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Lightning in a Bottle: Navigating Uncertainty, Authority, and Agency in Pediatric Neurology Encounters

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A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Sociology

by

Keith Gregory Cox

2024

ABSTRACT OF THE DISSERTATION

Lightning in a Bottle:
Navigating Uncertainty, Authority, and Agency in
Pediatric Neurology Encounters

by

Keith Gregory Cox
Doctor of Philosophy in Sociology
University of California, Los Angeles, 2024
Professor Tanya Jean Stivers, Chair

Pediatric medical visits represent a unique opportunity for studying uncertainty, authority, and agency. In these visits medical authority and parental authority converge on a common goal — the child's best interests. However, physicians and parents do not always agree on what courses of action are best. Physicians may disagree with parents but nevertheless rely on them to carry out treatment plans. Parents may challenge medical authority but nevertheless rely on physicians for access to the medical goods and services that they need to care for their child. In these points of departure medical authority and parental authority collide; and when the child's problem is non-routine like a seizure the stakes can be particularly high.

This dissertation explores the physician-parent partnership in a particular context: pediatric neurology visits for overnight vEEG testing. I adopt a conversation analytic approach to examine interactions between physicians and parents during these encounters, paying particular attention to the themes of uncertainty, authority, and agency. I find that parents and physicians use (un)certainty to accomplish specific interactional goals. Parents can invoke uncertainty as an account for their conduct when they have somehow challenged medical authority, thus mitigating damage to the physician-family partnership; and physicians can modulate the certainty of diagnoses, treatment efficacy, and other aspects of the child's condition and care as a means of exerting control over visit outcomes.

In the context of news deliveries, I find that the relative rights to ascribe valence to news in pediatric neurology diverge from those observed in everyday life, and this causes problems in the delivery and reception of *good* news. In these encounters, physicians prioritize conveying the facts of the news over characterizing its valence, but parents tend to treat both components as necessary before they are willing to assess the news. When physicians fail to provide either component, parents orient to news deliveries as incomplete. This not only causes difficulties in parents' reception of the news but also leads to protracted news deliveries. Taken together, these findings suggest an enduring orientation to medical authority as a legitimate property of the physician-family partnership.

The dissertation of Keith Gregory Cox is approved.

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University of California, Los Angeles

2024

In memory of my mother,

Denine Larie Cox

TABLE OF CONTENTS

TABLES

FIGURES

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First and foremost, I would like to thank my parents, Kent and Denine Cox, and my sister, Kellie Basley, for their unwavering love and support throughout my life. There is no way I would be here without you. I have always been motivated by a desire to make my family proud, especially my parents, which is why this is such a bittersweet moment for me. On the one hand this is the most significant achievement of my life thus far, but on the other hand I won't be able to celebrate it with my mom. I love you, Mom.

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2023	Cox, Keith. “Invoking Uncertainty: Parents’ Accounts for Intrusions on Medical Authority in Pediatric Neurology.” *Journal of Health and Social Behavior* 64(4):537–554.
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CHAPTER 1

Introduction

1.1 INTRODUCTION

In this dissertation, I ask how pediatric neurologists and families navigate the inherently uncertain landscape of childhood epilepsy. There are many layers of uncertainty in the diagnosis and treatment of seizures beginning with the nature of the paroxysmal events a child is exhibiting: Are they epileptic, psychosomatic, or caused by something else entirely? Should they be treated and, if so, how? Will treatment work? Will medication cause other problems? Will the child grow out of epilepsy or get worse over time? And these are just some of the questions families are concerned with that clinicians may find difficult to answer with certainty. Diagnosis of unexplained paroxysmal episodes in children can take multiple visits to multiple providers — from pediatricians to pediatric neurologists. Although a diagnosis can often be achieved in the first visit to a neurologist, some cases may require a series of tests along with a suite of imaging and medication trials before a reasonably definitive diagnosis can be achieved. Consequently, uncertainty may simmer for weeks, months, or years as the diagnostic odyssey unfolds in real time (Timmermans and Buchbinder 2010). Indeed, patients' experiences with epilepsy may be as varied as the connections among the some 86 billion neurons that comprise their brains.

I approach the domain of uncertainty through the lens of social interaction. Rather than seeing uncertainty as primarily a source of angst, I focus on how clinicians and families orient to uncertainty and use it as an interactional resource to accomplish their goals. We will look at medical visits where families bring a child into the hospital for overnight video-EEG testing in the service of determining a diagnosis, assessing the efficacy of treatment, or as part of routine monitoring. These visits hold the promise of providing families with more certainty than they have had in the past through the use of advanced medical imaging. Yet, they are still rife with uncertainties.

In what follows, I review what we know about uncertainty as a theme in medical sociology. Then, I provide an overview of the literature on uncertainty in clinical interaction, followed by a survey of what is known about doctor-patient communication in the context of neurology. Finally, I offer an overview of the present study.

1.2 CONCEPTUAL BACKGROUND

1.2.1 Clinician Uncertainty

While physicians are experts in diagnosis and treatment, uncertainty is nevertheless an inherent part of their work experience. In fact, if there were no uncertainty in medicine, there would be no need for clinicians as we know them — health care would be a relatively low-skilled enterprise not *practiced* by physicians but *applied* by technicians, like error codes in a car are read by automotive service technicians. In this way medical authority depends on clinical uncertainty. Yet, it is also threatened by uncertainty.

This duality is reflected in the rise and fall of medical authority over time. For much of the 18th century doctors were reliant on patients' self-reported symptoms to inform diagnoses and treatment regimens (Tomes and Hoffman 2011). The only diagnostic clues doctors had to work with were those gleaned by observing patients and interpreting the symptoms they described. Medicine was inherently symptom-based, "the symptom was the illness" (Kaba and Sooriakumaran 2007:59). This meant high diagnostic uncertainty, and physicians held relatively low levels of medical authority as a result (Starr 1982).

By the end of the 19th century, advancements in microbiology set the stage for biomedical interpretations of illness. Medical science linked illnesses to specific biological causes and claimed that those causes could be managed with medical intervention. These biomedical interpretations of illness began to erode the import of patients' subjective experiences (Tomes and Hoffman 2011) while bolstering the eminence of clinicians' specialized professional knowledge (Starr 1982).

Mirroring this shift, the doctor-patient relationship underwent a reversal that pulled disease to the forefront while pushing patients to the periphery of their own care. Patients' self-reports gradually receded into the background and doctors' pathology reports propelled medicine into a new, increasingly disease-centered, era of doctoring. "This new model required examination of the patient's body and the expert clinical and anatomical knowledge possessed by the doctor to formulate a diagnosis, and thus the patient became dependent as a result" (Kaba and Sooriakumaran 2007:59). Patient obedience was such a predominant feature of the clinical method at the time that it was documented as a patient's responsibility in the first Code of Ethics drafted by the American Medical Association (AMA 1847:96).[1] With advancements in medical science there was at least an illusion of greater certainty, and this translated into high levels of medical authority.

Twentieth century technological advancements — most notably, the development of X-rays (see Howell 1995) — further empowered the biomedical model and suppressed patients' involvement in their own care by providing "independent, seemingly more objective information about their bodies" (Tomes and Hoffman 2011:8). For the first time in history, it was possible for doctors to tap directly into biological processes, make diagnoses, and formulate treatment

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[1] "The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness, to influence his attention to them" (AMA 1847:96).

regimens for patients without relying on their lived experiences for indirect access. The notion of scientific objectivity attracted physicians with the prospect of calculability, predictability, and control (i.e., “rationalization” *á la* Weber [1930] 2005).

Rationalized medicine engendered an unprecedented sense of medical certainty among physicians. Yet, despite the apparent advantages of certitude in the provision of medical care, it was ultimately caustic for the doctor-patient relationship: “as doctors gained more scientific certainty, they expected more patient deference and compliance” (Tomes and Hoffman 2011:8). It was within this framework that Parsons (1951) articulated his functionalist formulation of the institution of medicine as a social system wherein doctors and patients have complementary roles — doctors are expected to act in patients’ best medical interests and patients are obligated to follow professional medical advice. In this conceptualization of the doctor-patient relationship being a good patient meant being a passive patient, while being a good doctor meant honoring a Hippocratic commitment to beneficence toward patients, even at the cost of patient autonomy. This way of thinking about the doctor-patient relationship was deeply embedded in American culture during the rise of allopathic medicine’s professional dominance from the 1920s to the 1960s, now widely recognized as the “golden age of doctoring” (McKinlay and Marceau 2002). Doctors were among the most highly regarded social figures; the “doctor knows best” model of paternalistic medicine was in full effect; and patients were more or less passive recipients of care (Freedman 2002).

However, in the 1960s, physicians’ professional authority reached a tipping point and has gradually waned in the years since (Heritage 2005; Light 2000; Timmermans 2020). The decline of their professional dominance has been partially occasioned by the rise of patient-centered medicine. This shift was encouraged by the fusion of many social factors, in particular: (1)

increased public access to medical knowledge led to a “demystification of the body” (McKinlay and Marceau 2002:402); (2) patient empowerment movements, most notably women’s health activism, fundamentally altered how patients engaged with the medical system by advocating for health awareness, self-help, and demedicalization (Tomes and Hoffman 2011); (3) consumerist movements played a role in shaping the cultural landscape of the late 20th century by encouraging patients to shop around and demand quality (Reeder 1972); (4) medical malpractice suits became more common as medical practitioners were increasingly held personally accountable for professional misdeeds (Posner 1986); and (5) to address concerns surrounding the misuse of medical authority, the AMA’s Code of Ethics was revised in 1980 to include patients’ rights (Tomes and Hoffman 2011).

