qualitative methods experiences (SLG). One interviewer served as the primary interviewer for each interview, with all but one interview having a team member present as an observer, taking notes and asking additional questions at the end. All interviews were recorded via audio recording device and transcribed. After the interviews, *member checking* was performed by providing participants with a short summary of the major points they discussed and asking them for their agreement, disagreements, or comments.[23]

Data Analysis

Transcripts were entered into Dedoose qualitative data management and analysis software (Dedoose Version 7.0.18 Los Angeles, CA: SocioCultural Research Consultants, LLC). Coding was performed in an iterative fashion by three research team members (EMS, ERK, KEP), all of whom had either qualitative research experience or recent training pertaining to coding. The codebook was developed using a directed approach to content analysis: that is, we combined *a priori* codes drawn from previous literature and our theoretical framework with emergent codes that came directly from line by line coding of the transcripts.[29,32] Iterative coding was done, where transcripts were re-coded as the codebook was refined. Each transcript was coded at least twice by at least two coders.

We calculated agreement based on excerpt coding as well as by overall codes identified per transcript. Disagreements were discussed until consensus was reached. The codebook is available in Supplement B.

While the goal of the interview was to explore the physicians' use (or lack of use) of SDM and explore the factors that motivated or discouraged their use, our analysis focuses on their intrinsic motivation and the factors that they felt encouraged them to use SDM (or would potentially encourage their use of SDM).

Research team and reflexivity

Qualitative inquiry attempts to recognize and reflect on the effect of the researcher on the participants and the analysis of the information gathered, particularly in an interview-based study. This concept is known as reflexivity.[23] The research team must acknowledge the role that they may have played in introducing bias, and make attempts to recognize and mitigate that bias.

The interviewers knew many, but not all, of the participants prior to the interviews. Most of the participants did not know the goals of the research prior to the interview, but the goals were stated during the semi-structured interview and it was made clear that the interviewers sought honest responses. (Supplement A: Semi-structured interview guide.)

RESULTS

Between June 2015 and November 2015 we interviewed 15 emergency physicians currently working in Massachusetts. One additional EP was contacted but we were unable to schedule an interview and he was not included. Theoretical saturation was reached as no distinct new codes emerged from the last three interviews.[23] Participant characteristics are described in Table 2.

Table 1.2. Participant Demographics

Participant Characteristics (N=15)	**N (%)**
Age – mean (range)	46 (31-65)
Female	6 (40%)
Race/ethnicity:	
White	10 (67%)
Black	1 (7%)
Asian/Indian	2 (13%)
Did not answer	2 (13%)
100% Academic	6 (40%)
100% Community	4 (27%)
Combined Academic/Community	5 (33%)
Years since residency – mean (range)	13.1 (1-30)
Residency in Emergency Medicine	13 (87%)
Residency (training) location:	
Regional Academic Hospital (1 site)	4 (27%)
In current state of practice but not at regional training site	3 (20%)
Outside current state of practice	8 (53%)
Total different practice sites where participants had worked within past year	14

In the year prior to their interview, participants worked at 14 different practice locations (both within and outside of Massachusetts), with nearly half working at more than one site. Regarding participants' practice locations at the time of the interview, two are considered to be urban, five are considered to be suburban/ rural, with one site considered to be rural. One site is academic, two sites have some academic affiliation (occasional residents or medical students) and the others are considered to be community hospitals.

Regarding familiarity with the term "shared decision-making," 6 participants were not familiar with the term, but once given a definition, each expressed familiarity with the concept, and every participant was able to give examples of instances when they used SDM. The types of clinical scenarios discussed are noted in Table 3; this included scenarios that were discussed in detail as well the answers to the question, "In what *other* scenarios do you use SDM?"

Table 1.3. Scenarios where emergency physicians noted using shared decision-making. (*Scenarios were not presented, but participants were asked, "Any other scenarios where you use SDM?"*)

Scenario	**Number of participants who noted this scenario when asked about use of SDM (N=15)**
Admission versus discharge for chest pain at low risk for ACS	13
CT scans in general	12
CT scans for abdominal pain (diverticulitis, renal colic, "non-specific")	11
End of life scenarios	7
Pediatrics in general	6
Head CT after minor injury	5
Admission versus discharge for non-specific neurological complaints	5
Admission versus discharge or antibiotics versus watchful waiting for infections	5
Lumbar puncture after negative head CT for ruling out subarachnoid hemorrhage	4
Opiate Prescribing	2
When patient is considering leaving AMA	2
tPA for stroke	1

SDM= Shared Decision-Making; ACS= Acute Coronary Syndrome; *CT*= computed tomography; *AMA*=Against Medical Advice; *tPA*=tissue plasminogen activator

Measures of Validity

Member checking yielded only two comments from participants, clarifying thoughts but not changing the content of their codes. Inter-coder agreement for excerpt coding and for total individual codes found in a transcript ranged from 60% to 90% for the second round of coding, with a mean of 75%.

Themes and Sub-Themes Identified, Related to Motivation

Many of the factors from the theoretical framework fell under the domains of "barriers" and "facilitators." Because we sought to examine the attitudes of the physicians specifically in light of their position as stakeholders in SDM research, our analysis

emphasized how the factors identified related to motivation. Themes and sub-themes, along with representative quotations, are listed in Table 4.

Table 1.4. Themes and sub-themes related to physicians' motivations, with representative quotations

Theme	Sub-Themes	Representative Quotations
The Physician's Agenda	To avoid the "medicolegal" path (defensive medicine) or to avoid tests/treatments that harm	*"[I use SDM when there might be] the need for further testing in which the testing carries some risk and expense, for example an abdominal CT." (Late career academic EP)* *"[sometimes] we're recommending things just to be complete and protect ourselves and do everything… unless the patient doesn't want everything done, and appropriately say, 'Hey, can I go home and see if my abdominal pain gets worse instead of staying here 6 hours for a CAT scan?' [and I would say] 'yes, you can do that.'" (Community/academic EP)* *"[regarding low-risk chest pain patient and SDM] I don't think they really benefit from that admission too much."* (Mid-career male EP) *"What is the harm of hospitalization? There's always a harm in hospitalization. So, when I go into these conversations, I usually for myself would feel that the harm of hospitalization outweighs the potential harm of whatever disease process they may be presenting with and therefore I personally would choose not to stay."* (Late-career EP)
	To manage uncertainty	*"I use it (SDM) because I want them to be aware that although the risk is low, there is some little bit of risk there that something bad could happen to this person and family."* (Early career community/academic EP) *"I think the benefit of the discussion with shared decision making is to involve the other people in the room, because I want them to know that I'm actually thinking about it, because I recognize that there are certainly limitations to my intellect or skill set…that if something goes in the wrong direction then they knew that I was open to the idea that I wanted them to come back."* (Male community EP) *"There is a benefit to the system. In general I think it provides decreased, in my feeling, decreased risk, so it's a risk mitigation technique as well."* (Male academic EP)

	"Guided" shared decision-making	*"…then there's sort of this shared decision-making with some heavy advertising of my end where …I've really put a lot of emphasis on what I think is right."* (Early career community EP) *"In abdominal pain in a young kid … I don't want to really radiate the child so a little bit of shared decision making - helping them understand why I don't want to do it, and hoping that they agree."* (Early career female EP) *"I think in this case, because I was on the fence...[I] didn't lead her down one path per se. Although, I kind of talk people into one way, subtly presenting the other. I can't really help but do that."* (Community/academic EP) *"[as part of the SDM conversation] I… try to have a PECARN [sheet] with me and hand it right to the parents… and say "look, take this, this is why I'm doing this" and they're like "oh, ok" so I think that helps a lot."* (Female community EP) *"I'll give options, but I'll say that's probably not an option you want to pursue and just mention it in passing."* (Male academic EP)
Attitudes	Towards the importance of patient satisfaction	*"I want people to be happy, I want people to feel like they got good care, that we are doing a good job."* (Early career community/academic EP) *"The patient comes first.. and [that] they're content with the service that is being supplied to them is paramount. You want to make sure that they feel better, but that they also, since we're not always able to make them feel better, that they at least feel the process was appropriate and the care was appropriate and that they're satisfied with the outcome."* (Late career academic EP) [Where does patient satisfaction fit in your priorities?] *"Getting the diagnosis right probably has to be first, getting teaching done…getting through the waiting room… They don't have to like me, they have to just get better."* (Male academic EP)
	Towards the importance of resource utilization	*"It [SDM] may provide some benefit to the system, the healthcare system, in the sense that I've had people take me up on no scans and that's saved me a CT and labs, which also affects flow and so on and so forth."* (Male academic EP)

		[What external factors influence your use of SDM?] *"Resources of the institution. Honestly, at [Hospital], where resources were at a premium, I engaged in SDM more (i.e. 'Would you rather wait 6 hours for a CT or go home...?')"* (Early career community/academic EP) *"[regarding resource utilization] Not my first priority, and part of it is no one ever told you "good job" for doing any of those things [decreasing CT scans, admissions]"* (Interviewer: No one ever says good job on your resource utilization?) *"You know you get panned for not ordering the CT scan; you never get kudos for the other way around."* (Community/academic EP)
The importance of research outcomes or policy	Attitudes towards guidelines	Pro-guidelines: *"…having guidelines…there's at least some buy-in from other providers and a practice approach where you can feel protected both medicolegally and reputation-wise…so consistency in the practice."* (Female community EP) Anti-guidelines: *"I think too many guidelines get in the way, personally. I think like we're inundated with the guidelines. They feel more like rules than guidelines most of the time, so I don't think I would…that would not work for me…Not looking for more guidelines."* (Community/academic EP)
	Medicolegal protection	[Interviewer: What might encourage you to use SDM more?] *"…tort reform, tort reform would help me use it more…"* (Mid-career academic EP)
	Patient satisfaction	"*Well, if we want to keep our jobs, patient satisfaction has to be somewhat prominent, so I take it seriously and I try to treat almost all of my patients very well. But I think it's part of the flaw of the American medical system that in the highly technical, complex, scientific job that we do, we're being evaluated on patient satisfaction… I find that, the whole idea, pretty offensive, but I play the game just like everyone else does*." *"I think both decreasing chest pain admissions would be a worthy outcome, and increase(ing) patient engagement or satisfaction is a very important part of it."* (Female academic EP)

1. The physician's agenda ("Intention")

While the initial interview guide sought to elicit perceived benefits, facilitators, downsides and barriers, the issue of *the physician's agenda* emerged as a previously-unrecognized theme. All physicians, in discussing their use of SDM, noted that although they recognized that there were two reasonable options (as some degree of clinical equipoise is necessary for SDM), and therefore presented these options to the patients, they usually had either an *agenda* or at least an opinion regarding which option they felt was best. This theme was noted at least once in every interview. What their agenda or opinion *was*, in each different scenario, helps shed light on what motivates EPs to use SDM.

A. Avoiding the "medicolegal path" or algorithmic care

The physician's agenda was often to avoid tests that harm (CT scans) or treatments/admissions that were thought to have minimal benefit, but that constituted the "appropriate medicolegal care" based on the patients' complaint. (Appropriate "medicolegal" care referring to tests and treatment that minimized medicolegal risk but involved a greater use of testing and admission than the physician thought was actually warranted.) An example of this would be using SDM to attempt to avoid a CT scan in a patient with abdominal pain and a very low likelihood of a pathologic finding or using SDM to decide on admission versus discharge in a chest pain patient at low-risk for acute coronary syndrome.

> "[I use SDM when I'm thinking] *this is not a path we want to go down...but the medicolegal side says we should.*" (Male academic EP)

> "[When do I use SDM?] *I mean CT for PE is a big one. Especially in those poor pregnant women … I'm just like, I really don't want to scan you, but I'm really being forced to scan you*." (Female academic EP)

> *"It* [using SDM, avoiding algorithmic care] *feels like you're actually being a doctor as opposed to just, you know, a monkey."* (Male community/academic EP)

B. The management of uncertainty and perceived mitigation of risk

Physicians also used shared decision-making to manage uncertainty. Physicians noted that not only was SDM a way of sharing uncertainty and possibly decreasing the risk of litigation, but that some degree of risk tolerance (by both the physician and the patient) was necessary to have any shared decision-making. Several noted that they believed that their risk-averse colleagues were less likely to engage in shared decision-making, and that as they themselves had become more comfortable with uncertainty (through the progression of their careers), they engaged in SDM more often. While many participants used SDM to share uncertainty, nearly half noted that SDM may lead to "missing something" or *increasing* medicolegal risk. Lastly, several physicians lamented the cultural intolerance of uncertainty, and noted this was a barrier to SDM.

> "*I don't know if this pans out in actual data, but it feels like you're protected from bad outcomes better if the patient feels like they had a say in that choice*." (Female academic EP)

> "*I hope that shared decision making is accepted by the public, and, selfishly, legally that it's accepted… because …right or wrong, there has to be… some acceptable level of risk, there has to be. If we train to 100% right, or we try to do that, it's non-sustainable … it probably hurts people*." (Male *community/academic EP)*

C. "Guided" Shared Decision-Making

The physicians' agenda was, at times, an outcome specific to that clinical scenario, such as avoiding a CT in minor head injury or avoiding blood tests in a young person with a viral illness. Nearly all participants described scenarios where their agenda or opinion was so strong that the conversation could be called "guided shared decision-making" or possibly not "shared" decision-making at all. An example of this would be a physician telling a patient with bronchitis that they are willing to give them a prescription for antibiotics, but then taking the time to explain why they don't recommend that "option."

Most physicians noted that they only expressed options they were willing to offer, even if they believed strongly that there was a best choice for the patient. Physicians felt that this *was* SDM and probably improved communication and engagement, although the risk existed that the patient would make the "wrong" choice.

> "*Then there are other times when there's SDM but I've already decided what I'm going to do – like, a football player gets his bell rung [head injury] and he comes in …and then the SDM is kind of educating the mother on why we don't want to fry this kid's brain when we can clearly just observe him*." (The physician went on to explain that if the parents insisted, after the explanation, that they wanted the head CT, he would oblige, but that this rarely happened.) (Male community EP)

> "[regarding low risk chest pain] *…so I'll spin [it] in one direction or another, and if it's a super low-risk patient then I will definitely spin it hard in the other direction. Like 'you have no risk factors…your pain is not suggestive of that [MI] …we could bring you into the hospital, but I don't really think you need to come in. If you were my brother I wouldn't admit you to the hospital*.'" [But physician is still giving the patient the options.] (Female community EP)

2. Attitudes that may affect motivation to use Shared Decision-Making ("Attitudes")

Participants expressed a multitude of differing attitudes, often in direct opposition to opinions expressed by other EPs. In light of recent research on SDM,[2,20] physicians' attitudes towards patient satisfaction and resource utilization stood out as particularly important.

