

If I Quit in the Clinic and Do Nothing but Teach,  
I'm Going to Be Looking for a New Job:  
An Exploration of Uncertainty Management in Medical Education

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**Abstract**

Academic medicine in the United States is a complex field, changing regularly in response to new healthcare knowledge, emerging technologies, and evolving funding models. Uncertainty management theory (UMT) provides scholars a lens to make sense of how individuals experience uncertainty. This study employs UMT to explore the experiences of clerkship and course directors (CDs), faculty in U.S. medical schools who serve in education administration roles. Fifteen semi-structured, in-depth interviews with eight CDs over fourteen months indicate complicated relationships with uncertainty at work. Interpreted through UMT, these results reveal that some CDs manage uncertainty discursively, and at times, leverage uncertainty to maintain agency within their roles. These findings indicate that it may be important to recruit CDs who feel comfortable with and can manage uncertainty and provide them with appropriate socialization and ongoing support. Broadly, the results suggest that a more nuanced understanding of uncertainty management experiences can benefit both employees and institutions; as employees gain more role clarity, institutions receive information on how to better meet employees' needs.

Keywords: *academic medicine, health communication, uncertainty, organizational communication*

Academic medicine is an uncertain field today. Medical schools in the United States have grown dramatically in size and complexity in the last century (Cooke et al., 2010). During that time, organizational values and allocation of time have shifted, thus making the work of academic physicians more focused on clinical productivity (Real, 2010). Additionally, faculty members in medical schools are often required daily to “move effortlessly from the research laboratory to the bedside and back” (Cooke et al., 2010, p. 13), shifting their focus from teaching medical students and residents, to treating patients, to conducting clinical research. This necessity to shift and adapt has the potential to foster uncertainty, defined as the inability to predict and explain various aspects of one’s environment (Bradac, 2001). This environmental uncertainty is likely intensified for faculty who hold leadership roles in medical education, as they are often dually employed by medical schools and physician practice groups. Research exploring uncertainty and communication in health fields has the potential to improve both the organizational lives of health professionals, and extend benefits to employees outside healthcare as well (Real, 2010).

Our study focuses on the experiences of physicians who specialize in medical education administration, specifically, clerkship and course directors (CDs). These individuals design curricula, evaluate and assess educational effectiveness, and train faculty colleagues to teach (Ephgrave et al., 2010; Glod et al., 2020; Pangaro, 2010). Clerkship and course directors create a bridge between medical school faculty at-large and school administration by managing academic programs, collecting and analyzing educational data, and leading accreditation efforts. These multiple foci and constituents make for dynamic roles within complex organizations. Variability in responsibilities across institutions and departments often makes it difficult for CDs to identify a supervisory structure for their positions and a clear path to promotion (Glod et al., 2020).

Much of the extant literature on medical education focuses on how faculty members develop teaching skills, but has yet to address the complex and often uncertain role of CDs in their respective organizations (Bligh & Brice, 2009; Pangaro, 2010). Further, CDs are not the only individuals who experience this kind of dissonance. Almost all clinical faculty members in medical education are dually employed by a university and a practice plan. The complex and bureaucratic nature of academic medicine and, more broadly, colleges and universities, create uncertainty for individuals in these important roles (Bligh & Brice, 2009; Glod et al., 2020). In this study, we sought to uncover the how academic medicine organizations may create uncertainty for CDs and the discursive strategies used by CDs to manage uncertainty.

### **Uncertainty in Organizational Life**

The role of uncertainty has been investigated extensively in the communication literature, and in the context of organizational life (Babrow, 2001; Brashers, 2001). Uncertainty is a constant tension in medical education, one that is often exacerbated by the speed of discovery and the complexity of the healthcare system (Cooke et al., 2010; Pangaro, 2010).

Communication plays an important role in how people successfully navigate through uncertainty and negotiate their identities in their workplace (Babrow & Matthias, 2015; Jordan & Babrow, 2013; Thau et al., 2007). Given these challenges, and the number of faculty members with dual employment, understanding how uncertainty affects their success is important.

### ***Theories of uncertainty***

To systematically account for the role of uncertainty in interactions, the concept of uncertainty is central to several theories of communication. For example, uncertainty reduction theory (URT) has been applied prolifically in organizational studies (Berger & Calabrese, 1975; Bordia et al., 2004; Kramer, 1994, 1999). The theory proposes that uncertainty is a state in

which individuals draw from available information to explain and predict the behavior of strangers (Bradac, 2001). This theory rests on an ‘ideology of uncertainty reduction,’ which presupposes that individuals unilaterally seek to reduce uncertainty (Babrow, 2001, p. 561).