With these threats to physicians’ medical authority came policies encouraging patient empowerment and participation, transforming patients into key decision makers and participants in their healthcare (Mead and Bower 2000, 2002; Timmermans et al. 2018). Broad acceptance of patient-centeredness as a core organizing principal of modern healthcare, and its subsequent incorporation into government policy, ignited a run on research in this domain. The resulting findings fed into yet more growth by further enticing policy wonks and legislators with promises of newfound healthcare optimization.

The United States was among the first to prioritize patient centeredness by adopting it as one of six aims for quality improvement outlined in a report issued by the Institute of Medicine in 2001 (Institute of Medicine Committee on Quality of Health Care in America 2001). Since then, the United States has continued to invest in patient-centered research, most notably by establishing the Patient-Centered Outcomes Research Institute (PCORI), a nonprofit, nongovernmental enterprise authorized by Congress in 2010 as part of the Patient Protection and

Affordable Care Act. PCORI receives approximately 80% of its funding from the Patient-Centered Outcomes Research Trust Fund, also authorized by Congress. The magnitude of this funding commitment is staggering — PCORI awarded $397 million for patient-centered comparative clinical effectiveness research in 2022 alone (Patient-Centered Outcomes Research Institute 2022).

If policy provided encouragement for patients, the internet provided the means to explore their ideas (Timmermans 2020). As the internet has become ubiquitous, patients have begun to leverage information gleaned from it during medical visits. Through mentioning information from the internet, patients can justify their concerns and apply pressure for or against particular treatment options (Stevenson et al. 2021). Combined, these factors have begun to manifest patients who question physicians' assessments and advice (Bergen et al. 2018; Hardey 1999; Stivers et al. 2018; Stivers and Tate 2023). Recent studies point to increasing negotiation with physicians over diagnosis (McArthur Hernandez 2021; Stivers and Timmermans 2016, 2017b) and treatment (Bergen et al. 2018; Stivers and Tate 2023; Stivers and Timmermans 2021; Timmermans 2020). This shift aids in addressing problems of uncertainty by, at least partially, off-loading decision making onto patients. However, uncertainty remains difficult to manage in practice.

Clinicians-in-training learn early on that their career will involve an endless grapple with an ever-growing, always incomplete, universe of medical knowledge. As medical students they learn to differentiate between uncertainty associated with lapses in their own medical knowledge, and uncertainty related to gaps in medical science, which cannot be avoided (Fox 1957, 1980, 2000). But recognizing uncertainty and addressing it in the clinic are two separate issues. Through clinical experience, physicians develop the strategies for dealing with uncertainties that come to bear on diagnosis, treatment, and prognosis of medical problems, as well as patients' responses to them (Atkinson 1984; Calnan 1984; Fox 1957; Light 1979). However, these strategies vary significantly (Gerrity et al. 1995). At times, clinicians may recognize uncertainty but nevertheless hide it from patients in an effort to contain the threats that it poses to their professional medical authority and the doctor-patient relationship more generally (Fox 1957; Katz 1984). Light (1979) explains that clinical experience ultimately equips clinicians with the ability to control uncertainties as well as the proclivity to do so. Ironically, suppressing uncertainty as a management strategy can lead to overconfidence and even expose clinicians to new uncertainties, such as malpractice litigation, as a result (Light 1979).

However, research on learning to manage uncertainty is limited by its exclusive focus on clinicians in training. Fox (1957) and her contemporaries were forced to speculate about how learning to manage uncertainty in medical school would shape medical practice and the doctor-patient relationship in the years to come. This apparent shortcoming motivated attempts to measure the effects of uncertainty on physician behavior, leading to a number of conceptual models related to "uncertainty tolerance" and "ambiguity tolerance" (Gerrity et al. 1995; see also, Hillen et al. 2017). This line of inquiry seeks to explain variations in medical practice, such as decisions to order diagnostic tests in some cases but not others, as an artifact of clinicians' perception of uncertainty (Gerrity et al. 1992; Gerrity, DeVellis, and Earp 1990).

Evidence-based medicine (Djulbegovic and Guyatt 2017) might be conceptualized as a clinician's tool to minimize clinical uncertainty in medical decision making. The idea that decisions not only *are* based on evidence but are specifically presented *as* evidence-based implies at least some degree of certainty about a given clinical course of action. However, research on evidence-based medicine in practice suggests that total control over uncertainty is an illusion (Timmermans and Berg 2003). Clinicians must manage the inherent uncertainties of medical knowledge if they are to use it to assuage practical uncertainties in the clinic (Timmermans and Angell 2001). Standardization of the decision-making process in this way can successfully create the appearance of objectivity, yet evidence-based medicine rests upon an inherently uncertain medical literature. Rather than eliminate uncertainty, evidence-based medicine can at times exacerbate it and at other times merely obscure it. Consistent with Fox's (1957) observation, medical uncertainty never really disappears but molts under pressure. The case of evidence-based medicine appears to reaffirm this position, as solutions for uncertainty beget new uncertainties thereby prompting new solutions (Timmermans and Angell 2001).

Just as the use of evidence-based medicine initially looked like it might reduce uncertainty but can actually amplify it, the same can be said of technological advancements. While new technologies can provide greater certainty in some respects (e.g., when X-rays were introduced, they could indicate with certainty whether a fracture was present), they also expose new uncertainties. In neonatal care, we now have sophisticated diagnostic tools that afford far more detailed assessment than did those available 100 years ago, but these instruments and the deluge of data that they produce simultaneously reveal new gaps in our understanding (Mesman 2008). For instance, genetic screening among newborns is meant to facilitate early identification of genetic conditions so they can be mitigated with preemptive interventions (Timmermans and Buchbinder 2010). Yet, in the years since its implementation, standardized screening has expanded from considering only a few well-known genetic conditions with relatively straightforward markers, to include those that are poorly understood and hard to identify with precision. When screening values fall slightly beyond predetermined "normal" ranges, these values could simply be quirks or they could be indicative of genetic disorders. The resulting ambiguity serves as a catalyst for uncertainty that will persist throughout the child's life until a diagnosable condition actually materializes.

Consequently, babies that were considered healthy prior to genetic screening are now transformed into "patients-in-waiting" (Timmermans and Buchbinder 2010), as the reality of being "at risk" effectively becomes a chronic condition in its own right (Aronowitz 2009). Thus, attempts to manage uncertainty by calculating risk, can actually create uncertainty and anxiety for asymptomatic, able-bodied people (Gillespie 2012). Indeed, just as Fox (2000:409) observed over 20 years ago, "although medical progress dispels some uncertainties, it uncovers others that were not formerly recognized, and it may even create new areas of uncertainty that did not previously exist."

In sum, there is no avoiding medical uncertainty. Research shows that clinicians find it difficult and consistently reach for tools to minimize it. Ultimately, however, physicians continue to grapple with uncertainty both mentally and interactionally when they face patients in need of diagnosis and treatment. Paternalism is the primordial method by which caregivers attempt to manage the undesirable psychological effects associated with uncertainty. When basic medical science was still in the making and doctors relied on virtually instrument-free empiricism to gather and evaluate diagnostic evidence, certainty was largely an export of physician intuition. Although today it is possible for doctors to use advanced lab tests and imaging studies to carve out enclaves of certainty, uncertainty remains prevalent.

1.2.2 Parent Uncertainty

Although physicians may not find uncertainty comfortable, they have years of training and experience with managing it through daily exposure in hospitals and clinics. The same cannot be said for patients and their families wrestling with new uncertainties about their health. Yet, uncertainty lies at the core of the patient experience. In fact, it is the uncertainty arising from unexplained symptoms and failed home remedies that leads many patients to seek professional medical care in the first place whether it is a worrying pain, dizziness, or unexplained weight loss. This uncertainty is even more pronounced for parents who must first determine whether their child's behavior is normal or cause for concern (Webster 2019). And when the problem is non-routine like a seizure this can be particularly disconcerting. Even when parents appropriately identify a behavior their child is exhibiting as cause for concern and obtain a specific diagnosis, they may still face uncertainty related to its accuracy. Estimates of epilepsy misdiagnosis vary wildly from 7% to upwards of 70% depending on the study (Oto 2017). This wide range appears to reflect the variability of study setting, diagnostic criteria, and the referring clinician's level of experience (Oto 2017). In other words, the prevalence of misdiagnosis is itself uncertain.

While in medical science a degree of uncertainty can sometimes prove beneficial — unexpected results can lead to fortuitous findings as scientists occasionally stumble upon useful discoveries by chance (Fox 1980) — patients rarely see it that way. Patient dissatisfaction resulting from clinical uncertainty has been particularly examined among patients who suffer from medically unexplained symptoms and disorders that are difficult to diagnose. For example, in their survey of patients with chronic fatigue syndrome, Deale and Wessely (2001) found that upwards of 66% of patients were dissatisfied with the quality of care they received, particularly due to disputes or confusion over the diagnosis and inadequate or conflicting medical advice. Variation in post-visit satisfaction has also been found to be correlated with demographic factors, with older and female patients reporting the highest levels of post-visit satisfaction and younger male patients reporting greater dissatisfaction on the whole (Jackson et al. 2004). Moreover, the specific way that uncertainty is communicated shapes patients' satisfaction as well (Politi et al. 2011). In other words, the degree to which people dislike uncertainty varies over time, by individual, and depending on the way it is conveyed.