A. Attitudes regarding patient satisfaction

Nearly all participants noted that SDM likely increases patient satisfaction. They noted that SDM probably improves communication and engagement, as well as giving patients and families a sense of control and feeling cared about.

> "*I think, in general, patients who like to be involved, and that's probably the majority, appreciate it. It makes for patient satisfaction, especially when it involves family and the whole room. If you have them help to decide that a CT scan of the*

abdomen with PO contrast is something that should be done now, then they can't complain about a three hour wait." (Female academic EP)

"*I think a number of patients have clearly expressed to me that they appreciate that I was giving them the information and the choice*." (Male academic EP)

Although nearly all participants felt that SDM increased patient satisfaction, the importance that physicians placed on increasing patient satisfaction as a *motivator* varied. Only four subjects identified patient satisfaction as a research outcome that would encourage their use of SDM, and over half of participants expressed reservations about patient satisfaction – noting that the competing priorities of a busy shift are often more important than patient satisfaction, and that many factors out of the physicians' control contribute to lower satisfaction (such as wait times).

"[regarding priorities that come before patient satisfaction] *I hope everybody lives, I hope that I don't miss anything big, I hope that I give good care, and I hope that I teach the residents how to do something well that day*. *The rest is gravy."* (Female academic EP)

"Patient satisfaction is secondary to appropriate medical care. This is not Applebees, you cannot have ranch/dilaudid with that and I will not supersize you to a CT scan." (Male community EP)

B. Attitudes regarding shared decision-making as a modality to affect resource utilization

Previous literature suggests that EPs see SDM as a viable method to decrease unnecessary testing in the ED.[20] However, it is unclear whether, in the context of the competing priorities of a busy shift, improving resource utilization is important to physicians and whether it actually motivates physicians to use shared decision making. Our interviews suggested that while the scenarios offered by participants would often lead to improved resource utilization, improving resource utilization was only occasionally described as the *primary* goal, or motivator, of an SDM conversation. While several physicians noted that they attempted to be cognizant of resource utilization issues, many

noted that improving resource utilization wasn't a top priority or a motivating factor for using SDM.

> [Interviewer: What are the benefits of SDM?] *"I think it often saves the system… resources and ultimately money."* (Male community/academic EP)
>
> *"[The] shared decision making would be that I don't think that we need to do… more tests, that you're safe to go home…limiting the amount of testing."* (Male community EP)
>
> "*I don't think that my primary reason not to CT scan someone (*or to use SDM to potentially avoid a CT scan) *is to save money for the healthcare system. I think the primary reason for me not to CT scan somebody is because it exposes them to radiation that they shouldn't get. Having said that, I realize that my decisions of whether I put someone in the ICU or on the floor, whether I CT scan, is multiplied by everybody in the healthcare system, so those costs are huge overall, but I can say at a personal level at this point I'm not rationing my CT scans because I'm afraid that I'm gonna get a note that says I've scanned too many people*." (Female academic EP, explaining that her motivation for using SDM has to do with avoiding the potential harm of radiation, not decreasing CT scan use.)
>
> "[regarding resource utilization] *Not my first priority, and part of it is no one ever told you "good job" for doing any of those things* [decreasing CT scans, admissions] [Interviewer: No one ever says good job on your resource utilization?] *You know you get panned for not ordering the CT scan; you never get kudos for the other way around*." (Male community/academic EP, explaining that although he believes that SDM may improve resource utilization, resource utilization doesn't motivate him to use SDM because there is no incentive to perform less testing, while missing a diagnosis has ramifications.)

<u>3. Relative importance of research findings and policy on physicians' motivation to use SDM</u>

For this part of the interview, the Chest Pain Choice Trial was used as a discussion point.[2] The Chest Pain Choice Trial was a randomized controlled trial of a decision support intervention to facilitate shared decision-making regarding admission versus discharge for patients with chest pain who were thought to be low risk for acute coronary syndrome. The trial was described, and it was noted by the interviewer that admissions decreased and patient engagement and satisfaction increased. The participant was asked about the relative importance of those research outcomes in encouraging their use of SDM. Several

physicians noted that improving resource utilization or patient satisfaction did encourage them to use SDM.

> *"It absolutely encourages me because it reinforces that what you're spending your time doing and really kind of going out of your way [to do] in a busy shift* [referring to SDM] *is actually meaningful on multiple levels, right? Decreasing resource utilization, increasing patient satisfaction, all of those things are things that are becoming more and more important in healthcare today, and so, might as well do what you can."* (Female community EP)

At that point they were further asked via open-ended questions about what other research outcomes or policy changes would be important to them. Physicians were encouraged to endorse any outcome that was meaningful to them, and responses are listed in Table 5.

Table 1.5. Responses to the open-ended question, "What research findings or policy changes would encourage your use of SDM?" (*Participants gave more than one answer each*).

Research Finding or Policy	Number of participants endorsing (N=15)
Decreased medicolegal risk	5
Improved resource utilization (such as decreased admissions)	5
Guidelines (would encourage use of SDM)	5
Participant expressed anti-guideline sentiments	3
Increased patient satisfaction	4
Improved patient engagement/empowerment	4
Decreased or equivalent morbidity or mortality (ex. Missed MIs)	4
Decreased iatragenic side effects of interventions	1
Improved patient flow or productivity	2
Research findings wouldn't influence participant's use of SDM	1

> *"So depending on the type of illness, number one should be mortality. Number two…I would look at things like iatrogenic injuries because a lot of the extra tests do have potential risks."* (Male academic EP)

Several physicians mentioned that guidelines would be helpful or encourage them, but others noted that they were not interested in more guidelines.

> *"I really like hospital guidelines, especially if they're done well where they don't limit me, yet they give me kind of a something to stand on…give me protection for what I think is right even though there is a small amount of risk involved in doing it."* (Male community/academic EP)

> *"There's no guidelines that I really care about in this regard. I care about scientific studies and guidelines when it comes to the technical aspects of care, but for the social aspects of care, it's completely irrelevant to me. And I'm sorry cause that's probably what this study is all about."* (Male community/academic EP)

Most notably, no single outcome was endorsed as important by even half the participants.

Themes less likely to play a role in motivation

Based on our theoretical framework, a number of variables could have played a role in motivating physicians, but were not heavily endorsed as motivating by the participants. Examples include norms, skills, self-efficacy, patient characteristics, and physician personality characteristics. For example, while a few participants noted that SDM was more "part of the culture" in some settings they had worked in, none noted that their colleagues' use of SDM influenced their own use ("Norms", Figure 1). Similarly, almost all participants reported that they were "comfortable" doing SDM with their patients, but this did not seem to play a role in their motivation ("Skills", Figure 1). While physicians did bring up patient characteristics that were barriers to SDM, only one patient characteristic - "patient asks about alternatives" – was noted by a participant to stimulate SDM. Lastly, physicians noted personality characteristics in their colleagues that they associated with increased or decreased use of SDM, but rarely identified these characteristics in themselves as playing a role in their decision to engage in SDM.

DISCUSSION

This is the first study to qualitatively explore emergency physicians' attitudes and motivations regarding shared decision-making. We noted that physicians often initiate SDM because of a conscious agenda, but that these agendas vary widely by clinical scenario. Physicians' agendas included avoiding CT scans, sharing and mitigating uncertainty, avoiding admissions with questionable benefits, and avoiding aggressive end of life care. The subtext to these goals was often that the "standard of care" (or the pathway felt to have the least medicolegal risk) was in direct opposition to what the physician felt was best for that particular patient, so rather than unilaterally diverging from the standard of care, the physician used shared decision-making to explain the situation and obtain input from the patient regarding their values, preferences, and often risk tolerance.

In some aspects, our results are aligned with the results of recent survey studies. Kanzaria et al. reported that most EPs felt that SDM may be a useful modality to decrease "unnecessary" testing.[20] Our participants often noted that using SDM in scenarios that would lead to improved resource utilization or decreases in testing, but this was only occasionally the motivator for the conversation. Probst et al. asked physicians whether certain scenarios were appropriate for SDM, and the list generated has overlap with our participants' usage patterns, shown in Table 2.[15] However, in our study, a large minority of participants weren't familiar with the term "shared decision-making." This has implications for the interpretation of previous surveys regarding the likelihood of social desirability influencing results, and it has implications for researchers and policy-makers looking to study or promote SDM.

Our study is the first study to examine the motivations for the use of SDM in the ED. We noted several themes that were important to EPs: SDM to avoid "standard" or algorithmic care when this care was not perceived as right for the patient, SDM to share or mitigate uncertainty, SDM to improve communication, patient satisfaction and

engagement, and resource utilization, and SDM to guide the patient to the "best" option ("guided" shared decision-making) while still allowing them input or dissent. Further study of the needs of the physician-as-stakeholder should investigate which research outcomes (i.e. morbidity, patient satisfaction, resource utilization) are most important in particular scenarios as well as quantify the relative importance of these outcomes in a larger and more representative population of practicing clinicians. Additionally, hospital-based interventions could target the areas that clinicians deem most important, for example supporting SDM as standard of care in particular clinical scenarios.

The lack of consensus regarding the importance of any one possible research study outcome is notable and has ramifications for researchers and policy-makers. It is possible that even with larger studies there will not be consensus between clinicians regarding the importance of any one research outcome, and that studies will need to have multiple outcomes to effectively encourage clinicians' use of SDM in the ED. Because of this lack of consensus, individual efforts to promote or study SDM should involve EPs early, at the *Evidence Prioritization* stage of research, in order to further delineate these motivations in the context of any specific SDM scenario.[19]

In theory, physicians should partake in SDM out of respect for patient autonomy. In reality, physicians balance patient autonomy, stewardship of resources, and fear of uncertainty with every medical decision. The challenge of the next phase of SDM research will be to establish measurable outcomes that are meaningful to clinicians and patients while helping physicians navigate this balancing act.

Strengths and Limitations

One of the strengths of semi-structured interviews is that participants are not given options, such as in a survey, that might bias their answers. In this respect, qualitative inquiry may result in both more honest responses and a wider breadth of responses than

a survey. Additionally, although all the EPs included were practicing in the same region of the United States, we sampled physicians from a wide variety of practice settings and training backgrounds, further increasing the breadth of our responses.

Regarding limitations, qualitative inquiry is intended to be hypothesis generating, not hypothesis testing, hence no specific hypothesis was specified *a priori*. Also, it is possible that physicians outside our region would have answered these questions differently, leading to different themes and concepts. We did not include perceived barriers in this analysis, in order to more deeply examine the aforementioned themes. Lastly, while our research team, including interviewers and coders, attempted to remain unbiased, pre-existing assumptions as well as social desirability bias may have influenced data collection and interpretation. We are optimistic that via rigorous examination of the transcripts and fidelity to the emerging codes, we were able to recognize the effects of our own biases.

Conclusions

All physicians interviewed were able to give examples of when they use SDM and why, reflecting the acceptance of some degree of patient involvement in medical decision-making in the ED. Sharing uncertainty and avoiding tests and interventions with minimal benefit or possible harm was noted to motivate many physicians, and while resource utilization and patient satisfaction were both felt to be benefits of SDM, neither played a large role in motivating a majority of physicians. Most participants were able to identify research outcomes that would be meaningful to them, but none of the 8 outcomes mentioned were endorsed by even half of the cohort. The foundation gained from this inquiry can help researchers and policy-makers further involve physicians-as-stakeholders in the study and promotion of shared decision-making.

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Chapter 2

Missed Opportunities: Emergency Physicians' Use of Shared Decision-Making and Ramifications for Resident Training and Education

Schoenfeld EM, Goff SL, Elia TR, et al. Missed Opportunities: Emergency Physicians' Use of Shared Decision-Making and Ramifications for Resident Training and Education. Submitted to Academic Medicine 2016.

ABSTRACT

Background: The ability to facilitate an effective, evidence-based, and patient-centered Shared Decision-Making conversation is an important clinical skill.

Objectives: To explore attending Emergency Physicians' (EPs) perceptions regarding their use of Shared Decision-Making (SDM) with a focus on those factors that have ramifications for resident training and education.

Methods: This qualitative investigation utilized semi-structured interviews with a purposeful sample of EPs. Interviews were transcribed verbatim, and the research team performed open coding of the transcripts in an iterative process, building a provisional code book as coding progressed. The transcript data were analyzed with a focus on the attitudes of the participants regarding SDM in relationship to their own experiences as residents and as trainers of residents.

Results: Fifteen EPs, ages 31-65, from both academic and community practice settings, were interviewed. All EPs felt they used SDM techniques to some degree. Themes identified as having negative ramifications for resident education fell into four categories: 1. Challenges related to the attending-resident-patient relationship, 2. Challenges related to residents' skill levels, 3. Challenges related to the setting of a busy Emergency Department (ED), and 4. Attending physician factors. One theme was noted as facilitating resident training: The changing culture (cultural shifts toward patient-centered care).

Conclusion: A constellation of factors may lead to few opportunities for Emergency Medicine residents to practice SDM skills. Further research should examine whether these

issues generalize to other specialties, explore residents' perspectives, and address the modifiable obstacles identified.

INTRODUCTION

Shared decision-making (SDM) has been called "the pinnacle of patient-centered care" and promoted for its potential to engage patients, increase patients' knowledge, and decrease over-testing.[1-5] Despite a widespread shift towards patient-centered care, the implementation of SDM remains challenging, and there is no consensus on how to best teach and foster the skills needed for SDM.[6-8] Experts agree that two general competencies are needed for effective SDM: relational competencies (those required to facilitate a conversation) and risk communication competencies.[7]

Prior studies have examined the effectiveness of brief interventions – lectures or workshops that teach SDM skills – with most noting some degree of "success" defined in various ways.[9-13] However, for SDM to be integrated into routine use, this skill also needs to be modeled and taught routinely during training.[8] While medical schools and residency training programs have been re-evaluating how physicians-in-training can gain the necessary skills for SDM, little is known regarding how the contextual factors of residency or the perspectives of attending physicians impact residents' opportunities to practice the skills needed for this patient-centered conversation.[14,15]

In our initial investigation of attending Emergency Physicians' (EPs) attitudes and practices regarding their use of SDM, we discovered generally positive attitudes towards SDM coupled with growing recognition of the barriers to its routine use in the Emergency Department (ED).[16] We found that attending physicians reported a number of factors that had significant ramifications on residents' opportunities to learn and use SDM techniques, both for emergency medicine residents and residents in general. In this paper we present

our findings regarding how these factors, identified by the attendings, might affect resident training.