A parallel thread of theory development gave rise to the uncertainty management theory (UMT), which describes how individuals engage with and experience uncertainties in interpersonal relationships and organizations (Babrow, 2001; Babrow & Matthias, 2015; Brashers, 2001). The theory proposes that that, instead of always seeking to reduce uncertainty, sometimes a person may want increase their uncertainty about a particular topic, while at other times, they may seek more clarity. However, Babrow and Matthias (2015) later revised this notion, arguing that the language of uncertainty management is limiting; rather, it may be more valuable to see individuals as flowing through uncertain experiences. This concept of flowing through uncertainty offers an important framework for considering CD’s role experiences, given their need to move seamlessly between education and patient care (Cooke et al., 2010). In addition to re-conceptualizing an individual’s relationship with uncertainty, UMT has the potential to account for the language of uncertainty. This accounting for language allows for integration of the role of ambiguity in uncertainty, as well as the potential need for an understanding of uncertainty which “invites willful clarity and the seeking of vague, imprecise information” (Bradac, 2001, p. 469). Given the complexity of academic medicine organizations, CDs language around uncertainty offers a unique site for exploration. Additionally, uncertainty may also be leveraged via communication as a strategy to exert control, gain optimism, or foster hope.

***Communication and uncertainty management***

Communication and uncertainty are iterative; uncertainty can both create and become an outcome of the process of communication. Individuals encountering uncertainty may seek out information to explore possible options or compare and contrast their existing beliefs about a situation (Brashers, 2001). For example, CDs unsure of institutional norms may look to others' position descriptions in the institution to find paths to rewards and recognition (Pangaro, 2010).

Employees also may manage uncertainty by drawing from diverse sources of information for different contexts or different forms of uncertainty (Brashers, 2001). These information sources may include organizational policies, peers, supervisors, or mentors; these sources are even more varied and complex in dual employment situations, like CDs. In addition to information-seeking, accepting uncertainty is another strategy by which to manage it. An early typography of uncertainty acceptance behaviors included trust, ignoring the uncertainty, and drawing on faith (Emmers & Canary, 1996). Another strategy of uncertainty management is crafting structure and habits, building a cocoon of certainty to shield themselves from certain complexities (Merry & Kassavin, 1995). Finally, seeking and receiving social support can attenuate the negative effects of uncertainty through obtaining emotional support, tangible support, and/or expressing frustrations (Brashers, 2001). This concept appears in a recent study about CD roles conducted by Glod et al. (2020) who found, "CDs have accrued key responsibilities that require both more time and different skill sets, leading to a need for different resources and support" (p. 2).

***Uncertainty, behavior, and identity***

An individual's experience of uncertainty in an organization is central to several aspects of employee behavior and organizational life. First, it has been argued that perceptions of

uncertainty and fairness are inexorably linked in organizations (Lind & Van den Bos, 2002). When an individual experiences uncertainty and senses the presence of fairness in an organization, the perception of fairness is believed to reduce uncertainty-related anxiety, in turn attenuating anti-social behavior (Thau et al., 2007). Consequently, perceptions and experiences of uncertainty in organizations are integral to understanding employee behavior. For faculty in academic medicine (and CDs in particular), more information on their perceptions of their roles and rewards can offer insight into how they manage or seek out uncertainty.

Research on causes of uncertainty indicates that it can be characterized as either environmental (e.g., as a result of vague organizational policies) or self-imposed (e.g., stemming from doubts about competence) (Thau et al., 2007). The focus of the current study is environmental uncertainty, which involves the inability to predict the “physical and social factors that are taken directly into consideration in the decision-making behavior of individuals in the organization” (Duncan, 1972, p. 314). Sources of environmental uncertainty include too little information about some aspect of the organization, inadequate understanding of the available information, or two choices that are difficult to differentiate (Grote, 2009). It has been argued that organizations are better able to change experiences of environmental uncertainty than to reduce an individual’s self-uncertainty (Thau et al., 2007). For example, Ephgrave et al. (2010) found that CDs were more satisfied if they could connect their role to professional advancement, indicating a relationship between environment and certainty.

Research also links uncertainty to organizational identity, treating an individual’s approach to uncertainty as a stable trait, specifically as ‘a willingness to embrace ambiguity and uncertainty as an integral part of everyday life’ (Eisenberg, 2001, p. 534). It has been posited that for those who do not thrive in uncertainty, the experience of uncertainty requires resolution

to feel secure (Eisenberg, 2001). As Babrow and Matthias (2015) indicate, medical education has fundamental uncertainties. These uncertainties are created by the need to make decisions based on the enormous breadth and depth of information, while also being constrained by the inevitable limit to medical knowledge. Further, practitioners must determine whether ignorance in particular situation is a result of their individual lack of knowledge, or a lack of knowledge in the field. Uncertainty is so woven into the fabric of medicine, medical education has been described as training for uncertainty (Fox, 1957). In light of these unavoidable uncertainties in medicine, understanding the relationship between individual identity and the field could be helpful.