The corrosive power of uncertainty is particularly salient when pitted against the valence of diagnostic news. When diagnostic tests allow clinicians to rule out diagnoses, they might be inclined to present the results as good news. Yet, even the most serious diagnosis affords a degree of certainty regarding the nature of the patient's presenting complaint, thereby ushering in some semblance of relief (Nettleton 2006). For instance, as Dumit (1997:97) observed in the context of medically unexplained chronic pain, "sufferers seek out, even hope for, positive test results, even cancer, because then there would be something to point to and work on to solve the problem." Conversely, ruling out diagnoses leaves a troublesome "symptom residue" as the patient's medical problem remains unexplained (Maynard and Frankel 2006). At times, when Western medicine fails to provide definitive diagnoses, patients may attempt to abandon it entirely (Duran 2021).

Although research on "tolerance" of ambiguity and uncertainty has focused primarily on medical professionals (Strout et al. 2018), a similar vein of research directed at patients and their families has emerged in the nursing literature: Mishel's (1988) "uncertainty in illness theory" represents an attempt to deconstruct uncertainty by explaining how patients and their families perceive and process it cognitively. Ultimately the aim of this branch of scholarship is to develop a conceptual linkage between one's understanding of uncertainty and one's responses to it. A comprehensive review of Mishel's theory is beyond the scope of this dissertation but some of the findings are worth mentioning here.

Using the “Mishel Uncertainty in Illness Scale” (Mishel 1981), a Likert instrument, to assess the effects of uncertainty among adults visiting the hospital for acute medical problems, Mishel (1984) observed a positive correlation between perceived uncertainty and stress. However, offering patients more information might not be very helpful if that information fails to mitigate uncertainty. Parents of hospitalized children tend to perceive uncertain situations as more serious when they receive more information (Mishel 1983). However, when positive aspects of uncertainty are emphasized, they can be viewed as opportunities rather than threats (Mishel 1988). By finding “bright sides” in failed diagnostic hypotheses (e.g., “at least we know it’s not X”), clinicians and parents can reduce diagnostic uncertainty ever so slightly (Stivers and Timmermans 2017a). Thus, the way that clinicians present uncertainty during medical encounters has the potential to shape how patients and their families process and respond to it.

1.2.3 Uncertainty in Clinical Interaction

Given patients’ aversions to uncertainty, it is unsurprising that it can contribute to interactional trouble in clinical settings (Maynard and Frankel 2006). It may, for example, lead parents of children being assessed for developmental disabilities to reject physicians’ diagnoses (Maynard 2003). According to Fox’s (1957) account, medical students learn to neutralize this threat by hiding as much uncertainty as they possibly can from patients. Yet, in some cases physicians may deploy medical uncertainty as a mechanism of control, disclosing it as a warrant for keeping patients under observation (Latimer et al. 2006), thereby reinforcing the assertive posture of paternalistic medicine (Atkinson 1984).

Clinic visits bring uncertainty to a head between physicians and patients, and this shows up through various features of the interaction. Relative to today, Byrne and Long (1976) found that doctors' diagnostic pronouncements were relatively unequivocal. Decades later, in a pilot study designed to explicate strategies for generating diagnoses in primary care visits, Heneghan et al., (2009) found that *less than half* of all encounters concluded with a known diagnosis. More recently, Heritage and McArthur's (2019) conversation analytic study of diagnosis in primary care revealed that 47% of the time doctors recommend treatment, they do so without first conveying a diagnosis to the patient. When doctors cannot effectively diagnose patients' problems, the doctor-patient relationship can undergo significant strain: Patients can become increasingly frustrated with their doctors for being unable (or sometimes perceiving them as unwilling) to resolve their medical problems, while doctors can develop a palpable aversion to "problem patients" who present no "real" medical problems, only vague symptoms that elude diagnosis (Hahn 2001).

Another interactional indicator of uncertainty is when physicians tell patients what to do if their initial treatment recommendation fails to resolve the presenting complaint (i.e., a "contingency plan"). In a study of 244 primary care consultations, 138 visits (57%) contained at least one instance of contingency planning (Cox 2018). These plans represent an interactional resource for doctors dealing with contingencies and the scruples they engender. Contingency planning may also reflect a larger trend toward disclosing uncertainty to patients as a means of pre-empting patient resistance and promoting patient satisfaction.

Whether or not clinicians and patients like uncertainty, it is pervasive in medicine. Yet uncertainty is not merely a circumstance that physicians and patients must abide, its very presence means that it can become a tool for performing other functions in the visit. Clinicians can, for example, present relatively ambiguous test results as either more or less certain to push for or against particular diagnoses (Stivers and Timmermans 2016). Alternatively, clinicians can topicalize uncertainty related to the limits of medical science as a means of advocating for further testing (Pilnick and Zayts 2014).

Patients can also use the presence of uncertainty to ground their resistance to diagnoses and treatments thereby leveraging it to influence visit outcomes (Stivers 2007). Take, for example, the case of upper respiratory tract infections. The fact that so few tests are used in clinics to differentiate viral infections from their bacterial counterparts makes it possible for parents to shape visit outcomes. When the etiology of an upper respiratory infection is a likelihood rather than a certainty, parents can leverage the possibility of a bacterial infection to apply pressure for antibiotics and indeed leave the visit with a prescription regardless of whether clinicians feel such treatment is appropriate (Stivers 2007).

The present study extends this line of inquiry, focusing on how uncertainty colors interactions in pediatric neurology visits for overnight vEEG testing. Neither clinicians nor parents are fond of uncertainty surrounding the diagnosis, treatment, and prognosis of children suffering from unexplained paroxysmal events. However, the omnipresence of uncertainty means that it is readily available as a resource for both clinicians and parents at virtually any point in these encounters. When uncertainty does leak into conversations in the clinic, it must be managed interactionally. The present study aims to shed light on how clinicians and parents negotiate this uncertainty in real time.

1.3 CONTEXTUAL BACKGROUND

1.3.1 Neurology

The anatomically modern human brain dates back some 195,000 years (Gamble, Gowlett, and Dunbar 2018). Although recorded history accounts for less than 3% of this time, there is no reason to believe that seizures are new to mankind. Written descriptions of seizures date back to the invention of writing itself in Ancient Mesopotamia (Fales 2010). Descriptions of symptoms associated with what was then called “bennu” or “miqtu” (i.e., epilepsy) indicate that the look, feel, and lived experience of seizure activity has not changed much (Fales 2010; Wilson and Reynolds 1990). Yet there is every reason to believe that our understanding of seizures today is uniquely our own. The earliest documented evidence we have suggests that mystical explanations for seizures were once prominent (Stol 1993). Uncertainty surrounding the true nature of the illness was hidden behind this magical thinking, which offered unlimited answers in exchange for absolute faith. Hippocrates ([400BC] 2007) confronted the human proclivity to reach for divine answers in moments of uncertainty in his treatise “On the Sacred Disease.” He argued that epilepsy, the so-called Sacred Disease, should not be considered divine simply because it evaded comprehension. Placing epilepsy in the province of magic conceals uncertainty but thwarts progress. Hippocrates pressed for a radical overhaul of medical thought based on the premise that all medical problems have natural causes that can be identified and corrected through medical intervention.

Over 2,300 years later, in the mid-1920s, a German psychiatrist named Hans Berger (1873-1941) recorded the first human electroencephalogram (EEG), translating the brain’s electrical activity into medical imaging for the first time in history (Millett 2001). In the 100 years since, Berger’s EEG technology has become the gem of modern neurology. Paired with synchronous video recordings of the patient (i.e., video-EEG or vEEG), this technology affords unprecedented access to seizures and their clinical corelates, allowing for increasingly granular characterizations of neurological disorders. However, this hinges on the ability to capture a seizure during the vEEG observation period.

If seizures are storms of electrical activity among neurons, then the vEEG can be understood as an attempt to capture *lightning in a bottle*. By extending the monitoring period from one or two hours in outpatient settings to one or two days in specialty clinics, physicians can increase the probability of capturing an event by a factor of 10 or more. Clinicians can further stack the odds of capturing an event in their favor by deploying a variety of techniques meant to induce seizure activity, such as photic stimulation and sleep deprivation (Mendez and Brenner 2006). Notwithstanding these techniques, there remains a very real possibility that the patient will not experience any episodes during the observation period.

Beyond capturing an event, there are many difficulties in arriving at a bona fide diagnosis in pediatric neurology. The medical term "seizure" does not constitute a diagnosis. A seizure is a clinical (i.e., observable) paroxysmal event. There are many different types (Fisher et al. 2017). And to complicate matters further, what someone makes of the seizure can lead to very different outcomes as Fadiman (1997) captured in her book about Lia Lee, a child with epilepsy whose family had recently immigrated to the United States from Laos. Lia was admitted to the hospital with *status epilepticus* — seizures lasting longer than 20 minutes — on 17 occasions over a four-year period. Efforts to achieve seizure control with medication proved difficult as her physicians repeatedly tweaked her drug cocktail without success. Lia's doctors based their modifications to her treatment regimen on the assumption that her parents were administering the drugs as directed. Eventually it became clear that Lia's parents were administering an inconsistent combination of medications at their own discretion. They discontinued drugs that they felt were causing her seizures rather than treating them and gave up to twice the recommended dose of drugs that they believed were good. When Lia finally began to improve, her parents felt the drugs were no longer necessary and discontinued treatment entirely. Although Lia's story is a cultural one, the issue of seizures and how they are interpreted by families and clinicians is at the heart of pediatric neurology.

The diagnosis of epilepsy is a classification of paroxysmal events, but, like “seizure,” it too is an umbrella concept containing a diverse array of more granular diagnoses (Alarcon 2012). Although the incidence of pediatric epilepsy varies by syndrome and population age, cumulative assessments suggest that it is the most common chronic neurological condition among children, affecting between 0.5% and 1% of kids (Aaberg et al. 2017). For context, this is more common than childhood hearing impairment, which affects approximately five children per 1,000 (Boulet, Boyle, and Schieve 2009).