METHODS

Study Design

We conduced semi-structured interviews with practicing EPs. The study was granted exempt status by the local Institutional Review Board, and was designed to comply with standards for qualitative research.[17-18] Additional details regarding study design have been published elsewhere.[16]

Interview Guide

The Theory of Planned Behavior and Social Cognitive Theory informed development of the interview guide and provided an organizing framework for the analysis.[16,19] Interviews were semi-structured, and included questions such as, *"How do the residents influence the SDM interaction?"* (Supplement A: Semi-structured interview guide.) Interviewers took field notes during interviews and discussed these notes after interviews. After the interviews, participants who had worked in multiple sites were also asked via email to compare their use of SDM in the different work settings, elaborating on why they used SDM more at one setting than another. This led to additional observations relevant to resident training.

Study Setting, Participants, and Recruitment

We chose a purposeful sample of EP physicians based on gender, years in practice since residency, region (rural/suburban vs. urban) of primary employment, academic versus community practice setting, and location of training.[20] Based on prior research, we aimed to conduct at least 15 interviews to reach thematic saturation.[21]

Data Collection

Participants provided written informed consent and filled out a demographics form in person at private locations of the participants' choice. The interview team consisted of two female, academic EPs (EMS and TRE) who trained and piloted interviews under a senior investigator with qualitative experience (SLG). All interviews were recorded and transcribed verbatim. After the interviews, *member checking* was performed by providing participants with a short summary of the major points they discussed and asking them for their agreement, disagreements, or comments.[22]

Data Analysis

Transcripts were entered into Dedoose qualitative data management and analysis software (Dedoose Version 7.0.18 Los Angeles, CA: SocioCultural Research Consultants, LLC). Coding was performed in an iterative fashion by three research team members (EMS, ERK, KEP), all of whom had either qualitative research experience or recent training pertaining to coding. The codebook was developed using a directed approach to content analysis: that is, we combined *a priori* codes drawn from previous literature and our theoretical framework with emergent codes that came directly from line by line coding of the transcripts.[20,23] Iterative coding was done, where transcripts were re-coded as the codebook was refined. Each transcript was coded at least twice by at least two coders. Disagreements were discussed until consensus was reached. The codebook is available in Supplement B.

While the initial goal of the interview was to explore the physicians' use (or lack of use) of SDM and explore the factors that motivated or discouraged their use, here we focus on the themes that emerged regarding factors affecting residents' training, education, and opportunities to practice and use SDM during residency.

Research team and reflexivity

Interviews were conducted by EPs who knew many, but not all, of the participants. Most of the participants did not know the goals of the research prior to the interview, but the goals were stated during the semi-structured interview and it was made clear that the interviewers sought frank responses. (Supplement A: Semi-structured interview guide.) Of the three coders, one was an attending Emergency Physician, one was an EM resident at the time of coding, and one was a researcher with qualitative experience but limited clinical experience. This allowed for different perspectives regarding the analysis of the attendings' statements and facilitated the research team's ability to consider the ramifications of the attitudes presented on resident education.

RESULTS

Fifteen EPs were interviewed between June 2015 and November 2015. Interviews lasted 20-45 minutes. Thematic saturation was reached as no distinct new codes emerged from the last three interviews.[22] Participants had completed residency training from 1 to 30 years prior to the interview. Additional participant characteristics are described in Table 1.

Table 2.1. Participant Demographics

Participant Characteristics (N=15)	**N (%)**
Age – mean (range)	46 (31-65)
Female	6 (40%)
Race/ethnicity:	
White	10 (67%)
Black	1 (7%)
Asian/Indian	2 (13%)
Did not answer	2 (13%)
100% Academic	6 (40%)
100% Community	4 (27%)
Combined Academic/Community	5 (33%)
Years since residency – mean (range)	13.1 (1-30)

Residency in Emergency Medicine	13 (87%)
Residency (training) location:	
Regional Academic Hospital (1 site)	4 (27%)
In current state of practice but not at regional training site	3 (20%)
Outside current state of practice	8 (53%)
Total different practice sites where participants had worked within past year	14

In the year prior to their interview, participants worked at 14 different practice locations (both within and outside of Massachusetts, the site of the interviews), with nearly half working at more than one site. Regarding participants' practice locations at the time of the interview, two were urban, five were suburban/rural, with one site considered to be rural. One site was academic, two sites were affiliated with an academic site (having occasional residents or medical students) and the others were community hospitals.

Measures of Validity

Measures of validity have been reported previously[16]: member checking yielded only two comments from participants, providing clarification but not changing the content.

Themes with ramifications for resident training and education

Attending physicians noted a number of factors that have ramifications for training residents in Shared Decision-Making techniques. Factors related to resident training were derived both deductively and inductively, and categorized as barriers or facilitators. Themes noted by participants that could be broadly categorized as barriers generally fell into one of 4 categories, and one theme was identified as a facilitator (Table 2).

Table 2.2. Themes which may influence residents' opportunities and ability to learn the skills required for Shared Decision-Making

Barriers to SDM training in residency
1. Challenges related to the Attending-Resident-Patient Relationship
A. Attending-resident relationship: Trust, knowledge, and risk tolerance

In the attending-resident relationship, the attending does not trust the resident to have the right conversation with the right patient. **B. Attending-patient relationship** The attending has less of a relationship with the patient, making them less comfortable with any use of SDM. **C. Attending-resident-patient: diagnostic momentum and expectations** The attending-resident-patient relationship is more complex regarding the communication of plans and expectations; attendings are hesitant to change plans that residents have laid out.
2. Challenges related to residents' skill levels **A. Emergency Physicians use SDM to avoid algorithmic care** SDM is often used to avoid "algorithmic care," but algorithms are important and heavily relied upon early in training. **B. A clear understanding of patients' risk helps clinicians engage in SDM** A clear understanding of the patient's risk facilitates SDM but is often unknowable. More experienced clinicians use their gestalt to estimate patient risk when no formal decision rules are applicable. **C. Experience as a facilitator** Clinical experience facilitates provider initiation of SDM; conversely, lack of experience is a barrier to its use.
3. Challenges related to the setting of a busy Emergency Department Time pressures (such as due to high volume or high acuity of other patients) Patient characteristics (low literacy; non-English speaking; frustrated patients due to wait times) Lack of follow-up (underserved populations: poor access to primary care) Interruptions Lack of privacy ("hallway beds") Complexity due to multiple providers (sign-outs, consultants) Physician stress/anxiety
4. Attending Physician Factors **A. Attendings have variable "grey zones"** SDM is used in the "grey zone," when the best option isn't blear, but these grey zones are different for different attendings, making it challenging for residents to identify when SDM is appropriate. **B. Attendings lack formal training in SDM** **C. Attending were uncomfortable teaching the skills of SDM**
Facilitators to SDM training in residency
Changing Culture Cultural shift towards greater use of shared decision-making.

<u>Barriers to SDM training in residency</u>

1. Challenges related to the Attending-Resident-Patient Relationship

All EPs who had ever worked with residents (which was the majority) were directly asked how the presence of a resident altered their ability or motivation to initiate an SDM

conversation. Responses were overwhelmingly negative and often focused on the difficulties of the attending-resident-patient triad as compared with the attending-patient dyad.

> *"I'd say it's harder with the residents, I do it less...In fact, in all the examples* [that I'm giving you are] *when I'm doing the primary patient care as opposed to when I am supervising care."* (Late-career academic male)

A. Attending-resident relationship: Trust, knowledge, and risk tolerance

Many EPs noted that because of the varied levels of medical knowledge and risk tolerance of the residents, they didn't trust the residents to have the right conversation with the right patient. Therefore, when supervising several residents, it made more sense, and was simpler, to do the most conservative thing, and *not* engage in SDM.

> *"I trust myself to do that* [have the SDM conversation], *but I'm not sure I would trust a more junior provider, like a resident, to walk a patient through the pros and cons and the risk and… let chest pain* (patients) *go after shared decision-making."* (Late-career academic female)

> *"…until you have your clinical gestalt grounded, how can you have a discussion?…If you're an intern and you've never seen a STEMI*…or…someone who's bounced back with chest pain, how can you have a reliable discussion?…When they get to third year, ok, now you're grounded, now you've seen at least enough where you can start to have these discussions with folks."* (Early-career community/academic male)
> **STEMI = ST segment elevation myocardial infarction*

B. Attending-patient relationship

With regards to their relationships with their patients, many EPs noted that a good relationship with the patient allowed them to invite patient preferences into the clinical decision-making and therefore facilitated SDM. The noted that when they supervised residents, they did not feel they had a close enough relationship with the patient to consider deviating from algorithmic or conservative clinical care.

"[when I'm NOT working with a resident] *I have a personal relationship with the patient - that personal relationship plus your own gestalt or impression makes a big difference."* (Mid-career community/academic male)

[Interviewer: How does this change when you're working with a resident?] "Well, you're totally separated from that aspect of the conversation, like all the bedside manner…[with] *the resident…you always have this kind of disconnect."* (Mid-career community/academic male)

C. Attending-resident-patient: diagnostic momentum and expectations

EPs noted that since they are often the last provider to see the patients, the residents have often conveyed the diagnostic and treatment plan to the patient, making a change of course, or the addition of SDM, more difficult.

"If the resident has given the patient an expectation about what's going to happen, then it's harder to go in and change that expectation. If they…don't give the patient a plan, then if you come in you can do whatever you want. But, sometimes an expectation has already been laid down." (Early-career academic female)

"I think I honestly use SDM more in the community setting. I think it is primarily because I am usually the first provider, other than a nurse, to see the patient, and thus it is easier for me to set the tone and manage patient expectations right up front." (Early-career community/academic female)

2. Challenges related to residents' skill levels

One of the strongest themes that emerged from this study, which has been explained in depth in a previous analysis, is that EPs used SDM to diverge from "algorithmic" care when they felt that that particular course of care might not be best for the patient.[16] For example, they used SDM to avoid the use of CT scans for the diagnosis of low-risk abdominal pain in young people. Many noted that residents (and they themselves, as residents) *relied* on algorithmic care and were not comfortable deviating from this approach. Several noted that as their clinical skills improved, however, they better understood the nuances of clinical care and were more willing to accept and invite patient involvement in decision-making. These findings led us to conclude that the lack of

clinical experience was likely a major barrier to the use of SDM both within the residency setting and in the years following residency. Similarly, a number of EPs noted that when they had a solid understanding of the patient's risk (such as when using the HEART score to risk-stratify patients with chest pain), they felt much more comfortable engaging in SDM.[24] These comments suggest that residents and those early in their careers are understandably less comfortable engaging in SDM.

A. Emergency Physicians use SDM to avoid algorithmic care

Experienced clinicians spoke of using SDM to avoid a "path" that usual care would have dictated, when they felt that that path was not appropriate for a certain patient. Less confident or less experienced physicians may be less likely to diverge from usual care.

> *"You don't always agree with what healthcare recommends. For example, the elderly patient who is at the end of life…my feeling is to do little from a medical perspective, and the family or the patient's perspective is to do more, and those are grounds for discussion as to what are their expectations, what are my expectations, for what this is going to do, and what do I think is medically appropriate."* (Late-career academic male)

B. A clear understanding of patients' risk helps clinicians engage in SDM

Both early- and later-career EPs noted that having a clear understanding of a patient's risk facilitated their use of SDM. However, older physicians were more comfortable relying on their own gestalt, while less-experienced clinicians preferred objective risk-stratification tools – which don't exist for most scenarios.

> (Discussing that a clear understanding of the patient's risk facilitates the SDM conversation) *"Well,* (I use) *the usual tools that we all have available to us, the risk assessment tools, the current one that I like to use … is the HEART score. Those current tools are good for medicolegal documentation, but when you've been practicing medicine long enough, you would come to the same clinical decision with or without the tool. So, I don't really need the tools, but in the medical record, the tool goes in to justify that 1% chance of a bad outcome, so I can at least say* (to the patient) *'this is what the predictor says'."* (Late-career community/academic male)

C. Experience as a facilitator

Participants of all career stages noted that as they become more and more experienced and comfortable with their clinical skills, they were able to use SDM more frequently.

> *"I think I do that* (SDM) *a lot more now than I did when I started. When I started it was kind of like logical and you follow protocols and evidence-based medicine and all these things, and* (back) *then I just didn't feel comfortable swaying from some of those things, and now I feel like my instincts are a piece of that puzzle, of using the evidence-based medicine and things like that. If that's getting me to a point where it's 50/50 or 60/40 in that range, then I just start talking to patient and figure out 'what are you trying to get?'"* (Mid-career community/academic male)

> *"It goes back to 20-30 years ago. When I started there was very little [SDM], and* (now) *there's more and more. There are more and more settings for which we do things that aren't necessarily the only way of doing it. And after many years, one gets to see the many different ways of doing it, and so I'm more comfortable with those."* (Late-career academic male)

3. Challenges related to the setting of a busy Emergency Department

Attendings were asked specifically about barriers to their use of SDM, and "time" was noted most frequently, which is consistent with previous studies.[25-28] However, a number of factors specific to the setting of the ED were also noted, and a number of these factors are more likely to be present in busy *academic* EDs, where the majority of trainees spend their time. For example, trainees are more likely to work in EDs serving underserved populations: patients with lower health literacy, less access to follow-up care, and longer ED wait times, all of which were noted by EPs to be barriers to using SDM.

> *"If you're busier… sometimes it's easier just to shotgun* (order more tests, rather than engage in SDM)*."* (Mid-career community/academic male)

> *"I don't know that they* (patients) *trust a white female who doesn't speak Spanish."* (Early-career community female)

> *"Often it* (whether I use SDM or not) *depends on primary care follow-up…You have to determine 'does the person have a primary care physician?' If they do, is it somebody they actually have a relationship with?"* (Early-career academic female)

> *"And interruptions. I mean if you think about 15 interruptions, that's a little bit crazy to try to talk and have a conversation."* (Mid-career academic male)

4. Attending Physician Factors

While participants expressed attitudes that were overwhelmingly positive about the benefits of SDM, a number of characteristics of the attending physicians emerged that have implications for resident training.