Individuals in the workplace engage with uncertainty in diverse ways which can have important implications for employee satisfaction and behaviors. Some of these topics have been explored systematically through URT and UMT. Our application of UMT in this study eschews an approach which focuses on an individual's need to *reduce* uncertainty, and instead remains open to the possibility that some participants may, in fact, prefer and seek uncertainty in some contexts. In light of these factors, we seek to answer the following research question:

RQ 1: "How do CDs manage uncertainty in their different role responsibilities?"

### **Method**

In this study, we sought to uncover the complexities associated with managing uncertainty in complex organizational environments through a series of interviews with CDs. Building on previous research exploring uncertainty in the workplace (Babrow, 2001; Babrow & Matthias, 2015; Brashers, 2001; Meisenbach, 2008), the following study pivots from the traditional explorations of uncertainty reduction in organizations to capture participants' desires to both increase and decrease uncertainty and to discursively and creatively manage uncertainty.



### *Participants*

The participants were eight physicians employed at four academic medical centers in the U.S. who self-identified as clerkship/course directors (CDs); that is, a medical school faculty member responsible for the administrative and curricular management of a required course or clinical rotation. We developed our purposive sample theoretically, focusing on ensuring similar medical schools and roles (Charmaz, 2006; Noy, 2008). Since challenges of role clarity and organizational complexity are sometimes linked, we attempted to identify similarly complex medical schools by limiting the amount of federal funding, faculty, and student body size. We narrowed the list from 125 U.S. allopathic schools to four schools using the following criteria: (1) NIH funding more than \$120,000,000, (2) a clinical faculty population of 800 or more, and (3) a first-year medical student class size above 100, but below 200, and 4) geographic distribution across the United States. Once institutions were chosen, we emailed each institution's educational affairs unit, and asked them to invite their CDs to participate by emailing one of the authors. When a prospective participant contacted us, we confirmed the participant identified with the following characteristics to ensure consistency in positions: (1) self-identified a CD; (2) employed at a minimum of 80% time at an academic medical center in the United States., and (3) held an MD degree. After an initial interview, we used a snowball sampling strategy, by asking participants to refer us to a colleague who might be willing to participate (Noy, 2008). Ultimately, these strategies helped us to gather a population diverse in medical specialty, as well as demographic characteristics. They also ensured that the roles and duties were as consistent as possible across participants.

***Data collection***

Participants were interviewed over a period of fourteen months. Seven of the eight were interviewed twice, for a total of 15 qualitative interviews (one participant was unavailable for a second interview). The semi-structured protocol included questions in five sections: 1) the structure of their position, 2) preferences for type of work and rewards system, 3) socialization and training for their role, 4) professional relationships and connections to individuals and organizations, and 5) their values and alignment with organizational values. The original goal of the study was to examine the values and roles of CDs, so uncertainty was not included explicitly in the original protocol. As we developed our explanation for how CDs manage the complexity of their roles, we noticed the CDs' strategies for managing uncertainty were noteworthy.

The interviews ranged in length from 45 to 94 minutes, with an average of 86 minutes. Initial interviews with all eight participants were conducted in the first month of data collection, then subsequent interviews were conducted until data saturation was achieved (Charmaz, 2006). Because the participants in this study were faculty discussing their own management and interpretation of their roles, we opted for synthesized member-checking, a participatory approach to data collection and validation (Birt et al., 2016). After the first interviews, we shared initial thematic coding with the participants, asking whether the results resonated with their experience. Questions for the second interviews were co-constructed with participants' input, as a tool to help us better articulate the theoretical implications of their experiences. By making the interpretation and member-checking a shared event, we acknowledge the lived experiences of our participants as a type of expertise, informing and shaping the research process (Harvey, 2015). Theoretically, we believe saturation was achieved with only eight participants and 15 interviews because of the similarity among individuals in the CD role, as well as the level of

experience in their field and iterative involvement in the research process. As Guest et al. (2006) contend, “experts tend to agree more with each other (with respect to their particular domain of expertise) than do novices...” (p. 74). Thus, with the particular criteria for the study’s participants, existing themes emerged quickly, which resulted in reaching saturation sooner in the sampling strategy. Interviews were recorded and transcribed verbatim resulting in approximately 300 pages of double-spaced text. All participants were assigned pseudonyms to protect their identities.