Adding to the difficulty of disease specificity, there are many non-neurological medical problems, such as syncope (i.e., fainting due to low blood pressure), tics, and even breath-holding spells that can mimic seizures (Weisleder 2012). For neurologists this means that some of the patients who come to them for help may present with conditions that look, to their families, like epilepsy but have nothing to do with the electrical activity in their brains (Reuber et al. 2009). With vEEG testing, neurologists can now differentiate between these paroxysmal events (Operto et al. 2019). In fact, up to 20% of children who undergo vEEG monitoring are identified as having psychogenic seizures which would not benefit from antiepileptic drugs (Dhiman et al. 2014). Although modern diagnostic technologies, such as vEEG imaging, provide unprecedented levels of information about the inner workings of living brains, they do not readily assess that information, nor do they spit out a diagnosis on their own. Reading a vEEG is not like reading a pregnancy test, there is subjective interpretation involved, and research suggests a that inter-rater reliability among EEG readers is lacking (e.g., Hussain et al. 2015). While artificial intelligence can identify seizures, these systems are far from perfect and they still require human supervision, i.e., human interpretation remains the backbone of diagnosis (Fürbass et al. 2020). However, the interpretive nature of vEEG testing might be lost on parents who see high-tech medicine as all science and no art.

For all of the reasons I have described, parents of children who have experienced paroxysmal episodes involving loss of consciousness, convulsions, or other ostensibly neurological events may find themselves in a persistent and layered state of uncertainty as represented in Figure 1.1. As we will see in detail throughout this dissertation, uncertainty is pervasive in visits for vEEG testing. Along their diagnostic odyssey patients and parents encounter successive layers of uncertainty surrounding the etiology of the episodes, the appropriate diagnosis, the effectiveness of treatments, and the prognosis.

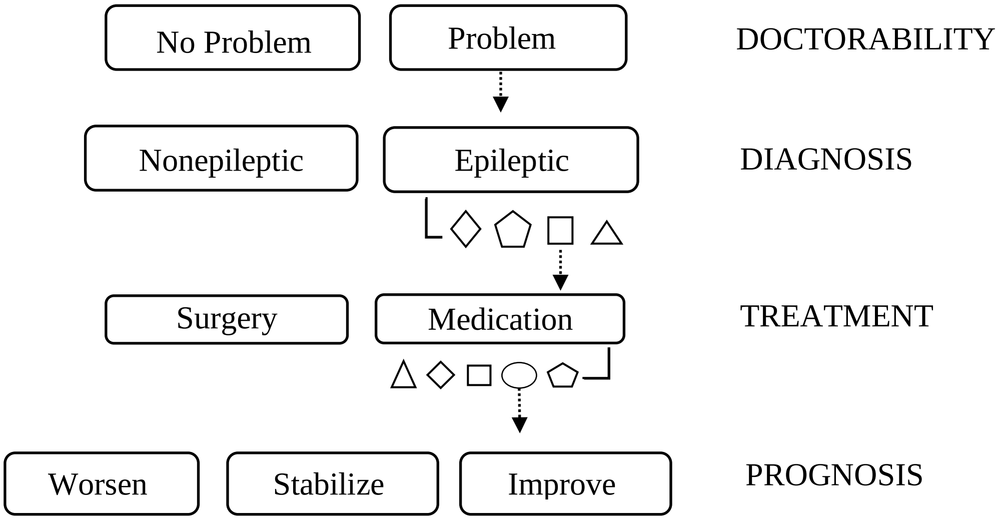

Figure 1.1: Iterative Layers of Uncertainty

As indicated in Figure 1.1, after diagnosis treatment poses the next challenge. Antiepileptic drugs (AEDs) represent a typical first-line treatment for most patients (Wirrell 2013). While seizure control through medication is possible for most children (Camfield and Camfield 1996), approximately 20% will have seizures that are resistant to one or more AEDs

(Wirrell 2013). Some of these patients become surgical candidates, others require multiple medications to control seizures (Egunsola, Choonara, and Sammons 2017; Rosati, De Masi, and Guerrini 2015). Thus, sorting out a medication cocktail can take time and create additional layers of uncertainty. To complicate matters further, even when a medication or a set of medications does control seizures at one point in time, they may eventually become ineffective as the child's brain develops.

As children who have achieved seizure control approach puberty, a new question emerges: have they outgrown their seizures? Children routinely outgrow epilepsy as neuroplasticity associated with normal brain development makes it possible for their neural pathways to self-correct over time. Although prognoses vary by type of syndrome, age at onset, and many other factors, estimates suggest that 40-50% of children will outgrow their epilepsy (Fisher et al. 2014; Jafarpour et al. 2018; Milton et al. 2017). This represents yet another source of uncertainty for parents who have no way of knowing for sure whether their child will always have epilepsy (Schneider and Conrad 1983). Even scenarios that appear to be optimal can ultimately prove problematic. For example, successful seizure management makes it difficult to know whether or not (and when) to discontinue treatment for patients who might have outgrown their epilepsy, thereby generating uncertainty surrounding the trajectory of patients' care. In an effort to mitigate this threat, patients may undergo vEEG monitoring periodically so clinicians can assess the electrical activity in their brains for signs of epilepsy.

1.3.2 Physician-Patient Interaction in Neurology

Research in neurological consultations has largely been confined to adult neurology where patients commonly present with progressive disorders like Parkinson's, Multiple

Sclerosis, and Alzheimer's (Gooch, Pracht, and Borenstein 2017). While these conditions are only loosely related to the medical problems represented in my data, the types of activities that comprise these visits are strikingly similar across the whole of neurology and medical visits in general.

Prior conversation analytic research in adult neurology interactions has shown that visit activities, such as treatment recommendations, are collaboratively realized (Merran Toerien and Duncan 2018; Toerien 2018, 2021; Toerien, Shaw, and Reuber 2013). When clinicians deliver a recommendation-relevant treatment assertion, patients can respond to it as an informing rather than a recommendation and thereby defer the treatment decision (Toerien 2018). Conversation analytic research in this context has shown that initiating actions, like treatment recommendations, open different response opportunities for patients. For instance, option listing has been shown to create opportunities for patients to respond agentively, while proposals merely invite patients to accept and nothing more (Toerien et al. 2013). This has implications for patient resistance to treatment recommendations, which physicians commonly facilitate through their foregrounding of the patient's perspective in the design of their recommendations (Toerien 2021). Yet, having a choice and making a choice are not the same thing — clinicians can create the appearance of choice by listing options, yet constrain the outcome by differentially presenting those options (Toerien et al. 2018).

Adult neurology and pediatric neurology also share some interactional challenges, particularly with respect to non-neurological diagnoses. When patients present with medical problems that turn out to be psychosomatic in origin, this non-neurological diagnosis can be particularly challenging for clinicians to deliver and particularly difficult for patients to accept (Monzoni et al. 2011).

The present study will focus on pediatric neurology visits wherein patients commonly present with paroxysmal events of either the epileptic or psychogenic variety. This is a particularly rich site for the examination of uncertainty as a liability and as a resource because, in one way or another, it figures into every facet of the visit. Its omnipresence throughout these encounters makes it available and relevant at virtually any moment in interaction — indeed, uncertainty is baked into the neurology context. Moreover, focusing on pediatric neurology affords the opportunity to examine parents who routinely display concern about uncertain aspects of their child's condition and care.

1.4 STUDY BACKGROUND

1.4.1 Introduction to the Present Study

The present study adopts a conversation analytic approach to analyze interactions between clinicians and parents during visits for overnight vEEG testing in a specialty pediatric neurology clinic located in an academic hospital. These visits generally last 24-48 hours and provide an uninterrupted log of the electrical activity in the patient's brain along with a concurrent video recording of their body.

Unlike hearing screening tests, which are mandated by most states for newborn babies, there is no standardized screening for epilepsy. Although many deaf and hard-of-hearing (D/HH) children are identified before they even leave the hospital for the first time, infantile spasms may go undetected for months and other epileptic disorders can manifest years later. The key difference here is the presence of a standardized pathway for D/HH children who, upon failing their initial hearing test, are automatically directed to a follow-up hearing test and will receive a clinical diagnosis if hearing loss is confirmed. Once an official diagnosis is on record, D/HH children will automatically receive a referral to the state's early intervention program (Montiegel 2022). In contrast, there is no standardized route to diagnosis and intervention for epilepsy. For these children, the diagnostic odyssey often begins not in the hospital at birth but at home weeks, months, or years later and is initiated not by a clinician but by parents themselves.

Infantile spasms cause subtle jerks of the limbs that are easily mistaken for normal baby behaviors, so parents are tasked with differentiating between normal behaviors and those indicating cause for concern. Ultimately, this produces heterogenous diagnostic odysseys (Timmermans and Buchbinder 2010), each with its own constellation of uncertainties.

Some families will witness extreme and lasting seizures that send them straight to the emergency room and from there to a neurologist. Most take a more circuitous route. Although this certainly does not apply to all of the patients in my corpus, we can consider the following diagnostic odyssey as an ideal type: (1) Parents observe their child exhibit a behavior that they find concerning. This could be a recurrent twitch, hyper extension of arms and legs, or even staring spells. (2) The child's parents mention this concern to a pediatrician. (3) If the pediatrician determines that cause for concern is warranted, the child will be referred to a neurologist. (4) The neurologist evaluates the child in an outpatient setting and may order a standard, 30-minute, EEG and other outpatient tests. (5) If no clear diagnosis can be made but reasonable concern remains, the neurologist may refer the child for an inpatient vEEG lasting 24-48 hours or longer.