A. Attendings have variable "grey zones"

EP's noted that they use SDM when they are "on the fence" or in a "grey zone" regarding a diagnostic or management decision, but many also noted that this grey zone is different for different physicians. This can pose a challenge to residents who may be encouraged to use SDM in one clinical scenario, only to find that in the same scenario the next day, another attending disagrees with their use of SDM.

> [Discussing a scenario where the participant used SDM] "*It was clearly ok to send her home in my mind, like either way would have been reasonable and you could see a lot of my colleagues doing it one way and some of my colleagues doing it the other way."* (Mid-career community/academic male)

> *"It's hard for residents to do this because every day is different with who your attending is. You can have a shared decision-making talk about not doing a CTA* and then if your attending's going to do a CTA, then that was a waste of a talk. So you don't even really get to practice the skills very well in residency."* (Mid-career community/academic male)
> *CTA = computed tomography angiography for pulmonary embolism

B. Attending training in SDM

Participants were asked whether they had any training in SDM, and none of the 15 participants reported any formal training, though several mentioned hearing it referenced in podcasts or by residents.

> *[Interviewer: You've never had any formal lectures on SDM?] "Not that I remember."* (Early-career community female)

C. Attending's discomfort regarding teaching the skills of SDM

Although all participants expressed comfort in initiating SDM conversations with patients, a sizable minority expressed some concerns about their ability to teach residents these skills.

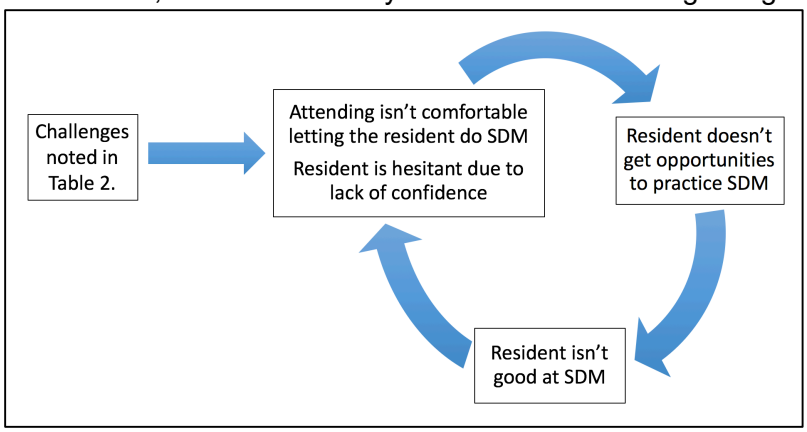
> *"I think I'm comfortable modeling it, I don't know that I would know how to teach it*." (Early-career academic female)

> *"I don't think this is an area that I am necessarily good at."* (Late-career academic male)

Summary of Barriers

While the origin of each of the barriers noted may differ, the final common pathway results in missed opportunities for residents to witness and practice SDM in residency (Figure 1).

Figure 2.1. A framework for how attendings' perceptions may lead to missed opportunities to use SDM, which in turn may reinforce the attendings' negative perceptions.



Facilitators to SDM training in residency

1. Changing Culture

Despite numerous comments reflecting less use of SDM when working with residents, many EPs pointed out the positive effects of the current culture of medicine and the potentially positive effects of the culture of the institution. When asked about their colleagues' use of SDM, many noted cultural shifts over time.

"I think future physicians will be much better at doing it (SDM) than some of the older physicians like myself who came from an era when you told the patient what was gonna happen and that was what was gonna happen. That's not been the best way of doing it, and that's changing over time… especially as us old (guys) *die off, or at least retire off into the sunset."* (Late-career academic male)

"It's…what I was taught in residency…I was definitely taught. I mean without sort of the formal definition of shared decision-making, just the idea of communicating with your patients and involving them in the decisions was – between med school and residency – drilled into my head. It's just something I do." (Mid-career community female)

DISCUSSION

Arguments for the use of SDM are well-established, but challenges remain regarding how to best teach and implement SDM.[1,2,8,12] While our analysis demonstrated generally positive attitudes towards SDM, a number of factors were identified that highlight the challenges of learning and practicing this skill, particularly for trainees. While several of the problems noted, such as frequent interruptions and lack of reliable follow-up, reflect the unique setting of the ED, many are likely common to other residency settings. As depicted in Figure 1, most of the factors noted in this paper contribute to one final common pathway: missed opportunities to learn and practice SDM during residency.

While expert clinical acumen and individual risk tolerance develop as a result of clinical experience, many of the other challenges noted in this study represent modifiable barriers. Perhaps interventions could improve the attending-resident-patient relationship, enabling attendings to feel more comfortable with SDM between the resident and patient. Attendings could also be encouraged to use their well-developed clinical acumen to find opportunities for residents to practice SDM.

Despite the barriers expressed, participants' comments suggest some answers: physicians were all comfortable initiating SDM conversations in the scenarios where they deemed it appropriate. Therefore, attendings could be encouraged to model these conversations if they are uncomfortable letting the resident proceed unsupervised.

Although “grey zones,” or the opportunities for SDM are variable between physicians, hospital or national-level guidelines could encourage SDM in particular scenarios, potentially standardizing the use of SDM and decreasing variability. Residencies should not only provide specific training in the skills needed for SDM, but note the importance of this approach in other lectures, such as those of specific disease processes, whenever clinical equipoise exists. Frequent discussion of SDM will serve not only as a reminder of the importance of its use, but also to promote a patient-centered culture of care-giving. Continued training of attending physicians is warranted, to both facilitate their recognition of opportunities for SDM, and to give them the tools to successfully teach residents this patient-centered skill.

Our analysis also highlighted the possibility that patients seeking care at training institutions may be getting fewer opportunities for involvement in their care than patients who seek care at facilities with no trainees. This finding is particularly concerning in light of evidence that suggests that SDM has the potential to improve care *more* for disadvantaged patients compared to patients with higher literacy and socioeconomic status.[29]

Regarding limitations to our analysis, we did not initiate this inquiry with the goal of exploring the challenges to training residents in SDM, and as a result may have missed important themes. We did not interview residents about these issues, although one of our coders was a resident. It is likely that residents’ views would add to this analysis, though the attendings have the perspective of having been residents themselves, and often reflected on their residencies as they answered questions. Lastly, qualitative inquiry can potentially suffer from the effects of bias – both from the interviewers and coders and social desirability bias from the respondents. By having coders from different levels of training as well as outside of the field of clinical care, we are optimistic that we were able to recognize and mitigate the effects of our biases. Despite these limitations, we found the

themes participants expressed to be both compelling and widespread, and of importance to those seeking to promote or study SDM.

In summary, this exploratory analysis suggests that several factors align to decrease the number of opportunities that Emergency Medicine residents have to learn and practice the skills needed for SDM. Many of these factors may be generalizable to residents from other specialties. Further research is warranted to clarify the importance and magnitude of each of these issues, as well as to examine this issue from the point of view of the residents', since they are likely to have important insights into these challenges as well as into possible solutions.

> *"Earlier on in my career I didn't trust myself… my clinical instincts…I think I was afraid of the medicolegal implications, of potentially going against some of the evidence or the algorithm… So I think getting confident in the process … I think, you just do it (*SDM*) more and more and you believe that it's better."* (Mid-career community/academic male)

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Chapter 3

Physician-Identified Barriers to and Facilitators of Shared Decision-Making in the Emergency Department

Schoenfeld EM, Goff SL, Elia TR, Khordipour ER, Poronsky KE, Nault KA, Lindenauer PK, Mazor KM. Physician-Identified Barriers to and Facilitators of Shared Decision-Making in the Emergency Department.

To be submitted to Annals of Emergency Medicine

INTRODUCTION

Shared Decision-Making (SDM), the "collaborative process that allows patients and their providers to make health care decisions together, taking into account the best scientific evidence available, as well as the patient's values and preferences,"[1] has been promoted in primary and outpatient care for decades, but has only recently made inroads in acute care settings.

Although Emergency Physicians (EPs) self-report that they use Shared Decision-Making in the ED, many questions about their use remain.[2] With increased attention focused on the delivery and promotion of patient-centered care, the use of SDM in the ED requires further characterization and understanding.[3] SDM is a conversation between patients/families and clinicians, but realistically is usually initiated by the clinician, in the setting of emergency care.[4] That makes the understanding of the perspective of the physician-as-stakeholder paramount to efforts to promote SDM. While stakeholder engagement methods used in the context of decision aid development seek to understand the perspectives of those who will be using an intervention,[5] an in-depth understanding of the general barriers and facilitators that ED physicians face in their day-to-day use of SDM is lacking. A broader approach to understanding EPs perspectives is more likely to yield insights that can be generalized to many SDM scenarios, not simply the testable ones. While studies of other specialties suggest that time, clinical scenario, and patient characteristics are the biggest barriers to SDM, to date, no exploratory research exists investigating the barriers and facilitators that EPs deem relevant when they consider using SDM.[6]

The purpose of this study was to explore EPs' perspectives and attitudes regarding SDM in the emergency department (ED), and our first analysis regarding EP's *motivations* has been previously published.[7] *A priori*, this analysis was planned to specifically examine the EP-identified barriers to and facilitators of the use of SDM in the ED, with the idea that

future research should focus on these barriers and facilitators in a wider and more representative sample.

METHODS

Study Design

This was a qualitative study utilizing semi-structured interviews with practicing emergency physicians, and the study design has been previously published.[7] The study was granted exempt status by the local Institutional Review Board, but utilized written informed consent due to recording of participants. Participants were reimbursed $25 for their time. The study was designed to comply with published standards for reporting qualitative research.[8-10]

Interview Guide

We based the interview guide on an integrative theoretical model that combined the Theory of Planned Behavior and Social Cognitive Theory.[11] We also incorporated previous qualitative literature that included interviews with non-emergency physicians, as there is no published qualitative data regarding EPs' attitudes.[6,12-15] The theoretical framework organizes the factors that influence an individual's performance of a behavior, such as initiating a shared decision-making conversation. The interview guide was piloted and was then iteratively revised during the interview process. (Appendix A) No changes were made to the guide after the 5th interview. Since the interviews were *semi*-structured, however, the content and questions of each interview diverged from the guide as needed during interviews. Both interviewers took field notes during interviews and discussed these notes after interviews. Interviews were designed to be 20-45 minutes long.

We asked participants to discuss scenarios where they used SDM, and asked them to think about what helped them use SDM at that time (facilitators). They were then

asked to discuss scenarios where they could have used SDM but chose not to, and asked to elaborate on the reasons why they did not use SDM (barriers). After they discussed scenarios, they were questioned directly regarding whether they could think of other factors that prevented them or their colleagues from using SDM more frequently.

Study Setting, Participants, and Recruitment

We chose a purposeful sample of EP physicians based on gender, years in practice since residency, region (rural/suburban vs. urban) of primary employment, academic versus community practice setting, and location of training (inside versus outside of the state).[16] Our recruitment methods have been published.[7]

Data Collection

Participants signed an informed consent and filled out a demographics form. Interviews were conducted in person at private locations. The interview team consisted of two female, practicing EPs (EMS and TRE) who trained and piloted interviews under a senior investigator with qualitative methods experiences (SLG). All interviews were recorded via audio recording device and transcribed. After verbatim transcription, *member checking* was performed by providing participants with a short summary of the major points they discussed and asking them for their agreement, disagreements, or comments.[10]

Data Analysis

Transcripts were entered into Dedoose qualitative data management and analysis software (Dedoose Version 7.0.18 Los Angeles, CA: SocioCultural Research Consultants, LLC). Coding was performed in an iterative fashion by three research team members (EMS, ERK, KEP). The codebook was developed using a directed approach to content

analysis: that is, we combined *a priori* codes drawn from previous literature and our theoretical framework with emergent codes that came directly from line by line coding of the transcripts.[16,17] Iterative coding was done, where transcripts were re-coded as the codebook was refined. Each transcript was coded at least twice by at least two coders. Disagreements were discussed until consensus was reached. The codebook is available in Appendix B.

Our previous analysis of this data focused on fully exploring physicians' *motivators*, however the interview guide was designed to lead to a discussion of barriers and facilitators to SDM in the ED, as this analysis was planned *a priori*.

Research team and reflexivity

The interviewers knew many, but not all, of the participants prior to the interviews. Most of the participants did not know the goals of the research prior to the interview, but the goals were stated during the semi-structured interview and it was made clear that the interviewers sought honest attitudes. (Supplement A: Semi-structured interview guide.)

RESULTS

We interviewed 15 emergency physicians working in Massachusetts between June 2015 and November 2015. One additional EP was not included as we were unable to schedule an interview. No distinct new codes emerged from the last three interviews, so thematic saturation was thought to be reached.[10] Participant characteristics are described in Table 1 and further described in a previous analysis.[7]

Table 3.1. Participant Demographics

Participant Characteristics (N=15)	**N (%)**
Age – mean (range)	46 (31-65)
Female	6 (40%)
Race/ethnicity:	

White	10 (67%)
Black	1 (7%)
Asian/Indian	2 (13%)
Did not answer	2 (13%)
100% Academic	6 (40%)
100% Community	4 (27%)
Combined Academic/Community	5 (33%)
Years since residency – mean (range)	13.1 (1-30)
Residency in Emergency Medicine	13 (87%)
Residency (training) location:	
Regional Academic Hospital (1 site)	4 (27%)
In current state of practice but not at regional training site	3 (20%)
Outside current state of practice	8 (53%)
Total different practice sites where participants had worked within past year	14

Themes Identified

Although our interview guide was designed to touch on all aspects of the theoretical model, a number of themes emerged as more relevant to EPs. Figure 1 depicts the relative importance of the domains, based on the frequency that EPs brought up the issues and the weight that they gave them in discussion. Environmental Constraints, Assessments of Patients, Norms, and Skills emerged as more prominent domains in our analysis, with most physicians' concerns clearly reflecting the challenges of dealing with and discussing uncertainty in the setting of ED care. The Domains, Sub-Domains, and representative quotes are listed in Table 2 and further explained below.

Figure 3.1. The framework, highlighting the dominant domains identified in discussions of barriers to and facilitators of SDM in the ED. Bold lettering indicates higher relevance to participants.