### ***Data analysis***

Two researchers conducted a line-by-line analysis of the interviews, which resulted in 10 initial themes related to uncertainty (Charmaz, 2006). Next, using focused coding, we fractured and added new themes related to uncertainty, and next, via axial coding, created categories illustrating the relationship between primary and secondary themes (Charmaz, 2006). These themes were then interpreted and compared to previous literature regarding uncertainty management, using an iterative approach to analysis (Tracy, 2012). This iterative approach involved balancing the emergent findings with extant research explicating uncertainty management theory (Tracy, 2012). In the data analysis, we sought to emphasize the experience of the participants within the complicated structure of the organization. As part of representing these experiences, we focused on aspects of uncertainty that were not linear, maintaining openness to the ways communication and cognition unfold in both functional and dysfunctional ways. The data guided our interpretations by adding complexity to understanding of uncertainty, instead of conceptualizing certainty as a monolithic entity.

## Results

The current extends Meisenbach's (2008) work by unpacking how uncertainty shapes the successes and challenges people experience when navigating their organizational identity. The results are divided in two sections: the first section consists of themes explicating the specific elements of the workplace environment which fostered uncertainty, and the second set explains the communicative strategies participants employed to manage uncertainty.

### *Sources of uncertainty*

The results move beyond first-level descriptions of information-seeking to illustrate the uncertainty-related tensions CDs faced, and capture the management of those tensions, as called for in Meisenbach's work (2008). Themes related to uncertainty were found present in all interviews. Literature suggests that sources of uncertainty can be environmental or self-imposed (Thau et al., 2007). Participants largely reported environmental sources of uncertainty, which were organized into four themes: (1) ambiguity about reporting structures, (2) managing multiple organization structures, (3) perceptions about different layers of values in various areas of their institutions, and (4) separation of the clinical and educational mission.

### *Ambiguity about reporting structures*

In the workplace, flattened, or non-hierarchical, structures of employee reporting provided some uncertainty for these participants. Further, the need to enact different roles in an organization gave rise to a fragmented sense of responsibility to supervisors, thus complicating communication. Many health centers are comprised of multiple clinical partners with various sources of funding and organizational hierarchies (safety net hospital, veteran's hospital, teaching hospital, etc.).

For example, Scott is a faculty member at a medical school, but his clinical affiliation is not with the university's primary clinical partner; instead, it is with the safety net hospital. His dual employment means he is regularly asked to represent one organizational perspective within the context of another. Describing his experience, Scott said,

I don't know if 'pride myself' is the right word, but I really strive to be the liaison the primary link between the two [organizations]. Making sure that the University always respects the viewpoints of the health system, and that health system respects the view of the University.

Scott's positionality means that he takes on the responsibility of helping the two organizations communicate effectively, even though it is not a requirement of his role. For Scott, serving as a go-between among the organizations is an important part of his organizational identification.

The lack of a clear organizational hierarchy served as a source of uncertainty which allowed another participant to gain insights into how to access resources and resolve issues. Faith said,

It depends on what the issue is...I have been here long enough to know who is better at this type of versus that type of issue. It's not a formal structure but being able to sense who would help with what communication types of things.

The lack of a formal organizational structure afforded Faith the flexibility to pivot between resources to find the best fit for her needs. After gaining experience with traversing these systems, Faith believed she had developed a 'sixth sense' about whom to talk to about particular issues.

Faith and Scott's experiences reveal that when structures in medical education are flattened, or even purportedly egalitarian, individuals who work in this structure benefit from a

particular orientation to uncertainty and uncertainty management. In other words, the flattened structures give those individuals comfortable with uncertainty the opportunity to build their own system of gathering information about their roles.

*Managing multiple organizational structures*

Individuals working within medical education often must simultaneously manage different organizational structures. This was the case for several participants who held positions in multiple areas, with various procedures for managing conflict. Al articulated the varying extent to which he was familiar with the department and the medical school. He said,

It depends on which level we're talking about. Within my own department, we have a chair, we have a collection of vice chairs, we're regularly communicating with each other... I think for the most part we're also fairly small and so it's not very difficult logistically... [But] at the level of the medical school, obviously that's a whole other can of worms, with many, many different departments and thousands of faculty.

For Al, the scale of his department and the medical school shaped the communicative environment. Another participant, Kathleen, faced issues with a lack of clear expectations for her role, and she described how a colleagues' confusion about her responsibilities led to a 'landmine.' She said,

I really didn't know what was expected of me at all. And being an associate role, it was really hard and I struggled with that for a long time. And in the end, it was not a good outcome for all involved. There was a lot of turmoil, there was absolutely zero expectations, zero instructions. And that was really frustrating.