Some of the patients in my corpus are not new to the clinic as overnight vEEG monitoring is sometimes utilized to assess the effectiveness of anti-epileptic drugs (AEDs). This is necessary for the simple fact that seizures can be both outwardly visible (i.e., "clinical") and invisible (i.e., "subclinical"). Although subclinical seizures do not engender the physical hallmarks of epilepsy, their spike-wave discharges may nevertheless inhibit normal cognitive development and function. The danger of AEDs without continued monitoring is that they may suppress the outward manifestation of epilepsy without stopping the seizures themselves, thereby allowing them to persist undetected.

Video-EEG monitoring is conducted in the specialty clinic and results are communicated to the patient's primary neurologist. The neurology team responsible for carrying out vEEG testing is comprised of neurologists who also see patients in the outpatient context. Occasionally the clinician involved in conducting the vEEG and reporting the findings will also be the patient's primary neurologist. However, it is quite common for the vEEG to be ordered by an external specialist. In these cases, the neurology team will relay their findings to the primary neurologist.

1.4.2 Methodological Approach

The methodological grounding of this study is in conversation analysis (henceforth, CA), an approach established in the late 1960s by Harvey Sacks and two of his colleagues, Emanuel Schegloff and Gail Jefferson (Sacks, Schegloff, and Jefferson 1974). Sociology was, at the time, dominated by structural functionalism (Parsons 1951), a theoretical perspective that made no attempts to deal with the particulars of social action in empirically verifiable ways. This was a substantial issue for Sacks (1984):

> When I started to do research in sociology I figured that sociology could not be an actual science unless it was able to handle the details of actual events, handle them formally, and in the first instance be informative about them in the direct ways in which primitive sciences tend to be informative — that is, that anyone else can go and see whether what was said is so. (P. 26)

To this end Sacks employed audio recordings of naturally occurring social interaction as data. These recordings represented pay dirt for his vision of an empirically grounded and verifiable account of social action. Not only do recordings allow for the *repeated analysis* of a *single phenomenon* by *multiple analysts*, but they do so in such a way that all parties can know, and know with certainty, that they are looking at precisely the same thing. Working in this way, Sacks et al. (1974) became convinced that people *use* talk strategically, in complex orderly ways, to build recognizable actions and activities, as well as social identities and institutions, i.e., to *achieve social facts* (see Heritage and Clayman 2010).

One of the most fruitful applications of CA can be found in the realm of medicine. Over the past five decades, CA has proven valuable in the pursuit of a systematic account of communication in medical care (Heritage and Maynard 2006). It has been used to articulate the overall organization of medical visits, the activities that comprise each phase (Robinson 2012), and how these activities are collaboratively achieved by doctors and patients (Maynard and Heritage 2005). This research has made it possible to articulate interactional challenges with precision and to develop interactional interventions for medical visits as a means of, for example, improving vaccination rates (Robinson and Heritage 2014).

1.4.3 Data Description

Data for this project come from a corpus of video-recorded inpatient medical visits for overnight vEEG monitoring. These data were collected in a teaching hospital located in Southern California in 2018. The corpus consists of three parts: (1) admission interviews, (2) neurology team meetings in the lab, and (3) the rounds phase where the team reports findings to the families. A total of 41 families agreed to participate in the study, which yielded 35 complete "sets" of data (i.e., admission, lab, and rounds).

Consultations ranged in length from 45 seconds to 56 minutes and collectively represent nearly 11 hours of audiovisual data (see Table 1.1).

	Cases	Combined	Minimum	Maximum	Average
Admission	39	285 min	6 min, 37 sec	55 min, 49 sec	7.31 min
Lab	38	268 min	45 sec	34 min, 6 sec	7.05 min
Rounds	39	99 min	1 min, 31 sec	38 min, 18 sec	2.54 min
Total	116	652 min			

Table 1.1: Data Summary

The patients include 25 boys and 16 girls ranging in age from six months to 17 years. Some cases include both parents and some include either the mother or the father only. When only one parent is present, this tends to be the patient’s mother; but this varies by patient as well as by the phase of the encounter (i.e., admission and rounds). The lab recordings include the on-service neurology team which ranges in size from two to twelve clinicians including residents, fellows, and attendings. Detailed transcriptions of the data were made possible by the Jeffersonian notation system (*Appendix A*).

At the time of data collection all but one patient’s parents completed a short, eight-item survey (n=40). The survey captured basic demographic information such as patient age, parent age, race/ethnicity, educational attainment, and income. Semi-structured telephone interviews were subsequently conducted with 12 parents (11 moms, 1 dad). These interviews were audio-recorded and included in the corpus. Although I do not use the surveys or the interviews as data per se, they are available as a resource. Participants provided their informed consent to be included in the collection, IRB approval was secured in advance, and all identifying references to persons and places have been replaced with pseudonyms to preserve confidentiality.

1.5 DISSERTATION OVERVIEW

The core of this dissertation consists of three substantive chapters, each dealing with issues related to uncertainty and medical authority in pediatric neurology visits for overnight vEEG testing. In what follows, I provide a brief overview of each chapter.

1.5.1 Chapter 2

In this chapter I consider cases where parents *invoke uncertainty* as an interactional resource. My analysis is motivated by two main questions: (1) when do parents invoke uncertainty in their interactions with clinicians, and (2) to what ends?

During these visits parents assume the role of co-caregiver with clinicians. At times, parents challenge physicians' authority to determine diagnoses and treatments for their children. I show how parents can exploit their legitimate role as carers to challenge medical authority. Through invoking uncertainty in contexts where they have somehow encroached on medical authority, parents can account for their conduct in ways that elide direct conflict with physicians. The use of uncertainty in this context allows parents to circumvent the attribution of blame for intrusions on medical authority and thereby minimize damage to the physician-family partnership. Thus, although these intrusions suggest that medical authority can indeed come under siege (Stivers and Timmermans 2020), parents' orientation to them as accountable suggests an enduring orientation to medical authority as a legitimate element of the doctor-patient relationship.

1.5.2 Chapter 3

Chapter 3 examines cases where physicians engage in what I call *modulating certainty*. That is, when they upgrade or downgrade their stance vis-à-vis the (un)certainty of some aspect of the patient's condition or care (e.g., vEEG test results, diagnosis, prognosis, or treatment). I argue that physicians modulate certainty as a means of pursuing parents' buy-in, particularly with respect to diagnoses and treatment recommendations. To support this claim, I show that modulations of certainty are used in interactional environments that are inhospitable, i.e., when parents have earlier indicated opposition to a diagnosis or treatment recommendation that is now being made, but they are not used in hospitable environments despite the presence of uncertainty in both contexts. Moreover, I show that modulating certainty is one of many persuasive resources that can be combined to pursue parent buy-in either in anticipation of resistance or in response to it. Finally, I show that when parents do acquiesce to a previously resisted recommendation, clinicians cease modulations of certainty, which suggests that parent buy-in is what they were after all along. Taken together, the evidence suggests that notwithstanding the rise of patient engagement and decline of medical authority relative to parental authority, physicians continue to express their authority in ways that shape visit outcomes in the pediatric neurology context.

1.5.3 Chapter 4

This chapter deals with interactional trouble that arises when the social distribution of knowledge and interpersonal relationships come together in the delivery and reception of *good news* as the neurology team reports vEEG findings to families. Contrary to common perceptions of good news as easy to deliver and receive, I find that it is occasionally fraught with hesitancy in this context. This initial observation poses a puzzle: Why is good news sometimes challenging in pediatric neurology? To approach this puzzle, I ask what drives this interactional trouble and argue that some of the difficulty associated with good news arises from its structure. Specifically, I argue that in these encounters, physicians prioritize conveying “the facts” of the news over characterizing its valence, but parents tend to treat both components as necessary before they are willing to assess the news. When physicians fail to provide either component, parents orient to news deliveries as incomplete. This not only causes difficulties in parents’ reception of the news but also leads to protracted news deliveries.

1.5.4 Chapter 5

In the final chapter of this dissertation, I consider what the findings from each of the three substantive chapters may reveal about how physicians and families navigate the inherently uncertain landscape of childhood epilepsy. Moreover, I discuss how this dissertation contributes to existing scholarship. Finally, I propose future directions for work in this domain.

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CHAPTER 2

Invoking Uncertainty: Parents' Accounts for Intrusions on Medical Authority

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2.1 INTRODUCTION

Pediatric medical visits represent a unique opportunity for the study of authority. In these visits medical authority and parental authority converge on a common goal — the child's best interests. However, clinicians and parents do not always agree on what courses of action are best. In these points of departure, medical authority and parental authority clash. Parents may challenge medical authority but nevertheless rely on doctors for access to the medical goods and services that they need in order to care for their child. Doctors may disagree with parents but nevertheless rely on them to carry out treatment plans.

Fadiman (1997) captured these challenges in her book about Lia Lee, a child with epilepsy whose family immigrated to the United States from Laos. In just over four years, Lia was admitted to the hospital with *status epilepticus* — seizures lasting longer than 20 minutes — on 17 occasions. Efforts to achieve seizure control with medication proved difficult as her physicians repeatedly tweaked her drug cocktail without success. Lia's doctors based their modifications to her treatment regimen on the assumption that her parents were administering the drugs as directed. Eventually it became clear that Lia's parents were administering an inconsistent combination of medications at their own discretion. They discontinued drugs that they felt were causing her seizures rather than treating them and gave up to twice the recommended dose of drugs that they believed were good. When Lia finally began to improve, her parents felt the drugs were no longer necessary and discontinued treatment entirely. The consequences were grave as Lia's seizures became increasingly frequent and severe, each starving her brain of oxygen for minutes at a time. Along the way Lia's parents developed a palpable distrust for her doctors who themselves became aggravated by the apparent lack of concern that Lia's parents had for her future wellbeing. Ultimately their dysfunctional partnership boiled over into the legal realm when Child Protective Services intervened at the request of one of Lia's doctors, rendering the physician-family relationship beyond repair. Although cultural differences and a language barrier served to amplify these challenges, the underlying tension between parental authority and medical authority is not unique to Lia's case. To the extent that legitimate authority trades, as Weber (1958) suggested, on the likelihood that one can induce others to follow specific commands, parental autonomy represents an inherent limitation on medical authority in the pediatric context. Thus, an important question is how parents manage interactional contexts where asserting their autonomy challenges professional medical authority.