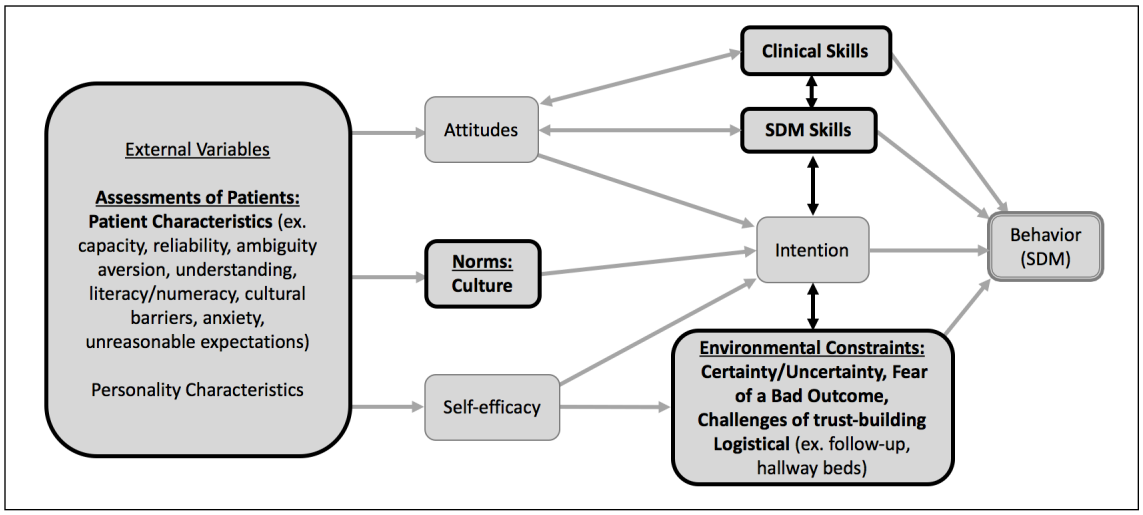

Table 3.2. Domains, sub-domains, and representative quotes.

Domain **Sub-Domain, Explanation of Barriers and *Facilitators***	**Representative Quotes (Facilitators in Italics)**
Environmental Factors	
The Effects of Certainty and Uncertainty Uncertainty is a barrier to using SDM, although sometimes SDM can be used to mitigate uncertainty. *Tools, such as risk-stratification methods, that help with certainty or the communication of uncertainty, can facilitate SDM.*	"In our culture, we have an extraordinarily low risk tolerance because we don't cause most people don't understand risk." (Male academic/community EP) [What else affected your use of SDM?] "(At the) very conservative (larger academic hospital, there was) less shared decision making as the tolerance for ambiguity was less." (Male academic/community EP) "I'm never 100%, you know, 'here's my best guess of your chances,' which if I'm talking to them, it's usually a few percentage points, and I talk to them a bit about what they feel comfortable with." (Male community/academic EP) "Some patients, in my experience, have been offended because… I'm even offering the possibility that they might tolerate some risk." (Male academic/community EP) "*I've used probably some sort of guide, whether it's some sort of score or just clinical decision making, I say 'you know, I think your risk is pretty low.'" (Male academic/community EP)* *'Well, with the usual tools that we all have available to us… the risk assessment tools, the current one that I like to use more than the others is the HEART score, those current tools are good for medical legal documentation…I don't really need the tools, but… I can at least say 'this is what the predictor says.'"* (Male academic/community EP)

Fear of a Bad Outcome The stress caused by worrying about a bad outcome may keep physicians from using SDM. *The use of SDM may mitigate the likelihood of litigation if there is a bad outcome, since they patient understood that there was a chance of this outcome.*	"I think you can potentially can expose yourself to more risk with shared decision making, and I think that's probably one of the highest disadvantages and why a lot of people might not… I think that's why they don't do it." (Male academic/community EP) "[our job is] getting everything right 100% of the time and move as fast as possible…"(therefore being wrong is unacceptable, leading to more testing) (Male community EP) "I still think about some of them (patients I do SDM with), I worry a little more about some of them than the patients I CT." (Male academic/community EP) "It is mentally easier (to admit the patient instead of using SDM) because I'm the type of person that would go home and think about that…a catastrophic event…a little bit." (Male academic/community EP) "(I didn't use SDM earlier in my career because) I didn't like trust myself, my clinical instincts, and even the patient's instincts on things…and you're afraid of the medical-legal implications." (Male academic/community EP) "[Interviewer: What is it that the doctors don't feel comfortable with?] "Missing something, getting sued, I think bad outcomes and all the trimmings." (Male academic/community EP) *"I think that there's also some…mitigation of the risk, because at least you're making the patients aware of that…you're able to document that shifting responsibility to some degree, and that you've had a conversation and you're documenting patient preference. So, whether or not that holds up in any way… I'm not sure, but it feels like it does when you're doing it."* (Female academic/community EP) *"Yea, actually, there is a benefit to this system. In general, I think it provides…decreased risk, so it's a risk mitigation technique."* (Male academic EP*)*
The Challenge of confidence- and trust-building with ED patients Because of wait times, patient and physician stress, and the demands of other patients, it can be hard to build confidence and trust with patients, which is a barrier to effective SDM. *EPs noted that SDM done well is likely to improve communication with patients, as well as increase patient satisfaction and engagement.*	"If someone's already been in the waiting room for four hours by the time they see me, if I walk into the room and they're already (angry, it's hard to use SDM)…" (Male community EP) "I think that people want to know that the doctor that they talked to had found something or was confident in this is what's going on, and so I think that if I don't do a good job, of that or come in too shared decision making-oriented, where 'maybe it's this, maybe it's that,' …I don't want to sound too wishy-washy." (Male community EP) "I don't know that they trust a white female who doesn't speak Spanish." (Female community EP) "I don't feel like that (SDM) instills confidence into the patient, like 'what do you want to do?'" (Male community/academic EP)

	"I think if we have these conversations it gives the patient some understanding about what we're doing, why we're doing it, maybe some say into what gets done to them or for them, and sorta brings them into more of an active role rather than a passive role in their care." (Female academic EP) *"I think patients are sometimes overwhelmed with the prospect of having to make those decisions, but also usually fairly appreciative that you take the time to explain things to them and that they get a say."* (Female academic/community EP) *"I gotta assume there's increased satisfaction in the provider when they involve you this way. It's probably going to decrease the liability, it's gonna increase my satisfaction with the job, because …if I have a patient that's happy it always feels good to walk away from that, no matter what happened."* (Male academic EP)
Logistical	
Time Time constraints as a barrier were noted by nearly every participant.	"Time is perhaps the major constraint." (Female academic EP) "… you can't go in there knowing you only have 5 minutes cause it's never gonna take just 5 minutes." (Female academic/community EP)
Scenario Often the scenario is not appropriate for SDM.	"I mean sometimes … it's too acute of a scenario" (Female academic EP)
Follow-up care Concern regarding reliable follow-up was a frequently noted barrier. *Reliable follow-up was noted as a facilitator.*	"If she had already had established an oncologist and PCP (I) probably would have discussed with her 'what do you want to do, do you want to stay in the hospital? All we're going to do is pain control and nausea medicine, it's up to you.' I usually tell them I'll do whatever you want, at that point, whatever you're comfortable with, and they're usually pretty happy with either…" (Interviewer: With this patient you didn't even approach that conversation?) "No." (Female community EP) "Then I kind of talk with the person factoring in 'do they have follow up? Are they reliable?'" (Male community/academic EP) "(Can I) easily contact their primary care doctors and talk about things?" (Male community/academic EP)
Frequent interruptions The frequent interruptions expected by physicians were seen as a barrier to SDM.	"Depending on the number of interruptions it can be challenging." (Male community/academic EP) "You don't want to rush, and then you get phone calls and then you have to go do other things, and in the back of your mind you're thinking about the other 8 patients you have to go do stuff for, but you're also trying not to rush with this thing. Cause if it's rushed, you can't really do it right." (Male community/academic EP)
Challenges due to multiple clinicians Contributions from multiple providers (both due to	"I have a personal relationship with the patient (that I don't have when I work with a resident) an that personal relationship plus your own gestalt or impression makes a big difference." (Male community/academic EP)

residents, sign-outs, and consults) makes SDM harder.	"I'd say it's harder with the residents, I do it less." (Male academic EP) "…I'm often seeing the patient second, or sometimes third if there's a student involved also, or if it's sorta like another team signed out to another team, and they've seen so many caregivers and the plans have already been essentially determined." (Female academic EP)
Effort SDM often required more work on the part of the physician than the alternatives.	"I can spend two seconds and look at that person and know that now we're gonna admit him versus…'he really wants to go home.' Now I have to think about that for a bit more. Now I have to sit down, and if there are three codes going on, it kind of gets to, 'well, sometimes we just admit folks.'' (Male community/academic EP) [Interviewer: You're saying the easiest and safest thing is the more conservative thing, to not use SDM?] "It becomes the default mode, I guess." (Male community/academic EP)
Challenges due to physical space Hallway beds and lack of privacy were seen as barriers.	[regarding barriers] "Having a real conversation in the hallway, it's not private…can't sit down…" (Male academic EP)
Norms	
Culture of the Institution The culture of the institution could be both a barrier and a facilitator, depending on the institution. Guidelines, reinforcing the norms and culture of the institution, were seem as helpful and "protective" by some, and a burden by others.	*"What is more powerful is the culture of the institution, right? Where I trained before, at a county hospital, we didn't admit anybody for chest pain… you'd talk to them about the risk and … that was what the institution, and…the population, expected. Those were the resources, that was what was given. I think… especially at a more conservative place, where you can just admit everyone, it's a lot harder to have the impetus to engage and kind of put yourself at risk."* (Male community/academic EP) *"Having guidelines that are, that there's at least some buy-in from other providers and a practice approach where you can feel protected both medico-legally and, you know, reputation wise.So consistency in the practice so that the community perception of an institution is appropriate and not so individually affected." (*Female community EP) "I think like we're inundated with the guidelines…They feel more like rules than guidelines most of the time, so …that would not work for me…not looking for more guidelines." (Male academic/community EP) *"I am pro-guidelines. I feel like people still need their autonomy, but you also still need to make sure that there's a standard of care and that there's expectations met when patients come to the Emergency Department." (*Female community EP*)*
Assessments of Patients	

Stubborn or Aggressive Patients If the patient is perceived as aggressive or difficult, or has their own agenda, the provider may avoid SDM. (Barrier) *An upset patient/family may benefit more from SDM (facilitator).*	"If (the patients') expectations exceed what I think is appropriate then I may…not…approach it with them for (SDM)." (Male academic EP) "If they have started to sort of dig their heels in about something, prior to that conversation, then I have a sense that I know what their preference is already, I won't always take part in shared decision making at that point" (Female community/academic EP) *"Although sometimes if they are somewhat more hostile I will get them more involved just so they can be… (less hostile.)"* (Female community EP)
Capacity If the patient lacks capacity or competency or is not reliable regarding following instructions (returning, medications, follow-up), this is a barrier.	"Are they reliable?" (Male academic/community EP) "Their ability to understand that they really, really need to come back if something different happens, is really important for me to involve them in the decision making process." (Female academic EP)
Desire to be involved Many physicians noted that many patients don't want to be involved (barrier). When patients explicitly asked about alternatives, this is a facilitator.	"When they say, 'what would you like to do doc'… it doesn't work, it's doesn't work because … the patient's not either able to understand or willing to truly participate." (Male academic EP) "There are people who are gonna be overwhelmed. Who you can tell are getting overwhelmed when you start to talk about things and who say, 'You know what? You just tell me what to do.'" (Female community EP) "Sometimes patients just want to be told what to do." (Female academic EP) "Others have clearly expressed to me that they don't want to have any part in that decision, "(You're) the goddamn doctor, why don't you make a decision?'" (Male academic/community EP) *(Interviewer: Is there anything that can … push you toward shared decision-making?) "They ask questions."* (Female community EP)
Education/Intelligence Some patients are perceived as difficult to engage due to education level/intelligence (barrier).	"Even when I do it in a plain language, there are just some people that lack education and might not be able to understand what I have to say." (Female academic/community EP) "They have their fixed opinion and you're not going to change it. We had a guy in a car accident, wasn't wearing his seatbelt, said 'yea man, those seat belts kill people, you know!' I'm not going to touch that, no SDM with that guy." (Male community EP) [Interviewer: why did you choose not to use SDM with that patient?] "It was health literacy" (Female community EP)
Cultural/Language barriers Language and cultural barriers lead EPs to avoid SDM as	"If there're huge language barriers, unfortunately even with a translator, sometimes those nuances are lost." (Female academic EP)

they feel it will be too hard or they wont be understood.	"They think it's because of who they are, that they don't have insurance, that's why we're not admitting them… I think (with) that specific population I have a very hard time doing (shared) decision making with."(Female community EP)
Patient doesn't tolerate or understand risk or uncertainty	"The main thing that stands in my way is the patient's inability to understand risk." (Male academic/community EP) "There are some patients who don't want to know what's going on or what's the chances of a bad outcome" (Male academic EP)
Skills	
Clinical Skills Lack of confidence in clinical skills makes providers hesitant to allow options. *Improving clinical confidence (due to experience) was noted as facilitator, as was having communication skills.*	"You have to have clinical confidence that this is probably not anything big and be willing to take that risk, again, with the decision or the input of the patient." (Male academic EP) *"After many years one gets to see the many different ways of doing it and so I'm more comfortable with those." (Male academic EP)* "…until you have your clinical gestalt grounded (in experience), how can you have a discussion?" (Male academic/community EP) *"I think my use of shared decision making has changed based on my level of training. I feel like I use it a lot more now that I am an attending."* (Female academic EP) *"I think I do that a lot more now than I did when I started (because of my clinical experience)."* (Male academic/community EP)
SDM skills No providers had formal training in SDM. *Those who reported using SDM felt that each positive interaction encouraged them to use SDM more.*	"I've not had any formal training in it… I'm very comfortable in it but I don't know if it matches with the techniques that others use." (Male academic EP) "I've done it more than most and therefore am comfortable, not that I'm doing it right or anything," (Male academic EP) "I think part of it's just confidence with their own ability, decision making, and also communication ability." (Male academic EP) *"I think you have to be pretty good at it. I think you have to be pretty good at talking to patients and their family, and so sometimes when I hear more junior people trying to do something in this line I think they're using the wrong words, big words, or wrong concepts, or… I think it's something you practice and learn." (Female academic EP)*

Domain 1: Environmental constraints

Our analysis suggested that the setting and culture of the ED were the source of the most significant barriers, from the perspective of EPs. Within Environmental Constraints, we noted that the barriers and facilitators noted generally fell under several sub-domains.