Kathleen's frustration emerged from a lack of similar roles within the institution in order to model her behavior. For Kathleen, a lack of personal and institutional understanding of her role

and responsibilities led to deep uncertainty and discomfort, resulting in a problematic situation for ‘all involved.’

*Layers of values*

Complex structures in medical education beget uncertainty about the values at each level of the structure, and how those values should be applied in any given situation. For these participants, personal values were particularly important in circumstances where workplace uncertainty created interpersonal conflict or tensions. Salima articulated issues related to differing values at different levels of the medical school,

I think there is a good potential that the program is going to die... I think it is a question of ‘How valued is [education] within our system right now?’ My sense is it’s not a high value...I have had conversations about this at the medical school level, like, ‘Why are we leaving this up to the departments to make the decision about whether they want to support us or not?’ and ‘Is there a way the medical school could be more proactive in supporting the educational mission?’

Her statements reveal that some values, especially those values in jeopardy, should be promoted by the institution. In her case, because the individual departments were tasked with supporting a program, the lack of enthusiasm may cause the program to die.

Kathleen also described complex layers of values and how the values affect communication within the organization. She said,

I truly value taking care of patients, and then incorporating students into it. Is that also valued by my department? Yes, I truly feel supported by my department. Is that valued by my overall institution? Not so much. We constantly are negotiating ways to expand our [clinical] services and be respectful to what the institution’s wishes maybe as well...I

just feel like there's a big disconnect with what we on the ground see, and then what the heads of the school see.

The relationship (or lack thereof) between varying levels of an institution can give rise to a work environment wherein one individual must work in two or more independent institutions, which may hold different or even conflicting values about the mission of the organization. These tensions are exemplified in experiences of participants who perceive a separation of the clinical and educational mission.

*Separation of the clinical and educational mission*

Some participants described a distinct divide between the work done caring for patients and educational work with learners. This divide was reflected in many areas of organizational life. Salima lamented the lack of resources dedicated to the value of teaching at her institution. Salima explained,

I don't feel [education] is valued. Sure, paying somebody a little bit after the fact [to compensate for teaching], is a really risky way to value something. For many faculty, they want to teach, and the institution wants them to do it. But [the institution] has not created a mechanism by which to actually value it there.

Reflecting on the different ways that education is valued in his organization, John said,

I think that it is valued by the university in a sense... This week there were the annual education awards, and so they do publicly recognize people for their teaching... And I believe that they're sincere... Now, against that, if I quit teaching tomorrow, and all I did was generate revenue in the clinic, I'm going to be just fine from the standpoint of my boss, [but] if I quit in the clinic and do nothing but teach, I'm going to be looking for a new job. So, do I think that it's valued the way that it should be? Nah, not really.



John acknowledged that while teaching may be sincerely valued by his colleagues, the value of education was not held in high enough regard to stand on its own. The separation of the clinical and educational mission may also create a context where individuals work in distinct silos.

### ***Strategies for managing uncertainty***

The interviews revealed how language can not only reveal uncertainty, but also be employed to understand and manage uncertainties. These results focused on five themes: (1) ambivalence, (2) detachment, (3) urgency, (4) metrics as a cognitive anchor, and (5) mentoring.

#### *Ambivalence*

Some participants expressed ambivalence by describing contradictory perspectives on their work roles and identities. For example, Kathleen described how her particular specialty gave rise to tensions with institutions systems.

There are times when I felt I fought the system, and I won. And, other times when I've said, 'Okay this is the best that we could do.' ... I think... people have been supportive of my values and have let me stick by them.

However, in her next sentence, Kathleen shows ambivalence by saying that she did in fact receive some pressures to act against her values,

I feel like I am getting some pressure to not stick to my values and budge a little bit and offer some compromises, but again I feel like it is going to be a compromise. It is not asking me to abandon what is most important to me and what I believe in. I think I am too stubborn anyways, but I think it will continue to be a compromise...

In the same thought, Kathleen described adhering to her values, then being challenged, and finally 'budging' and adopting a 'compromise.'

#### *Detachment*

A few participants expressed detachment from their workplace, using language to describe a lack of involvement or personal investment, to manage their uncertainty. For example, in describing times when she was turned down for an education leadership opportunity, Faith stated,

The question would always come, ‘Are you going to give up if you don’t get the role?’  
 ‘Well, no. If I don’t get the role, I think that that’s your problem, not mine. I think I should be in this role, and the fact that you didn’t choose me is really a disservice to your program, not to me.’