The present study focuses on this issue in a particular context: when parents invoke uncertainty during pediatric neurology visits for overnight video-electroencephalogram (vEEG) testing. In these visits parents assume the role of co-caregiver with clinicians on the basis of a presumed commonality of concern with the child's best interests. I show how parents can exploit their legitimate role as a carer to challenge medical authority. Through invoking uncertainty in contexts where they have somehow encroached on medical authority, parents can account for their conduct in ways that elide direct conflict with physicians. The use of uncertainty in this context allows parents to circumvent the attribution of blame for intrusions on medical authority and thereby minimize damage to the physician-family partnership.

The remainder of this chapter will proceed as follows: First, I will offer some background on the interplay between clinical uncertainty, medical authority, and the doctor-patient relationship. Then, after describing the data and methods employed in this study, I will ask two main questions: (1) how, in what ways, do parents invoke uncertainty in their interactions with clinicians, and (2) to what ends? My argument will be based on a view of uncertainty invocations as an interactional resource that parents use in particular contexts for cause. Finally, after detailing the functions of uncertainty invocations, we will consider what might lead parents to use uncertainty rather than something else to accomplish this work.

2.2 BACKGROUND

2.2.1 Medical authority

A great deal of scholarly energy has been directed at the concept of medical authority over the past 70 years (Freidson 1970; Heritage 2005; Miller 2011; Parsons 1951; Peräkylä 1998, 2002; Stivers and Timmermans 2020). Early research on medical authority concluded that due to their specialized knowledge and experience doctors are expected to know more, entitled to know more, and indeed do know more about the biomedical nature of patients' presenting complaints than do patients themselves (Abbott 1988; Freidson 1970; Parsons 1951). In the mid-1900s, at the height of the period of paternalistic medicine, subordination of the patient was believed to be appropriate and functional, and the exercise of authority was viewed as a necessity for the practice of medicine. It was within this context that Parsons (1951) articulated his functionalist formulation of the institution of medicine as a social system wherein doctors and patients have complementary roles — doctors are expected to act in patients' best medical interests and patients are obligated to follow professional medical advice. Parsons (1951) contended that this asymmetry is unavoidable in medical encounters, and thus a degree of mutual trust is vital for successful doctor-patient relationships. Freidson (1970) saw it as an inherent source of doctor-patient conflict. Each, however, asserted that effective medical care ultimately depends on subordination of the patient either outright or through persuasion. In this conceptualization of the doctor-patient relationship being a good patient meant being a passive patient, while being a good doctor meant honoring a Hippocratic commitment to beneficence toward patients, even at the cost of patient autonomy.

More recently, interactionist studies touching on the exercise of medical authority and responses to it in primary care indicate that such asymmetry remains prominent in clinical encounters (Byrne and Long 1976; Heritage 2005; Peräkylä 1998; Pilnick and Dingwall 2011), where it is collaboratively achieved by clinicians and patients (Maynard 1991). However, some of the authoritativeness in primary care may not be what it seems: Heritage (2021) argues that in primary care contexts, where the burden associated with carrying out treatments and the risks associated with them are often low for patients, treatment recommendations are delivered more authoritatively. Yet in high-stakes specialist contexts such as oncology, treatment recommendations are more commonly formulated less authoritatively, as proposals or suggestions (Heritage 2021; Tate 2019).

Notwithstanding these differences, a growing body of research suggests that patients do routinely challenge medical authority but not without regard for its legitimacy. These studies have shown that patients are sensitive to the boundary between matters that fall within the physician’s domain and those that fall within their own (Gill, Halkowski, and Roberts 2001; McArthur 2024; Stivers 2005). Stivers (2005) demonstrated that parents, in particular, orient to treatment recommendations as something over which they have the right to accept (or not) on behalf of their child. Moreover, in this context, clinicians routinely orient to parent acceptance of the treatment recommendation (or mutual agreement on an alternative) as necessary before the visit can progress to closure. Thus, parents and clinicians mutually orient to treatment recommendations as proposals. However, clinicians and patients treat diagnosis as something over which the clinician has primary rights (Heritage 2005:86; Heritage and McArthur 2019; McArthur 2024). Patients overwhelmingly acknowledge diagnoses rather than accept them (Heath 1992; Peräkylä 1998), and clinicians rarely pursue acceptance of diagnoses (e.g., by repeating their diagnosis, accounting for it, or explicitly requesting patient acceptance), before advancing to the treatment recommendation phase of the visit (Stivers 2005).

However, this is not to say that patients have no influence over matters that fall within the physician's domain. For example, patients can prompt physicians to offer specific diagnostic tests rather than overtly asking for them and thereby accomplish a request without explicitly making one (Gill et al. 2001). Moreover, patients can treat clinicians' diagnoses as tentative by, for example, asserting candidate diagnoses of their own and thereby generate opportunities for physicians to modify their initial assessments (McArthur Hernandez 2021). In deploying interactional practices designed to exert influence on matters within the physician's domain indirectly, patients both encroach on medical authority and ratify it.

2.2.2 Uncertainty, Medical Authority, and the Doctor-Patient Relationship

If there were no uncertainty in medicine then there would be no need for doctors as we know them — health care would be a relatively low-skilled enterprise not *practiced* by clinicians but *applied* by technicians, like error codes in a car are read by automotive service technicians. Doctor-patient relationships are often predicated on uncertainty: It is the uncertainty arising from unexplained symptoms or failed home remedies that leads many patients to seek professional care in the first place. And it is through their deference to doctors' professional judgement that patients ratify their medical authority (Starr 1982). In this way, uncertainty empowers medical authority. Yet, recent studies point to increasing negotiation with physicians over diagnosis (McArthur Hernandez 2021; Stivers and Timmermans 2016, 2017) and treatment (Bergen et al. 2018; Stivers and Timmermans 2021; Timmermans 2020). These challenges to medical authority are due in part to the opportunities that uncertainty provides for patients to question professional assessments and advice. Thus, uncertainty can empower medical authority and undermine it.

This duality is reflected in the rise and fall of medical authority over time. For much of the 18th century, doctors were reliant on patients' self-reported symptoms to inform diagnoses and design treatment regimens (Tomes and Hoffman 2011). The only diagnostic clues doctors had to work with were those gleaned from observing patients and interpreting the symptoms they described. Medicine was inherently symptom-based, "the symptom was the illness" (Kaba and Sooriakumaran 2007:59). This meant high levels of diagnostic uncertainty and physicians held relatively low levels of cultural authority as a result (Starr 1982).

By the end of the 19th century, advancements in microbiology set the stage for biomedical interpretations of illness. Medical science linked illnesses to specific biological causes and claimed that those causes could be managed with medical interventions. These biomedical interpretations of illness began to erode the import of patients' subjective experiences while bolstering the eminence of clinicians' specialized professional knowledge (Starr 1982; Tomes and Hoffman 2011).

Mirroring this shift, the doctor-patient relationship began to transform: Patients' self-reports gradually receded into the background and physicians' pathology reports propelled medicine into a new, increasingly disease-centered, era of doctoring. "This new model required examination of the patient's body and the expert clinical and anatomical knowledge possessed by the doctor to formulate a diagnosis, and thus the patient became dependent as a result" (Kaba and Sooriakumaran 2007:59). Patient obedience was such a predominant feature of the clinical method at the time that it was documented as a patient's responsibility in the first Code of Ethics drafted by the American Medical Association (AMA 1847:96).[1] With advancements in medical science there was at least an illusion of greater certainty, and this ultimately translated into high levels of medical authority.

Twentieth century technological advancements — most notably, the development of X-rays (see Howell 1995) — further empowered the biomedical model and suppressed patients' involvement in their own care by providing "independent, seemingly more objective information about their bodies" (Tomes and Hoffman 2011:8). For the first time in history, it was possible for doctors to tap directly into biological processes, make diagnoses, and formulate treatment regimens for patients without relying on their lived experiences for indirect access. The notion of scientific objectivity attracted physicians with the prospect of calculability, predictability, and control (i.e., "rationalization" *á la* Weber [1930] 2005).

Rationalized medicine engendered an unprecedented sense of medical certainty among physicians. Yet, despite the apparent advantages of certitude in the provision of medical care, it ultimately proved caustic for the doctor-patient relationship: "as doctors gained more scientific certainty, they expected more patient deference and compliance" (Tomes and Hoffman 2011:8). This way of thinking about the doctor-patient relationship was deeply embedded in American culture during the rise of allopathic medicine's professional dominance from the 1920s to the 1960s, now widely recognized as the "golden age of doctoring" (McKinlay and Marceau 2002). Doctors were among the most highly regarded social figures, the "doctor knows best" model of

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[1] "The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness, to influence his attention to them" (AMA 1847:96).

paternalistic medicine was in full effect, and patients were more or less passive recipients of care (Freedman 2002).