Sub-Domain: The Effects of Certainty and Uncertainty

Many comments were made about uncertainty, and many noted that communication of uncertainty was a challenge, and that tools that facilitated the communication of uncertainty, by quantifying risk, were facilitators. Most physicians reported that they attempted to use methods to risk-stratify patients prior to engaging in SDM, and noted that SDM was harder to do if they had no good way to quantify their uncertainty. They reported that they often didn't know what a patient's true risk of a bad outcome was, and many suspected that they themselves or their peers were over-estimating patients' risks of bad outcomes, and this was a barrier to SDM, as it prevented them from involving patients in decisions. Many also noted that both a systemic intolerance of uncertainty or their patients' intolerance of uncertainty was a barrier to SDM.

> *Facilitator:*
> *"They (specific numbers) make you more comfortable having the conversation…with some degree of knowledge associated it with as opposed to a gestalt for what we think it is."* (Male academic EP)

> *Barriers:*
> *"Many of these things require accurate information, given that there isn't necessarily all that accurate information at my fingertips…(this is a barrier to using SDM)"* (Male academic EP)

> *"[at --- hospital there was] less shared decision making as the tolerance for ambiguity was less"*
> (Male community/academic EP)

> *"When we assess risk for adverse outcomes, we as emergency physicians usually overestimate the potential harms that can occur. That's our training." (*Male academic EP)

Sub-Domain: Fear of a Bad Outcome

EPs reported that there was some amount of stress in involving patients in decision-making due to the possibility that a less "conservative" (or less resource-intensive) decision could be made, potentially leading to a missed diagnosis or bad outcome. For example, physicians reported using SDM to discuss whether or not to use a CT scan in young patients who had abdominal pain but were considered low risk for appendicitis. However, they reported that when they didn't get the scan, they worried about the patient after their shift, whereas when they did order the scan, they did *not* go home and ruminate on how much radiation exposure they caused. Conversely, several did note that they hoped that SDM was protective in the setting of a bad outcome, that by involving the patient, they shared the responsibility for the choice, and therefore might not be as liable.

> *Facilitator:*
> *"I don't know if this pans out in actual, um, data, but it feels like you're protected from bad outcomes better if the patient feels like they had a say in that choice."* (Female academic EP)
>
> *Barriers:*
> *"I think that at the end of the day…we don't want bad things to happen to people*…(which leads towards more testing and less patient involvement*)"* (Male community EP)
>
> "*Medico-legally I don't think this (SDM) helps us a lot."* (Female academic EP)
>
> *"I don't go home and say, 'man, I radiated all those people today,' right? But, if you don't do it* (the CT scan*), you go home and you start going 'hmm, I wonder if…. (a* patient had a bad outcome*)'"* (Male community EP)
>
> *"It is so much easier just to admit people. It's sad, and I don't want to do it for everyone, but god it just takes that liability off."* (Male community/academic EP)

Sub-Domain: The Challenge of confidence- and trust- building with ED patients

Physicians reported both logistical and emotional challenges to building trusting relationships and having open conversations with patients in the ED. They noted that frustrated patients want "answers," not discussions, particularly after long wait times. Several reported that they felt that offering a discussion of options sometimes left patients

feeling less confident in the physician, and one noted receiving a patient complaint alleging exactly that.

> *Barriers:*
> *"I've gotten complaints …regarding SDM…'the wish-washy doctor didn't know.'… and so it didn't instill confidence in them."* (Male community EP)
>
> *"I don't want – by providing the option to choose – I don't want that to be interpreted as being indecisive on my end."* (Male community EP)
>
> *"… if they waited for 6 hours, and they're tired, and they don't want to be here, they're not considering 'do I want to stay', not because I'm tired and I don't want to be here, but because I'm worried or not worried. That can be a hard conversation. And that will happen frequently when we're delayed."* (Male community/academic EP)

Despite the challenges, the majority of the physicians did report that patients often left a SDM encounter more satisfied with their care. While physicians recognized this, it did not seem to be a consistent facilitator: less than half of physicians reported that patient satisfaction was a top priority for them, among the competing demands of a busy shift.

> *"I think for the most part people feel better with more information and feeling as if they had a say in what happens."* (Female academic EP)
>
> *Regarding patient satisfaction as a priority: "Getting the diagnosis right probably has to be first, getting teaching done efficiently, getting through the waiting room, and then the patient satisfaction is gonna be, not at the bottom, but… at the middle of the pack of things I'm interested in getting done because… I can't let it get in the way of getting diagnoses right. They don't have to like me; they have to just get better." (*Male academic EP*)*

Sub-Domain: Logistical Issues

Previous research has demonstrated that "time constraints" and "inappropriate clinical scenario" were two of the most frequent barriers noted by physicians of other specialties.[6] Although these barriers were cited by our participants as frequent issues, our analysis revealed other logistical constraints, many of which are specific to the ED and new to the literature. Most notably, "lack of follow-up" (or conversely, "reliable follow-up") was noted to be crucial by 2/3 of the participants.

1. Time

All but one physician noted this as a barrier, with several noting that being pressed for time could lead to a biased or incomplete conversation, which was no better than no SDM at all.

> *"We don't explain things well, and … we feel like we're giving the patient an informed choice, but if we do a crappy job explaining it then it's not informed. We're pressed for time a lot, and I think we do a crappy job of explaining a lot of things."* (Female academic EP)

> *"It takes a little more time, sometimes it's easier just to shotgun (send more tests)." (*Male community/academic EP*)*

2. Scenario

Several physicians noted that when there was no clinical equipoise or preference-sensitive decision to be made, SDM was not appropriate.

> [Interviewer: Tell about times you don't use SDM?] *"STEMIs, I'm not asking a lot of questions, I'm going forward."* (Male academic EP) (STEMI = ST segment elevation myocardial infarction)

3. Follow-up care

As many of the decisions that physicians discussed with patients involved sending the patient home with less testing, reliable and accessible follow-up care was seen as critical prior to SDM. This was a hard stop for many physicians – a lack of follow-up or concern that the patient wasn't reliable to seek follow-up care definitively meant that SDM would not be offered.

> *Facilitator:*
> *" At --- hospital, with next day follow-up, (we) could engage the patient in more SDM as I knew they would not get lost in the system."* (Male community/academic EP)

> *Barriers:*
> *"often it depends on primary care follow up… you have to determine, does the person have a primary care physician, if they do, is it somebody they actually have a relationship with and could see in the office?"* (Female academic EP)

"(In some patients you can't do SDM because) *you just don't trust that they're gonna follow-up or they're gonna do the right thing, or that they'll have access… we just admit them."* (Female community EP)

4. Frequent Interruptions

Several physicians noted that having an important conversation regarding a clinical decision was challenging with frequent interruptions.

"And interruptions…that's a little bit crazy to try to talk and have a conversation." (Male academic EP)

5. Challenges due to multiple clinicians

Physicians noted that it was easier to have discussions if only they, individually, and the patient and family were involved, but that decisions were much more complex when other clinicians were involved. This was noted to include residents, who often saw patients first and set expectations, as well as consulting physicians and on-coming Emergency Physicians, to whom the patients were signed out. The reasons for this as a challenge were different for different clinicians. For residents, EPs noted mistrust of the resident's interpretation of the data, and therefore concern that the patient was not appropriate for SDM. For consultants, they noted that specialists often had specific plans that did not allow for SDM. Regarding "sign-outs," the transfer of care between emergency physicians, they noted that a certain standard of care was expected and while they could deviate if they were the only practitioner, they could not deviate if they were then transferring care.

"When the residents' views differ from you… the patient will form… bias, whatever you want to call it, they'll have some way they think based on what the resident said. And, when you're busy, you come around and you have a different thought on that, it can then be hard… "now, my thought…is different so I have to sway you back to…what I think it is."…ultimately… I'm the one responsible for the charts. So that does make it very difficult to… employ (SDM) well." (Male community/academic EP)

"I also think that it's (SDM) harder to do if you are then going to transition care to someone else." (Female academic EP)

"Some of the residents are just learning how to talk to patients and they kind of suck at it." (Male academic EP)

"Our consultants come down and have pretty specific ways of doing things and making recommendations for how they're going to go, and so that limits the (SDM)." (Male academic EP)

6. Effort

Several providers pointed out that SDM is almost never "the path of least resistance;" it almost always requires more work than the alternative. This means that when providers are stressed by high volumes, high acuity, or time restraints, SDM is even less likely to occur.

"The quickest and … path of least resistance would have been to say, 'you know, this is unusual pain but I think we should admit you,' (as opposed to engaging in SDM)" (Female academic EP)

*"… it may involve phone calls to offices and answering services and covering physicians (to arrange follow-up), and…(*Interviewer: So it's harder*?) Yes…99% of people would just be like, 'it's a 50-year-old with belly pain, scan them. It's just easier.'"* (Female academic EP)

"On a slower shift, (I) might have thought more about a test that I ordered, but you know if there's a lot going on and a disposition needs to be made and the patient is either outright or essentially asking me for, again, their 53rd CAT scan, that is, you know, two clicks of a button for me…" (Male community EP)

7. Challenges due to physical space

Several physicians also noted that caring for patients in hallway beds, as opposed to actual ED rooms, made having important conversations more difficult, if not impossible.

"This is not a hallway thing" (Male community EP)

<u>Domain 2: Norms</u>

Sub-Domain: Culture

The culture of the institution could be both a barrier and a facilitator, depending on the institution itself. In places where tolerance for uncertainty was high and resource

utilization scrutinized, SDM was felt to be more of the norm and was used more often. When there was no pressure to judiciously use resources, SDM was less the norm. While the culture of the institution could be a barrier or facilitator, physicians generally did not express the idea that their colleagues' behavior affected their own – their reasons for using or not using SDM rarely related to others' use. Additionally, physicians were very mixed about guidelines – some felt institutional guidelines would "support" them in using SDM, and others felt that guidelines limited their independence.

> *Barrier:*
> *"I feel like it's hard to go against the institutional norms that are there. You could, but it makes for a persistent headache."* (Male community/academic EP*)*
>
> *Facilitators:*
> *"When you start … encouraging people to have more in depth conversations with patients about so many things, if you sort of pick the areas …and say we've talked about it as a department, I just think it sort of legitimizes it more."* (Female academic EP)
>
> *"More powerful is if the institution says, 'no…we'll back you,' and here are…the guidelines that we have, and we will say, 'If this person is low risk as you determine, and you do this, we're ok with that and that's part of our culture,' (that) would be much more beneficial." (Male community/academic EP)*

Domain 3: Assessments of Patients

Every physician noted that there were some patients whom they would avoid engaging in SDM, and a few mentioned patient characteristics that would encourage them to initiate SDM. The most common patient characteristics noted are listed in Table 4. Patient behaviors that would encourage SDM included asking about alternatives and appearing engaged. Physicians noted they avoided SDM in patients who lacked capacity, risk tolerance, capability to understand risk, language skills, or follow-up, and also with patients who seemed to have an agenda or were too anxious to meaningfully participate.

> *Facilitators:*
> *(Interviewer: What might make you use SDM?) "People ask you some … question …or want to know the alternative treatment, and you say, 'I recommend the*

hospital admission for this.' 'Well, is it ok if I go home? I want to do what you say and follow your recommendation.'" (Male community/academic EP)

"If they're somebody who's clearly paying attention to what's going on with their own life then I assume that they're gonna be more involved." (Female community EP)

Barriers:
"The main thing that stands in my way is the patient's inability to understand risk." (Male community/academic EP)

"There are families who…very aggressively advocate for their loved ones and are not as receptive to um… I don't know…grey areas, medical uncertainty, diagnostic uncertainty, and who just who have very strong ideas about what is right and what is wrong." (Female academic EP)

"If the patients don't have capacity or anything like that I probably wouldn't use it." (Female community EP)

"Early on you can kind of tell that they're just not gonna be the ones that are deciding…they don't want that kind of responsibility." (Male community EP)

"Much of the time I don't think the patient's capable of understanding these highly complex issues." (Male community/academic EP)

"I don't know that they trust a white female who doesn't speak Spanish." (Female community EP)

"Why wouldn't I involve a patient? … there are some who are clearly just more anxious, more worried, more hypochondriacal, where it doesn't feel like it's going to be helpful to go into those conversations. (Female community EP)

Domain 4: Skills

Two related skill sets influenced the EPs use of SDM, clinical skills and SDM/communication skills. No physicians reported having any formal training in SDM, though none expressed a desire for further training, and none admitted that this lack of skills might be a barrier for themselves.

1. Clinical Skills

Many physicians noted that increasing confidence in their clinical skills, or clinical acumen, encouraged their use of SDM (and conversely, when they were less confident, they were hesitant to use SDM.)

"*Earlier on in my career I didn't trust myself, you know, my clinical instincts…So I think getting confident in the process, right? And that's just I think, you just do it more and more and you believe that it's better*." (Male community EP)

2. Shared decision-making/communication skills

Regarding specific SDM skills, all providers noted they had no training in SDM, and though most said they were comfortable having SDM conversations, several noted that they had no idea if they were "doing it right" or similarly to how others engaged.

"I think I'm fairly ok in doing it, I think that there's definitely people that would benefit from formal education in it, but I feel like those are the same people that you identify with having difficulty communicating to patients in general." (Female community EP)

"(I am) comfortable (using SDM, though I don't know) that I'm doing it right or anything." (Male academic EP)

Discussion

Physicians recognized numerous barriers and facilitators regarding their use of SDM in the ED. Although several of these themes have emerged from previous studies, many are new and specific to Emergency Medicine. While logistic concerns such as time, space, and lack of follow-up are clearly important barriers, the emotional barriers such as the stress of uncertainty and the fear of a bad outcome are likely to be more difficult to address – and appear to be significant obstacles for many clinicians.