Faith’s statement of ‘your problem, not mine’ on its surface seems to communicate as a sense of detachment from decision-making in her workplace. However, this statement of ‘not my problem’ may also belie frustration with this decision-making.

John is in a different career stage, but expressed a similar sense of detachment. After describing tensions and potential problems in the workplace, John stated,

Let me tell you why all [the problems don’t] bother me... If my boss walked up to me today and says, “You know what? I’m going to put you in for a promotion, and we’re going to promote you up the line.” I’d say, “That’s nice.” And if he walks in here today, and he says, ‘You know what? You’re never going to be promoted. You’re going to be in your same position from here on out.’ I’ll say, “Okay. That’s okay. That’s nice.” I don’t care. I really don’t care. I don’t need to care.

Although these CDs faced different challenges, each of them chose to manage the uncertainty about their organizational identities by detaching from their roles.

*Urgency*

One unexpected theme that emerged from the data was the description of the role of time urgency in the experience of uncertainty. In particular, participants described clinical work with a sense of urgency, and at times, a greater urgency than educational work. Levi explained the experience of time constraints and the need to prioritize different work,

It is difficult; today was my administrative day, but I had an operation scheduled because I'll see people in clinic, and they'll need an operation. When I'm on those clinical emergency services, I don't have time to do administration... It certainly bleeds over one way or the other when I am on clinical service, I have my smart phone, and I am frequently answering emails and students want to talk about their grades.

Levi described how surgery may take priority over administrative responsibilities, and patient emergencies are treated with the highest urgency. Al echoed this sentiment,

First and foremost, as a physician, my primary responsibility is to my patients. And so, clinical emergencies trump everything else, or even just urgent issues, or responding to patient phone calls. You know, those don't work around my education schedule. So, inevitably clinical stuff spills over into the educational time.

These descriptions of patient care reveal an underlying principle of prioritizing patients in the face of limited time. It is clear that the experience of time, and in particular a sense of urgency, related to some aspects of work, are integral to decision-making with regards to uncertainty in the workplace.

#### *Metrics as a cognitive anchor*

Participants used metrics and other data as a communicative strategy to manage uncertainty about their different roles. While this strategy was leveraged as a means to manage uncertainty, the strategy also reveals a dialectical tension regarding work roles and does not

necessarily reflect the experiences of participants. Two participants explicitly described *clinical* dashboards (reports describing their clinical productivity), but they do not have similar tool to describe *education* effort. Salima indicated a need to do this for herself,

The department overall has decided there are certain things they are going to measure, and there's a lot of things they don't measure... there are no or almost no metrics for the other 50% of what I do... But, I think that value system you are asking about, comes out that way. What you measure is what you value, what you don't measure is what you value less.

Faith described these issues from the perspective of an individual recruiting others to teach,

I think having an educational dashboard actually does help ...I could look on a graph and see that I'm teaching more than [my peers]...I can see the "high" teachers and the "low" teachers. I can look at that... as an opportunity [to recruit teachers], 'Hey, do you guys want to teach more?'

Faith situated her work among her peers, and used a graph to see who is contributing to the teaching mission and who is not. This graph provides some certainty about the amount of teaching work completed by various individuals in the institution.

### *Mentoring*

Some participants described mentorship as a strategy to manage their experience of uncertainty. When asked 'How did you learn to be this role and negotiate appropriately for it?'

Al responded,

Some of it is mentorship, for example, having talked with the prior course director who was a former vice chair whose position I took over, and who I continue to meet with four years in, to talk through issues related to this, so I think mentorship is critical.

Al described a long-term relationship with his mentor, who had previous experience with the complexities of his current role. Another CD, Faith, also felt that mentoring was an important part of learning about her role. She explained,

For other faculty who need a lot more direction, not having anybody directly guide them in those goals could be difficult and frustrating... I also have mentorship, so there's faculty I've asked questions like, "What did I do wrong?"

Faith characterized experiences of uncertainty as a personality trait, which works for some types of people but not others. However, Faith went on to qualify this statement by saying that mentorship can help ameliorate some of the frustration that comes with a lack of direction.

As our results indicate, CDs successes and challenges are consistently shaped by their experiences with uncertainty. Our first set of findings, on the environment which fosters uncertainty, indicate that the structure of medical education creates tension for CDs when entering their roles and pursuing opportunities in the organization. So, CDs use a variety of communicative strategies to manage uncertainty, as indicated in the second section of our results. These findings hold several theoretical and practical implications.

### **Discussion**

These results explore a new context for uncertainty management, and provide insights about CD's experience of uncertainty in their various roles. These results illuminate the role of uncertainty in the complex interaction between organizations and individuals.