However, in the 1960s, doctors' professional authority reached a tipping point and has gradually waned in the years since (Heritage 2005; Light 2000; Timmermans 2020). The decline of doctors' professional dominance has been partly occasioned by the rise of patient-centered medicine. This shift was encouraged by the fusion of many social factors, in particular: (1) increased public access to medical knowledge led to a "demystification of the body" (McKinlay and Marceau 2002:402); (2) patient empowerment movements, most notably women's health activism, fundamentally altered how patients engaged with the medical system by advocating for health awareness, self-help, and demedicalization (Tomes and Hoffman 2011); (3) consumerist movements played a role in shaping the cultural landscape of the late 20th century by encouraging patients to shop around and demand quality (Reeder 1972); (4) medical malpractice suits became more common as medical practitioners were increasingly held personally accountable for professional misdeeds (Posner 1986); and (5) to address concerns surrounding the misuse of medical authority, the AMA's Code of Ethics was revised in 1980 to include patients' rights (Tomes and Hoffman 2011).

2.2.3 Uncertainty in Pediatric Neurology

There are many difficulties in arriving at a bona fide diagnosis in pediatric neurology. The medical term "seizure" refers to a class of paroxysmal events associated with abnormal electrical activity among neurons. However, it does not itself constitute a diagnosis as there are many different seizure types (Fisher et al. 2017). Epilepsy is part of the classification of these seizures, but it too is an umbrella concept containing a diverse array of more granular diagnoses

(Alarcon 2012). Although the incidence of pediatric epilepsy varies by syndrome and population age, cumulative assessments suggest that it is the most common chronic neurological condition among the pediatric population, affecting between 0.5% and 1% of children (Aaberg et al. 2017).

Adding to the difficulty of disease specificity, these disorders are often characterized by clusters of features rather than distinct markers. This is significant because non-neurological medical problems, such as syncope (i.e., fainting due to low blood pressure), tics, and even breath-holding spells, can sometimes mimic seizures (Weisleder 2012). For neurologists this means that some of the patients who come to them for help may present with conditions that look, to their families, like epilepsy but have nothing to do with the electrical activity in their brains (Reuber et al. 2009).

With vEEG testing, neurologists can now differentiate between these paroxysmal events (Operto et al. 2019). In fact, up to 20% of children who undergo vEEG monitoring are identified as having psychogenic seizures which would not benefit from antiepileptic drugs (Dhiman et al. 2014). Although modern diagnostic technologies, such as vEEG imaging, provide unprecedented levels of information about the inner workings of living brains, they do not spit out a diagnosis on their own. Reading a vEEG is not like reading a pregnancy test, there is subjective interpretation involved, and research suggests a that inter-rater reliability among EEG readers is lacking (e.g., Hussain et al. 2015). While artificial intelligence can identify seizures, these systems are far from perfect and they still require human supervision, i.e., human interpretation remains the backbone of diagnosis (Fürbass et al. 2020). However, the interpretive nature of vEEG testing might be lost on parents who see high-tech medicine as all science and no art.

Once a diagnosis is achieved, treatment poses the next challenge. Antiepileptic drugs (AEDs) represent a typical first line of treatment for most patients (Wirrell 2013). While seizure control through medication is possible for most children (Camfield and Camfield 1996), approximately 20% will have seizures that are resistant to AEDs (Wirrell 2013). Some of these patients become surgical candidates, others require multiple medications to control seizures (Egunsola, Choonara, and Sammons 2017; Rosati, De Masi, and Guerrini 2015). Sorting out a medication cocktail can take time and require patients and their parents to endure iterative layers of uncertainty. In extreme cases, when AEDs fail, children may become surgical candidates and face new uncertainties, such as the prospect of death or disablement, as a result. Even those who do achieve seizure control with medication at one point in time, might lose that control subsequently as their developing brains present a moving target for diagnosis and treatment.

As children with seizure control approach puberty, a new question emerges: have they outgrown their seizures? Children routinely outgrow epilepsy as neuroplasticity associated with normal brain development makes it possible for their neural pathways to self-correct over time. Although prognoses vary by type of syndrome, age at onset, and many other factors, estimates suggest that 40-50% of children with epilepsy will eventually outgrow their seizures (Fisher et al. 2014; Jafarpour et al. 2018; Milton et al. 2017). This represents yet another source of uncertainty for parents who have no way of knowing for sure whether their child will always have epilepsy (Schneider and Conrad 1983). Even scenarios that appear to be optimal can ultimately prove problematic. For example, successful seizure management makes it difficult to know whether (and when) to discontinue treatment for patients who might have outgrown their epilepsy. In an effort to mitigate this threat, patients may periodically undergo vEEG monitoring so clinicians can assess the electrical activity of their brains for signs of seizure potential. These visits hold the promise of providing families with more certainty than they have had in the past through the use of advanced medical imaging. Yet, they are still rife with uncertainties.

2.2.4 Introducing Uncertainty into the Interaction

Notwithstanding advancements in medical science, trial and error remains central to the clinical method. Change-over-time is one of the most reliable indicators that clinicians and patients have for evaluating the accuracy of diagnoses and the effectiveness of treatment recommendations. Consequently, diagnoses and treatment recommendations may go through multiple iterations before seizure freedom can be achieved. Thus, many aspects of a patient's condition and care can be reasonably oriented to as uncertain.

The availability of uncertainty as a reasonable concern in medical visits makes it possible for participants to mobilize it at different times for various purposes in interaction. Parents of children being assessed for developmental disabilities may use uncertainty to ground their resistance to clinicians' diagnoses (Maynard 2003). Or, as is the case in pediatric visits for acute medical problems, parents can use uncertainty to resist clinicians' treatment recommendations (Stivers 2007). For example, when the viral etiology of an upper respiratory infection is likely rather than certain, parents can leverage the possibility of a bacterial infection to apply pressure for antibiotics and indeed leave the visit with a prescription even when physicians orient to this as inappropriate (Stivers 2007). Conversely, clinicians can, for example, present relatively ambiguous test results as either more or less certain to push for or against particular diagnoses (Stivers and Timmermans 2016), or topicalize uncertainty related to the limits of medical science as a means of advocating for or against further testing (Pilnick and Zayts 2014). The present study examines parents' invocations of uncertainty in their interactions with clinicians during inpatient visits for vEEG testing. I focus on (1) how parents invoke uncertainty, and (2) to what ends in these visits.

2.3 DATA AND METHOD

2.3.1 Data Description

Data for this project come from a corpus of video-recorded inpatient medical visits for continuous vEEG monitoring. These data were collected in a specialty pediatric neurology clinic in a teaching hospital in Southern California in 2018. Visits generally last 24-48 hours and provide an uninterrupted log of the electrical activity in the patient's brain paired with a concurrent video recording of the patient's body. The corpus consists of three parts: (1) admission interviews, (2) neurology team meetings in the lab, and (3) the rounds phase where the team reports findings to the families. A total of 41 patients and their families agreed to participate in the study, yielding 35 complete "sets" of data (i.e., admission, lab, and rounds). Those patients with incomplete sets were excluded from this study. Encounters across each segment of the corpus ranged in length from 45 seconds to 56 minutes and collectively represent over 10 hours of audiovisual data.

The patients comprise 21 boys and 14 girls ranging in age from six months to 17 years. Although the age range is wide the corpus skews young with half of all patients aged five years or younger. Nearly two thirds of the families are White and nearly one third are Hispanic. Household income skews wealthy with nearly two thirds making over $100,000 a year and almost one third bringing home over $200,000 annually. Some, but not all, cases include both parents. When only one parent is present, it tends to be the patient's mother. However, this varies by patient as well as by the phase of the encounter (i.e., admission and rounds). The lab recordings include the on-service neurology team, which ranges in size from two to twelve clinicians including residents, fellows, and attendings. All participants provided their informed consent to be included in the study and IRB approval was secured in advance. Detailed transcriptions of the data were made using the Jeffersonian notation system (*Appendix A*) (see also, Hepburn and Bolden 2013).

2.3.2 Methods

This study uses conversation analytic methods to systematically examine a corpus of naturalistic data. Conversation analysis (henceforth, CA) was established in the late 1960s by Harvey Sacks, Emanuel Schegloff, and Gail Jefferson (Sacks, Schegloff, and Jefferson 1974). At that time sociology was dominated by structural functionalism (Parsons 1951), a theoretical perspective that made no attempts to deal with the particulars of social action in empirically verifiable ways. This was a substantial issue for Sacks (1984a):

> When I started to do research in sociology I figured that sociology could not be an actual science unless it was able to handle the details of actual events, handle them formally, and in the first instance be informative about them in the direct ways in which primitive sciences tend to be informative — that is, that anyone else can go and see whether what was said is so. (P. 26)

To this end, Sacks used audio recordings of naturally occurring social interaction as data. These recordings represented pay dirt for his vision of an empirically grounded and verifiable account of social action. Not only do recordings allow for the *repeated analysis* of a *single phenomenon* by *multiple analysts*, but they do so in such a way that all parties can know, and know with certainty, that they are looking at precisely the same thing. Working in this way, Sacks et al. (1974) became convinced that people *use* talk strategically, in complex orderly ways, to build recognizable actions and activities, as well as social identities and institutions, i.e., to *achieve social facts* (Heritage and Clayman 2010).

One of the most fruitful applications of CA can be found in the realm of medicine. Over the past five decades, CA has proven valuable in the pursuit of a systematic account of communication in medical care (Heritage and Maynard 2006). CA has been used to articulate the overall organization of medical visits, the activities that comprise each phase (Robinson 2012), and how these activities are collaboratively achieved by doctors and patients (Maynard and Heritage 2005). This research has made it possible to articulate interactional challenges with precision as well as to develop interactional interventions for medical visits as a means of, for example, improving vaccination rates (Robinson and Heritage 2014).