The challenges of addressing uncertainty are not new. Politi et al. found that the communication of uncertainty led to decreased decision satisfaction in female clinic patients.[18] Portnoy et al. demonstrated that not only do physicians have varying degrees of comfort with uncertainty, but that their perception of their patients' "ambiguity aversion" – their tolerance of uncertainty – predicted their likelihood of avoiding shared decision-making: physicians were less likely to offer choices to patients whom they perceived to be intolerant of ambiguity.[19] Our participants echoed this but phrased it differently, they noted that the patient needed to be able to tolerate *risk* in order to participate in SDM, and a

failure to understand or accept *risk* led the physician to avoid SDM. It has been previously noted that for patients to participate in SDM, they need to "appreciate that there is uncertainty in medicine."[20] Our results suggest that EPs would agree with this and may withhold SDM for patients they believe will have difficultly with uncertainty. What is unknown is how much uncertainty or risk ED patients are willing to accept, although it is likely this varies considerably by patient and by clinical scenario.[21] Although research exists to bolster accurate risk communication, it is unclear whether we can affect our "ambiguity aversion" as a culture.[22,23] Certainly, physicians in the ED may be overestimating their patients' ambiguity aversion, and avoiding SDM in situations where it would be acceptable to patients.

Many EPs noted that reliable follow-up care was a prerequisite for SDM, and that patients without follow-up received more tests and were more likely to be admitted. As avoidable ED care is more expensive than reliable primary care, this is yet an additional reason for the government, policy-makers, and insurers to improve access to primary care. Per our participants, patients with reliable follow-up care are offered more autonomy, which has the potential to improve their care and decrease costs.

Regarding physicians' skills, two different skill sets emerged as relevant in relationship to SDM: clinical skills and communication skills. A number of physicians noted that they used SDM more frequently as their clinical skills improved. This is likely due to improved clinical acumen and to their increased ability to tolerate uncertainty. Second, many noted that they had no training in SDM, but they recognized the importance of communication skills. Although a few physicians noted that they may not be "doing it right," no physician stated that they needed training in SDM, implying that the physicians themselves did not see this lack of training as a barrier. However, a lack of recognition of the need for formal training does not mean it is not warranted – in contrast, this lack of recognition is a barrier in itself, as these physicians are unlikely to seek training in this skill

or recognize their own ability to improve at this skill.

Lastly, as was noted by Kanzaria et al., the perception exists that many patients don't want SDM or can't understand the medical issues well enough to meaningfully participate.[2] The clinicians in our study gave numerous examples of starting conversations and then navigating away from SDM when they felt that patient characteristics made SDM impossible. While it is heartening that many clinicians gave examples where they attempted SDM before changing the direction of the conversation, it is possible that whatever shortcomings were present could have been overcome by clinician training, access to a decision aid, or some other means. In short, pointing to the patient's limited understanding highlights a failing not on the part of the patient, but on the part of the physician's skill in the conduct of this conversation. Improved SDM skills would likely expand the number of patients with the "capacity" to meaningfully participate in SDM.

Many clinicians noted that it is simply harder – logistically and emotionally – to engage in SDM than to unilaterally make patient care decisions. Neither the logistical barriers such as lack of follow-up nor the emotional barriers such as the stress of "doing less" are amenable to easy solutions, but neither are they insurmountable. Solutions from multiple angles are likely to have differential effects on individual physicians, but positive effects overall. Patients can be encouraged to ask about alternatives; institutions can promote a pro-SDM culture, making physicians feel supported; insurers and government can increase access to primary care and put in place reimbursement for important discussions. Further research is warranted to investigate which of the barriers and facilitators presented here are most significant regarding the promotion of SDM nationally, as well as examine the issue of barriers and facilitators from the point of view of other stakeholders.

Limitations

Although our study is the first to qualitatively explore the barriers and facilitators to using SDM in the ED, there are limitations to our analysis. First, while the physicians worked in a number of different clinical settings, all were practicing in Massachusetts at the time of the interview, and physicians from other regions may have responded differently. As EPs work for innumerable different health systems, individual systems may impose different barriers that did not emerge from this analysis. For example, when this research was presented in Boston, MA, an EP (not interviewed) noted that she did not have an integrated electronic medical record at her hospital, limiting her ability to know her patient's history or trust her patient's follow-up plan. Our other major limitation is that we examined only physician-identified barriers. Physicians may not recognize the same barriers that patients, nurses, or other involved parties feel are important, and this warrants further research.

Conclusion

In summary, physicians noted a number of barriers and facilitators regarding SDM in the ED. Although further exploration of these barriers is necessary, it appears that improving access to follow-up care, promoting increased dialogue around uncertainty, improving physicians' communication skills, and finding ways to decrease logistic barriers could all potentially increase the frequency with which EPs feel they can use SDM in their practices.

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Chapter 4

Survey Derived from Qualitative inquiry

Shared Decision-Making in the ED: What matters to clinicians?

We'd like your input regarding Shared Decision-Making in the Emergency Department. By giving us your opinion, you are helping to shape future research. This survey should take about 7 minutes to complete and is completely voluntary.

*Definition: **Shared decision making (SDM)** is a collaborative process that allows patients and their providers to make health care decisions together. It involves a conversation initiated by the provider about the clinical evidence available, as well as the patient's values and preferences.*

Example: After a negative ED workup, a clinician is on the fence about whether to admit or discharge a patient who presented with chest pain, so the clinician discusses the risks and benefits of admission versus PCP follow-up with the patient, elicits their concerns and preferences, and they make a decision they are both comfortable with.

We are interested in your views on SDM in the ED.

A. Your Current Use

Based on the definition above, how often do you initiate a shared decision-making conversation in the following scenarios? (with the patient or a surrogate)

When deciding whether or not to….	Never	Sometimes	Often	Almost Always
1. … **give tPA** to a patient with an acute stroke				
2. … obtain an **abdominal CT** in a young patient who is low risk (but not no risk) for appendicitis				
3. … **admit** a patient with chest pain who is low risk for ACS				
4. …perform a **CT scan** for a young, well-appearing patient with a history and physical consistent with a kidney stone				
5. … perform a **head CT on a child** with a minor head injury				
6. … perform a **head CT on an adult** with a minor head injury				
7. … **prescribe** opiates				
8. … **admit** a patient for syncope who has had a negative workup in the ED				
9. … **perform an LP** after a negative head CT for ruling out sub-arachnoid hemorrhage				
10. … **intubate** an elderly demented patient presenting with respiratory distress (assuming surrogates are present)				

B. What matters to you?

Many factors influence how physicians practice. For each of the following factors, please indicate whether that factor, if present, would encourage your use of Shared Decision-Making in the ED.

	Not important to me, *would not encourage my use*	**A little important** to me, *might encourage* my use	**Important** to me, *would encourage* my use	**Very important** to me, *would definitely encourage* my use
Policy				
Institutional Guidelines supporting your use of SDM in specific scenarios				
Guidelines from national organizations supporting the use of SDM in specific scenario				
Reimbursement specifically for shared decision-making conversations (like a procedure code)				
If patients…				
…had reliable **follow-up**				
…had easily accessible **medical records** (such as in your electronic health records)				
...asked about their **options**				
If I had…				
… **more training** on how and when to effectively and efficiently have an SDM conversation				
… easy access/communication with the patient's **primary care doctors**				
… better **clinical prediction tools** to give me accurate patient-specific risk calculations (like the HEART score)				
… more **time** in my shift to talk to patients				
If there was evidence from well-designed studies of SDM in specific scenarios that showed…				
…decreased length of stay				
…improved morbidity and mortality				
…reduced your risk of malpractice				
…safely decreased CT scan use				
…safely decreased admission rates				
…improved patient understanding and knowledge of their condition				
…improved patient engagement (involvement in their own care) and empowerment				

…improved patient satisfaction				

Other things that would affect your use of SDM:

_____

C. <u>SDM in specific clinical scenarios</u>

<u>Renal Colic</u>:
We are designing a study to help physicians use a shared decision-making decision-aid for young healthy patients with classical presentations of renal colic. Only healthy, young, afebrile patients with flank pain, no abdominal tenderness, and no signs of infection would be included. After pain control and an ultrasound to exclude those with severe hydronephrosis, physicians will discuss CT versus watchful waiting, describing the risks and benefits of both options and eliciting the patient's preferences. Assuming this study was well-designed and powered appropriately, please rate how important the following study outcomes would be TO YOU personally.

	Not important to me	**A little important** to me	**Important** to me	**Very important** to me
If use of the decision aid affected…				
… the CT rate				
… the admission rate				
… the urologic procedure rate				
… the rate of repeat visits to the ED				
… the rate of missed or delayed important alternative diagnoses (like appendicitis)				
Whether the decision-aid …				
… was easy to use (as judged by the doctors)				
… didn't take too long to use				

Is there anything else that would influence how you would view a study like this?

_____

<u>Syncope</u>
We are designing a study to assess the impact of using a patient decision aid to facilitate SDM for stable adult patients over 40 who came to the ED with syncope, have had a full ED work-up and have no serious diagnosis identified. This decision aid would help explain disposition options regarding admission versus discharge with rapid out-patient follow up. Assuming this study was well-designed and powered appropriately, please rate how important the following study outcomes would be TO YOU personally.

	Not important to me	**A little important** to me	**Important** to me	**Very important** to me
If use of the decision aid affected…				

… the admission rate				
… the rate of missed or delayed serious diagnoses				
… the downstream testing rate (e.g. CT, echo)				
Whether the decision-aid …				
… was easy to use (as judged by the doctors)				
… didn't take too long to use				

Is there anything else that would influence how you would view a study like this?

_____

D. Background Information: Please tell us a little about yourself

Your age: _____

Your gender:_____

Your race/ethnicity: _____

You are a(n): ☐$_1$ Attending/Fellow

→ Years since residency (circle one): 0-5 6-10 11-15 >15

→ Are you board certified in EM? ☐$_1$ Yes ☐$_2$ No

☐$_2$ Resident → PGY (circle one): 1 2 3 4

☐$_3$ Advanced Practitioner (PA or NP)

☐$_3$ Other: _____

In what type of **hospital** do you work clinically **(check all that apply)**?

☐$_1$ Academic medical center (*most patients seen with residents*)

☐$_2$ Public or county hospital

☐$_3$ Community-based setting (*or community affiliate, most patients seen without residents*)

☐$_4$ Group-based HMO

☐$_5$ Urgent Care

☐$_6$ Other: _____

What **region** best describes where you work clinically **(check all that apply)**?

☐$_1$ Urban

☐$_2$ Suburban

☐$_3$ Rural

☐$_4$ Outside of the United States - If checked, where? _____

How are you reimbursed **(check all that apply)**?

☐$_1$ Salaried (residents check here)

☐$_2$ Fee-for-service

☐$_3$ Hourly wage

☐$_4$ Combination of salary plus bonuses based on productivity

The State(s) in which you practice: _____

Discussion

This study yielded a number of interesting insights into the use of SDM in the ED. As expected, EPs were able to identify both new and known barriers to shared decision-making, highlighting some of the challenges specific to the setting of the ED. EPs expressed different motivations for using SDM in different clinical scenarios, and commented on the relative importance of various research findings (Table 1.5), highlighting the diversity of opinions within the field. Lastly, this study uncovered an unexpected finding: that the current practice of SDM in the ED does not lend itself well to resident education. EPs gave numerous reasons why SDM is used less frequently in academic institutions and why individual physicians use SDM less frequently in patient-encounters involving residents.

When these three analyses are examined together, three overarching and very significant points emerge.

1. Future trials of SDM will need to examine multiple outcomes

A philosophical dichotomy exists between two categories of outcomes in SDM trials, with clinicians, researchers and policy-makers falling on both sides of the divide. What is the point of using SDM? What is the intervention attempting to *do?* One camp would argue: the point *is* SDM. Shared decision-making, when done properly and well, is its own end. As it's designed, it naturally informs patients, bolsters empowerment, and reinforces respect for patient autonomy. A recent call for grants by AHRQ highlights this, as it asks researchers to develop validated ways to measure if SDM happened in an interaction, recognizing that SDM *is* the outcome.[33] While this patient-centeredness is heavily promoted and discussed by patients, policy-makers, clinicians and researchers, many have also seen a separate potential to SDM: to change the care that patients

receive. Outcomes that fall into this category include the recent finding that SDM used in the Emergency Department with low risk chest pain patients led to decreased hospitalizations.[6] The article, describing a study funded by PCORI, was very clear to state that the primary outcome, as determined by patients, was patient knowledge.[6] The press the article received, however, focused very clearly on a different outcome. ("Shared Decision-Making Reduces Admissions in Low Risk Chest Pain Patients," "Shared Decision Making in Low-Risk Chest Pain: Safe, Fewer Tests," and "How One Minute Could Prevent Unnecessary Hospitalization, Tests for Patients with Low-Risk Chest Pains.")[34-6] Of eight news stories noted in the article's Altmetrics, only two noted "knowledge" as an outcome in the title, with the others focusing on the ability of Shard Decision-Making to reduce "unnecessary" tests or hospitalization. The two English-language blogs also focus on resource utilization, with one making the point that, regarding the friction between the two outcomes, "it feels like the end result is a demonstration of a shared decision-making instrument intended to nudge patients into choosing the disposition we(doctors) think they ought, but are somehow afraid to outright tell them."[37] This is consistent with our findings that physicians often used "guided shared decision-making:" they knew what they felt was the "right" option, but they wanted to explore the options and come to a decision with the patient's input. Is this paternalism cloaked as patient-centeredness? Or is it a realistic recognition that patient involvement is good for patients, but so is expert advice?

The history of dissemination and implementation science helps us understand that for most clinical scenarios, research findings alone will not change physicians' behavior or clinical care. However, in the case of SDM, where the physician's willingness and ability to engage are critical, physicians will need concrete, well-supported reasons to spend the time and effort to increase their use of SDM. Because of the diversity of responses regarding, '*what research findings are important to you?'* trials of SDM in the ED will likely

need to include outcomes related to patient and physician satisfaction, time, resource utilization, and safety, as well as outcomes related to the specific clinical scenario.

2. More training is needed for practicing physicians, residents, and medical students

While none of the participants specifically said that they personally needed more training in SDM, they noted that some of their colleagues did. They also noted that they didn't know if they were engaging in SDM the same way others were – whether they were doing it "right." Many noted that they didn't know exactly how to teach the residents, and that using SDM when working with residents was more challenging than when working alone.