#### ***Theoretical implications***

This study gives rise to three, interconnected theoretical implications. First, the data illustrate how metrics and the dashboard culture shape CD's experience of uncertainty. At times, metrics served as a structure by which to validate CD's decisions about how they spend their

time as teachers and as physicians. These strategies echo Merry and Kassavin's (1995) cocoon of uncertainty, wherein individuals create structures and rituals to deal with uncertainties. For CDs, there is an attempt by their organizations to craft a cocoon of certainty through rituals such as measuring time through metrics. The results of this study extend understanding of the potential effects of these rituals, showing that these structured attempts to measure time may not result in more productivity or satisfaction. In fact, the existence of these structures for some activities and not others may communicate to employees that some aspects of their work are valued more than others.

Secondly, this study adds complexity to the theory of UMT regarding the experience of time, and how the temporal aspect of UMT unfolds. An individual's experience of time in the workplace is shaped by the structures and technologies of the organization. The use of metrics and the dashboard system discussed in the study can be understood as a *temporal enactment*, or the performance of time. Similarly, reacting to the urgency of patient care is a *temporal construal*, or the interpretation of time (Ballard & Seibold, 2003). Organizational efforts to formalize and sequence events (in this case, through dashboard-style metrics) may be an effort to create more certainty in the workplace (Ballard & Seibold, 2003). However, the CDs in this study seem to feel that these constraints may limit their ability to be productive and work across multiple areas of personal value (e.g. education or patient care). Further, these participants explained that a sense of urgency for patient care made irrelevant the structured allocation of time (i.e. percentage of time spend in the domain of either education or patient care). Furthermore, participants were able to justify prioritizing patients over learners, by citing a sense the urgency of patient care. Although some research treats urgency as a catalyst for uncertainty in decision-making by limiting the resource of time, participants in this study, instead, described

how a sense of urgency actually facilitated decision-making. This potential variance in the experiences of uncertainty and urgency was noted by Rastegary and Landy, (1993) who argued, “It is likely that time pressure does not affect everyone in the same way. It may prove challenging to one individual and debilitating to another. In fact, temporal orientation has been recognized as one of the fundamental parameters of individual differences” (Rastegary & Landy, 1993, p. 217). Our results suggest that not only do experiences of uncertainty vary across individuals, but also across different types of organizations and roles.

The third theoretical contribution is our illustration of how certainty and uncertainty are interconnected. The data shows the certainty and uncertainty are not necessarily two sides of the same coin, always vacillating back and forth from uncertainty to certainty. Our participants explained that the experience of uncertainty can be complex and multisided, with both individuals and organizations playing a role in managing it. Our data answer Brashers’ (2001) related call regarding clarity in how the structures of varying types of organizations interact with individual uncertainty. The results revealed that multiple structures in an organization can produce layers of uncertainty in the workplace. Consistent with Meisenbach’s (2008) work, the results of this study illustrate that physicians in medical education do not embody one, monolithic approach to managing uncertainty within their roles. The physicians do not see certainty as a consistently desirable state; rather, by claiming a space of uncertainty as one of ownership, clerkship and course directors have an opportunity to reclaim a sense of power and develop new discourses around their work. Finally, the participants expounded on how they manage this uncertainty, often expressing their relationship to uncertainty through language characterized by detachment and ambivalence. In this way, these findings add to potential

uncertainty acceptance behaviors (Babrow & Matthias, 2015; Emmers & Canary, 1996).

### *Practical Implications*

The practical outcomes of this study can be applied in two ways. First, we can consider the ways in which CDs, themselves, can seek out tools to negotiate clarity in their roles when needed and pursue appropriate paths to reward and recognition. Second, given CDs import in the medical education mission, leaders in academic medicine have a responsibility to create pathways to success for CDs. Table 1 details the ways in which these findings can be applied practically in AMCs, both for CDs and for leaders/organizations. [INSERT TABLE 1 HERE]

First, on dealing with issues of clerkship and course directors' experiences of uncertainty, employers can focus on the various sources of uncertainty in the workplace, and on strategies for managing extant or emerging uncertainty. Regarding how these employees interact with uncertainty, the results show the various ways that the participants both leverage and experience discomfort with these sources of uncertainty. Further, the participants spoke about how uncertainty often stems from the disconnect between the multiple institutions in which these individuals work. Clarity around the relationships between institutions and/or the faculty roles could provide resources for faculty to pursue advancement and feel more satisfied.