It is also possible that training in SDM could affect some of the other barriers noted. For example, physicians often noted that the patient's lack of understanding or ability to accept risk prevented them from using SDM. It is possible that training in SDM could improve a clinician's ability to explain a complex scenario, or could help a clinician explain risk in a way that fostered the patient's ability to accept it. Much work on teaching SDM skills is already ongoing. Han et al. created a successful curriculum to teach medical students effective risk communication,[38] and many other educational interventions have been developed and tested, with variable success.[39-43] There has been increased attention within Emergency Medicine to develop this important skill.[44-45]

3. Uncertainty and the medico-legal question

While the desire to share uncertainty with patients motivated many physicians to use SDM, too much uncertainty was clearly a barrier, as was the difficultly of explaining uncertainty in a way that did not risk the loss of trust and confidence. Additionally, both public opinion and recent literature suggests that increased testing protects clinicians from malpractice allegations.[46,47] Clinicians tend to believe this as well.[46] Therefore, a clinician's

concern regarding the risk of liability may affect their likelihood to use SDM. A recent consensus conference paper called for further research investigating the effects of SDM on liability, specifically asking, "Does SDM change malpractice risk?"[48] It is clear from our research that the answer to this question will likely affect clinicians' desire to engage in SDM.

In conclusion, EPs noted varying motivations, barriers, and facilitators regarding their use of SDM in the ED. Many of these themes, such as the concern over liability, were consistent and appropriate for future investigation without further validation in a larger sample. Prioritizing others, however, will require a survey of a more representative sample of EPs in the United States. Based on these results, the following foci may have the most merit: 1 – improved SDM training for both learners and practicing EPs, 2 – research to better understand the liability concerns, 3 – access to reliable and rapid primary care after ED discharge, and 4 – the inclusion of multiple endpoints for multiple stakeholders when a trial of SDM is conducted.

Appendix

Semi-Structured Interview Guide

Ok, before we start I want to remind you that we're recording this, but your name will not be attached in any way to the transcript. Please try to avoid using names that would identify you or any patients, but we will go back and delete them if you do, before we transcribe the recording.

Also, I am interested in your honest answers – I am not interested in political correctness, please do not sugarcoat your answers. This interview is mostly about your own processes and attitudes, and there are no right or wrong answers.

For interviewer: "help me understand…." "tell me more about that…." "I think I understand, but explain that a little further…" Ask for more clarifications about assumptions.

To get us started….
1. Please tell me a little bit about what you like best about your work in the ED. What do you find to be the most challenging aspects of the job?

Great, next we're going to talk about your current Decision-Making Processes
2. Tell me about a decision regarding patient care that you had to make recently in the ED (*for example a situation where there were two or more reasonable options.*) Talk me through the process of making that decision.

a. Did you involve anyone else in making that decision?

b. Can you think of instances where you involve others (aside from medical professionals) in making clinical decisions?

c. *How do you approach decision-making when there is not necessarily one best/right answer?*

Now I am going to ask you some questions about Shared Decision Making:
2. *Have you heard of SDM? What have you heard about it?*

a. How would you define shared decision-making?

b. Have you formally learned about SDM? (Lectures, residency, medical school)

This is the formal definition of Shared Decision Making*: "***Shared decision making** (SDM) is a collaborative process that allows patients and their providers to make health care decisions together, taking into account the best scientific evidence available, as well as the patient's values and preferences."

3. Can you tell me a about a time, if there has been one, when you used shared decision-making techniques? *Walk me through the situation.*

a. How did you feel about that particular interaction? Did using SDM have any positive or negative impact on the care the patient received?

What made you decide to use SDM in this scenario? (Why did you use it?)

b. (If it went well): Are there scenarios that didn't go as well/smoothly? (If it didn't go well): Are there scenarios that went better? *How do you define "going well"? What does that mean?*

c. *What was it that made it go well/badly?* (medical problems, patient characteristics, other barriers/facilitators)

Attitudes (Barriers and Facilitators)

4. Can you think of some potential benefits of SDM in the ED? *(such as in the scenario we just talked about?)* (What's the point?)

a. What do you think about those benefits? *Are those particular things important to you?*

b. Can you think of some potential drawbacks or downsides of SDM in the ED?

c. What do you think about those downsides?
(Sub-questions: exploration of scenarios and patient-types)

5. Can you share some scenarios where you did NOT involve the patient in any decision-making?

a. Please tell me why you felt it did NOT make sense to do so.
(Sub-questions: exploration of scenarios, patient characteristics, and barriers/facilitators)

6. How would/does using SDM affect your patient encounters? (Probes: timing, satisfaction, etc)

a. Do you think that SDM affects patient engagement and satisfaction? How do you feel about patient engagement/satisfaction? (Probes: how important is it compared to other aspects of patient care?)

7. What stands in the way of your using SDM techniques more often?
(Probe: address the issue, then what would be the barrier?) What are some other barriers to using SDM?

What factors push you towards using SDM in a certain situation?

Did you have a particular goal or agenda when you decide to bring this decision back to the patient? What was it?

8. *There have been a few studies in the EM literature on SDM, such as The Chest Pain choice trial (are you familiar with it at all?)* Basically using a SDM model admissions went down and patient engagement went up. Do studies like that encourage you to use SDM more? What sort of findings would encourage you to use it more? What would persuade you to introduce SDM into your practice more? (Ex: what would make you use SDM more? [Certain research findings, education, guidelines/policies, tools, improved medico-legal risk?])

How do the residents influence the SDM interaction? (regarding barriers and facilitators)

Norms: Great, so now I'm going to ask you to speculate a little bit….
9. Can you tell me about your sense of how your colleagues might view shared-decision making?

a. Do you think your colleagues use SDM?

b. What are the reasons you think your colleagues use or don't use SDM?

Skills/Self-efficacy
10. How comfortable do you feel using SDM techniques?

a. How comfortable are you teaching residents to use SDM techniques (if applicable)?

Scenarios
11. Are there any other scenarios that we haven't talked about, for which you think that SDM might be appropriate? Think of as many as you can.

12. Anything else you think is important to mention about using SDM in the ED?

MASTER CODEBOOK

A. Benefits of SDM as identified by the participant

A1. SDM as a way of going against the "standard of care" when the standard of care was perceived as not the "right" thing for the patient.
- A1.10 To decrease resource utilization (to do less tests, admissions)
- A1.11 To avoid tests that harm/confuse

A2. SDM improves patient-clinician communication
- A2.10 Education through better communication
  - A2.11 About the ED process
  - A2.12 About their disease process
- A2.20 Communication to explore and address the patient's expectations

A3. Patient satisfaction is a benefit of SDM
- Is patient satisfaction important to the participant:
  - A3.11 Yes, important, period.
  - A3.12 Important but secondary
  - A3.13 Not that important
- A3.2 Patient feels cared about
- A3.3 Emotional benefit to patient or family

A4. SDM gives patient/family a sense of control

A5. Allows the sharing of risk and uncertainty
- A5.1 Better communication of risk
- A5.2 Makes *physician* feel better about uncertainty
- A5.3 Medicolegal advantage (if SDM is used; perceived)

A6. SDM improves patient engagement
- A6.1 Engagement leads to better adherence with the plan
- A6.2 If patient is engaged, they are more likely to be involved with SDM in future
- A6.3 Patient engagement may improve safety

A7. "Virtual pat on back." Participant noted that using SDM makes them feel good about their care or they get good feedback from patients

A8. SDM might improve resource utilization

A9. SDM might help patient flow through the ED

A10. Care consistent with a patient's own values and preferences is better care

B. Facilitators of SDM as identified by the participants

B1. Physicians' own internal motivation

B2. Patient has follow-up (therefore it is reasonable to offer them the less resource intensive option)

B3. A clear understanding of risk by the provider (If provider has a sold statistical understanding of the risks of different options, they can more easily discuss these risks with patients)

B4. Beneficence: it's the right thing to do
    B4.1 Patient autonomy noted as motivator

B5. Physician characteristics may facilitate SDM
    B5.1 Sensitive/compassionate
    B5.2 Physicians who know the patients (part of community, pre-existing relationships)
    B5.3 Physician has good communication skills
    B5.4 Confidence of the physician in their clinical skills

B6. Patient characteristics
    B6.1 Patient asks about alternatives
    B6.2 Patient/family is engagable or engaged
    B6.3 An upset family may benefit *more* from SDM

B7. Physician's level of training/experience can be a facilitator ("I do it more now than when I started.")

B8. Previous good experience with SDM begets more use of SDM by the physician

B9. Residents as facilitators
    B9.1 They have more time to have the conversation

B10. Understanding patient's expectations helps physicians engage in SDM

B11. Culture (of medicine is changing to be more supportive of SDM)
    B11.1 Different institutions have different cultures, different views on risk
    B11.2 Perception that older doctors are more paternalistic
    B11.3 Culture of pediatrics is different (SDM is more the norm)
    B11.4 The culture of my training institution encouraged SDM

B12. Social or professional support of patient and decision-making process can facilitate ("...whether it's a social worker or whatever…that can provide support and just there as an ear…")

B13. Academic versus community setting as facilitator
    B13.1 Academic setting better/easier
    B13.2 Community setting better/easier

B14. Scenario (grey zone) as facilitator
    B14.1 Patient forces conversation by wanting something unsafe (AMA)

C. Downsides of SDM as identified by participants

C1. The patient makes the "wrong" choice

C2. Physician may end up "doing more" (or less) than they originally planned or wanted to

C3. More family members may have differing opinions

C4. Too much "what do you want to do?" makes patient less confident in physician and the physician then appears "wishy-washy."

C5. Physician may miss something because they did less due to SDM

C6. Patient gets lost/confused in the process, has a many questions and drags process on

C7. The involvement of others (physicians, consultants, sign-outs) makes SDM harder.

D. Barriers to SDM as identified by participants

D1. Patient characteristics
- D1.1 Lack of competency or capacity
- D1.2 Lack of desire for involvement
- D1.3 Aggressive or difficult patients who have their own agenda (and therefore are perceived as unwilling to listen).
- D1.4 Patients who don't understand the concept of risk or uncertainty
  - D1.41 Don't tolerate uncertainty
- D1.5 Patients who don't speak English
- D1.6 Patient with low education level/ability to understand/health literacy
- D1.7 Patients who are not reliable (in terms of following plan, returning if needed)
- D1.8 Cultural barriers, concern that patient may perceive physician as rationing care or discriminating
- D1.9 Patient is too anxious to have a conversation
- D1.10 Patient who have frequent ED visits

D2. Time

D3. Diagnostic momentum
- D3.1 Relating to other providers, signouts

D4. Requires effort ("the path of least resistance is not SDM")
- D4.1 Emotional effort
- D4.2 Logistical effort

D5. Clinician skill
- D5.1 Physicians for whom English is not their first language may not do SDM as well

D6. Clinician anxiety level or degree of being risk averse (i.e. More anxious physician (or physician in anxiety-producing scenario) is less likely to be willing to give the patient choices)

D7. The scenario is not appropriate for SDM
- D7.1 Don't want to burden patient

D8. Decreased control for physician

D9. Physician pride

D10. No kudos given for decreasing resource utilization, so why bother

D11 Residents as barrier
- D11.1 Attending has less relationship with patient
- D11.2 Residents have less experience and/or skills with SDM
- D11.3 Hard to trust the resident to do it as attending would want since everyone is different regarding opinions, tolerance of risk
- D11.4 Residents can be wrong about appropriate plan
- D11.5 Resident has already set the expectations or plan
- D11.6 Residents want a concrete plan

D12. Medicolegal ramifications or risk of doing less, possibility of missing something because you did less
- D12.1 Systemic or cultural intolerance of uncertainty

D13. Physicians' grey zones are variable

D14. Unique environment of the ED: wait times, pain, frustrated patients, hallway beds, stress, interruptions, volume

D15. Physicians general overestimation of patient's risk leads to provider thinking SDM wouldn't be appropriate

D16. SDM can be done poorly/wrong and lead to biasing the patient. No point in doing it if you can't do it well.

E. Understanding of SDM as a process

E4. Provider's knowledge of what SDM is – from their own perspective
- E4.1 Never heard of it
- E4.2 Vaguely aware of concept or term
- E4.3 Yes, I know what it is

F. Examples of places that providers use SDM in examples

F1. Admission versus discharge for chest pain patients at low risk for ACS
F2. Advanced imaging (i.e. abdominal CT) in young people
- F2.1 CT for presumed diverticultis

F3. Physician's grey zone (also referred to as "on the fence")
F4. End of life care – aggressive vs comfort
F5. Admission versus discharge for infections (or antibiotics versus watchful waiting in infections)
F6. Non-specific neurologic complaints
F7. Head injuries and CT scanning
F8. Testing in general

F9. When important outcomes like mortality are not likely affected: “where stakes are NOT high”
F10. D-dimer
F11. Opiate prescribing
F12. Lumbar puncture for ruling out Sub-arachnoid Hemorrhage in a patient with a normal head CT
F13. For patients who want to leave AMA
F15. Tapping joints
F16. Pediatrics in general (more SDM)
F17. tPa for stroke
F18. Admissions in general

G. The physician has an agenda in having the SDM conversation

G1. The agenda is to: Use SDM to counteract standard of care when standard of care may not be best for patient (same as A1)

G4. There is an agenda or opinion present, but participant makes it clear they are fine with patient choosing either option

G5.1 Agenda MOTIVATED the conversation happening

G5.2 Agenda or opinion exists but is not WHY SDM happened

G5.3 “Guided SDM:” The agenda is specific to the scenario, the physician has a very strong opinion but does engage the patient

Other Codes:

H. Self-reported comfort with using SMD
- H1.1 Comfortable Doing/ H1.2 Not comfortable
- H2.1 Comfortable Teaching/H2.2 Not comfortable

J. Participants perception of colleagues’ use of SDM
- J1.1 They use it
- J1.2 Most use it
- J1.3 I am sure some do not

I. Have you had formal teaching about SDM?
- I 1.0 Yes, I have had formal teaching
- I 1.2 Maybe/informal
- I 1.3 Nope

R: Research findings that physicians noted would be meaningful to them
- R1. Improved patient engagement
- R2. Effects on productivity
- R3. Guidelines:
  - R3.1 I like guidelines and they would encourage me
  - R3.2 I don’t want more guidelines
- R4. Patient satisfaction
- R5. Improved resource utilization
- R6. Medicolegal benefit (decreased medicolegal risk to physician)
- R7. Morbidity and mortality
- R8. Iatrogenic side effects/outcomes

K1. Physicians’ feelings about resource utilization

K1.1 Cares/important
K1.2 Doesn't care/not important

K2. Physicians feelings about cost
K2.1 Cares/important
K2.2 Doesn't care/not important

L. Coders interpretation of physicians' attitudes about SDM generally
L1. Participant seems to or professes to love SDM
L1.1 Participant goes directly to example of SDM when we ask about clinical decision-making
L2. Ambivalent
L3. Participant has hesitations or professes to not care for SDM

M. Participant notes examples of misuse of SDM

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