Second, an important lesson from these data is that uncertainty in the medical education workplace can be both a resource and a drain for faculty. These findings extend existing research exploring how values interact with uncertainty (Babrow & Matthias, 2015), providing evidence of how grappling with contradicting values can create uncertainty, but that uncertainty is not fundamentally an undesirable state. When institutions and employees espouse and act in the interest of different or conflicting values, this may create dissonance for the individuals who must work within these structures. However, it is not plausible to change the institutional values



(patients will always need to be made a priority, and medical education will never increase revenue). Instead, one strategy is to create a space wherein employees can “flow” between their own personal values and explore how those values interact with those of their institution (Babrow & Matthias, 2015, p. 21). These issues may extend to contexts where employees may not encounter different structures but work in various teams. For example, one study found that when the structures of medical education result in individuals being partial members of different teams, this partial in-group membership may influence satisfaction with communication in those teams (Grice et al., 2006).

Third, the results of this study may inform other organizational contexts where employees face tensions in their various roles. For example, in for-profit education, there is the potential for tension between the goal of revenue-generation and the goal of educating students. Tensions could arise between the need to demonstrate excellence through mandated testing and providing students with a complete education. In other contexts, where measures of performance are used to evaluate the quality of work (such as business or fundraising), individuals may experience uncertainty as a result of metrics for success in conjunction and/or in tension with other values.

Finally, previous research has argued that, for those who do not thrive in uncertainty, the experience of uncertainty requires resolution to feel secure (Eisenberg, 2001). This study shows that in the context of academic medicine, uncertainty is not a unilaterally negative state to be reduced, but instead an experience that can be managed through discursive strategies and interactions with the existing structures of medical education. Considering the ways in which employees are chosen and socialized into the field might offer opportunities to identify those who might thrive in uncertain environments.

### **Limitations and Future Research**

As for limitations, first, we chose four institutions for this study. As such, some experiences may be shaped by the type of institutions chosen. Further study could explore the extent to which the size and complexity of the organization might shape uncertainty experienced by employees. Second, given the use of qualitative methods, the goal of this study is to describe, rather than generalize, the experiences of CDs in medical education. Future research might consider uncertainty experiences in different populations within medicine or education broadly. Focus groups or conversations with both administrators and CDs might offer different organizational perspectives on uncertainty management. Lastly, although our study highlighted a novel application of UMT, we do not know the extent to which this approach is transferrable. A more complete treatment in multiple organization types and with varied roles is needed to truly understand its efficacy.

### **Conclusion**

Our study makes an important contribution to understanding the experiences of clerkship and course directors in U.S. medical education. These individuals are responsible for influencing the education of every future physician. They are faced with a lack of role clarity, competing priorities, and an ambiguous rewards system. Yet, despite all of this uncertainty, the participants in this study continue to seek out opportunities to lead education efforts and work with learners in the clinical setting. The findings from this study suggests that eliminating uncertainty is not a productive strategy for CDs. Instead, we seek to better illuminate the discursive strategies they use to pursue the advancement of their work, given the complexity of medical education. A deeper, more nuanced understanding of uncertainty management experiences benefits both employees and institutions. Employees receive more role clarity and individual agency, and

institutions receive information on how to better meet employees' needs and help them to succeed.

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Table 1

Practical Implications of Exploring Clerkship Directors' Uncertainty

<b>Issue</b>	<b>Practical Response for Clerkship Directors</b>	<b>Practical Response for Institutions and Leaders</b>
Role clarity	CDs could seek out more role clarity by requesting an annual review in which leaders from both the clinical and education areas are present. If this is impossible, they could use one form for their annual review, alerting each mission area to the breadth of their work in the other area.	Leaders could develop clearer pathways for advancement for CDs or opportunities for more formal recognition, such as education leadership awards.
Selection and socialization	CDs could ensure they, themselves, are comfortable with uncertainty and ambiguity; if not, they could consider strategies for managing their uncertainty or pursue other leadership roles in medical education	Leaders could screen CDs in the hiring process for tolerance of uncertainty and ambiguity. Intentional training programs should be developed to help CDs manage the ambiguity of living within two values systems.
Understand uncertainty as a resource and a drain	CDs could work to accept that some level of uncertainty will always be common in the role. To that end, they could seek out opportunities where they can interact with colleagues with similar values conflicts (such as other CDs at the local or national level).	Leaders could create more opportunities for CDs to flow among groups and roles, potentially focusing on the areas of the job that bring energy and satisfaction. Naming an assistant/associate clerkship director might also help CDs to manage competing values and their relationship to burnout.
Consider the role of data in driving behavior	CDs could seek out or collect their own data to determine the evidence and effectiveness of their intervention.	Leaders could provide more and more consistent data around educational administration, so employees can speak more instructively on their role and values.