2.4 ANALYSIS

This study utilizes a collection of naturally occurring interactional moments wherein parents invoke uncertainty. The collection was drawn from the admission and rounds videos for all 35 patients. In what follows, I will consider what parents are doing when they invoke uncertainty in their interactions with clinicians during these visits.

There are two aspects of the phenomenon of "invoking uncertainty" that are relevant for this analysis. First, "invocation" is meant to convey how parents bring up uncertainty. The types of invocations range from highly direct such as "I can't diagnose him. I don't know what's causing this" which invokes uncertainty about the diagnosis, to statements that convey a desire to know such as "I want to know if he needs to stay on it... Is it working?" which broaches uncertainty about the effectiveness of the treatment, as well as statements of doubt or concern such as "I'm just doubting the fact that I brought her" which implicates uncertainty about the utility of doing diagnostic testing. Thus, regardless of whether parents' invocations are direct or indirect, if they are oriented to one or more aspects of the patient's diagnosis or treatment as uncertain, then they were included in the collection.

Second, “uncertainty” is meant to capture aspects of the diagnosis or treatment that are presently unknown or where knowledge of them is speculative. Thus, if parents are oriented to one or more aspects of the patient’s diagnosis or treatment as uncertain, then they were included in the collection. Diagnosis of unexplained paroxysmal episodes in children can take multiple visits to multiple providers — from pediatricians to pediatric neurologists. Although a diagnosis can often be achieved in the first visit to a neurologist, some cases may require a series of tests along with a suite of imaging and medication trials before a reasonably definitive diagnosis can be achieved. Consequently, diagnostic uncertainty may simmer for weeks, months, or years as the odyssey unfolds in real time (Timmermans and Buchbinder 2010). Indeed, patients’ experiences with epilepsy may be as varied as the connections among the some 86 billion neurons comprising their brains.

I begin by illustrating the practices through which parents bring up uncertain aspects of their child’s condition. I then present my key claims concerning the primary functions of these practices. Specifically, I argue that one context in which parents invoke uncertainty is in accounting for their intrusions on medical authority. As I will show, the use of uncertainty as an account for their conduct allows parents to circumvent the attribution of fault to present parties, and thereby minimize the potential for conflict arising from it. Finally, I offer an explanation for how invoking uncertainty serves to manage some of the social ramifications associated with challenging professional medical authority.

2.4.2 Practices for invoking uncertainty

There are three main ways that parents invoke uncertainty in these visits: (1) asserting a desire to know, (2) orienting to the risk potential of a course of action, and (3) expressing doubt. In this section I will review each of these practices in turn.

2.4.2.1 Asserting a desire to know

Extract 2.1a exemplifies one way that parents invoke uncertainty: *asserting a desire to know*. The patient in this case is a five-year-old boy named Ollie. Last year Ollie's dad Otis was lying in bed with him early in the morning when Ollie's legs began shaking. Otis grew concerned when Ollie told him that he could not make his legs stop. Although the episode eventually subsided, similar episodes continued to happen occasionally over the next several months, prompting his parents to bring him to be evaluated by a neurologist. After an initial EEG, the neurologist suspected that Ollie's episodes were indicative of benign rolandic epilepsy, a self-limiting condition that kids usually grow out of within a few years. Although his seizures will likely go away on their own as his brain develops, the neurologist prescribed an antiepileptic drug called Keppra, which Ollie has been taking twice a day for the past seven months.

Ollie has not had any obvious episodes since he started taking Keppra. However, his mom, Olivia, brought him back in for vEEG testing today because, among other things, she wants to know whether his episodes have stopped because the Keppra is working as intended, or because he has grown out of his seizures and thus no longer needs to take it.

In the extract below, Olivia invokes various uncertainties related to Ollie's condition and the medication he has been taking for it. In *asserting her desire to know* whether Ollie needs to continue taking his medication (line 10), Olivia treats the matter as uncertain. She then expands her turn at line 11 with a pair of presently unanswerable questions that invoke uncertainty related to whether her son has outgrown his epilepsy (“Is it gone.”) and whether the drug is effective (“Is it working,”), thereby accounting for having asserted a desire to know whether he needs to continue taking the medication. After the nurse produces acknowledgment tokens (line 12), Olivia expands her turn with a second compilation of presently unanswerable questions delivered in rapid succession that, although stated differently than before, effectively invoke the same dimensions of uncertainty (lines 13-16). Importantly, these are not information-seeking inquiries. Even though Olivia assumes an unknowing stance regarding various aspects of Ollie’s condition and care, she does not orient to the nurse as having epistemic primacy and indeed she does not pursue a response.

Extract 2.1a — [P40-1a]

```
 5  Oli:     [  I ] asked for another E E G to see if he ne-
 6           he’s been on this drug twice a day for seven
 7           months and I don’t- it’s got like seventy
 8           side effects or something,
 9  Nur:     [  Oh::.  ]
10  Oli:     [And I wan]t to know if he needs to stay on it,
11           Is it gone. Is it working,
12  Nur:     Ye:ah. Yeah.
13  Oli:     Is he still having the same amount of seizure
14           activity at sleep_ And we’re just giving him
15           this drug. And we don’t even need to be, Or
16           he needs more he needs none_
17           (0.4)
18  Oli:     I mean (.) wouldn’t you want to know,
19  Nur:     [ Yeah.  Yeah.  (.)  Yeah.   ]
```

Subsequently, Olivia invites the nurse to agree with her and thereby to validate her desire to know — “I mean (.) wouldn’t you want to know,” (line 18). Olivia’s over-built turn and the barrage of presently unanswerable questions that comprise it vividly portrays confusion and concern, thereby invoking uncertainty about Ollie’s treatment (Schegloff 2002).

2.4.2.2 Orienting to the risk potential of a course of action

Extract 2.2 illustrates an alternative way that parents invoke uncertainty. In this case the mother, Maria, orients to the *risk potential* of a proposed treatment. Her three-year-old daughter, Molly, has been seeing a neurologist since she was just months old when genetic testing revealed that she had CDKL5 deficiency disorder. The CDKL5 gene is responsible for instructing the production of a protein that is vital for normal brain development and functioning. Molly's gene mutation can lead to a slew of medical problems ranging from sleep disturbances to scoliosis. For Molly the consequences manifested in the form of infantile spasms and frontal lobe seizures. Maria reports achieving seizure freedom for over two years using a combination of Sabril (an anticonvulsant drug) and an over-the-counter CBD oil.[2] However, Molly's seizures returned a few months ago and Maria has been unable to regain control thus prompting the present visit.

Extract 2.2 comes from the rounds phase of the visit, the morning after Molly's vEEG. Prior to this extract, a fellow presented Onfi as the neurology team's recommendation for Molly, asserting that it is a good medication for the type of frontal lobe seizures that she has been having. Maria responded with four explicit rejections of the proposal such as *I'm not on board with Onfi* and *It would have to be another drug*. In a bid to overcome this resistance, the attending asks Maria if she would consider starting a small dose of the drug. This proves unsuccessful as she responds with an unmitigated "No.".

Whereas in Extract 2.1a Olivia *alludes* to the risk potential associated with Ollie's medication — "it's got like seventy side effects or something," (lines 7-8) — then asserts a desire to know, in Extract 2.2 Maria *foregrounds* the risk potential of the medication that the neurology team recommends (lines 137-139). Thus, she does not take issue with the effectiveness of the treatment for Molly's condition but with the ancillary problems that the

---

[2] Cannabidiol (CBD) oil is a cannabis-derived tincture believed by some to help a variety of medical problems, seizures among them.

treatment may cause. The fact that side effects *can* happen means that there is always a degree of uncertainty about whether they *will* happen in any given case, which provides an opportunity to question treatment.

Extract 2.2a — [P16-1r]

```
132  Mar:     Yeah so (.) uhm (0.7) Yiknow (.) she's
133           just made so many gains,
134           (.)
135  Att:     Mm
136           (0.3)
137  Mar:     Tha:t (0.2) I'm (0.3) ultra hesitant about
138           a drug that (0.7) potentially could be so
139           deleterious to her
140  Att:     Mmhm.
141  Mar:     physical strength.
142           (0.7)
143  Mar:     #So:# (0.3) ((shrugs))  (yiknow) ((head tilt))
144           But we had talked a little bit about Lamictal
145           In our last (.) clinic appointment.=
146  Att:     =Mmhm:
```

In this case, Maria accomplishes her uncertainty invocation largely through her choice of the lexical item "potentially" (line 138) and the conditional formulation "could be" (line 138), which foreground uncertainty related to the drug's effects rather than its effectiveness.

2.4.2.3 Expressing doubt

A third way that parents invoke uncertainty involves *expressing doubt*. This can be observed in Extract 2.3. The patient in this case is Tina, a three-year-old girl with suspected absence seizures. Last year, on her second birthday, Tina was preparing to hit a piñata but suddenly stopped moving and became unresponsive with a blank stare. This went on for roughly 30 seconds before Tina suddenly resumed swinging as though nothing had happened. Staring spells such as this started to occur every few days which prompted Tina's mom, Tori, to mention them to her pediatrician. Upon hearing about these episodes, Tina's pediatrician suspected that she could be experiencing absence seizures and thus referred her to a neurologist. During her first visit to the neurology clinic Tina had an outpatient EEG the results of which were inconclusive. However, the clinician felt that the episodes described by Tori were concerning enough to warrant starting Tina on Keppra, an antiepileptic medication.

In Extract 2.3a, Tori reports that neither Tina's father (lines 13-15) nor grandmother (lines 17-18) believe her staring spells are concerning. Nevertheless, Tori insisted on bringing her in for an overnight vEEG. In this context, Tori invokes uncertainty through expressing doubt about her own concerns — "I mean for a while I was like is it j(h)ust like £is it just me::,£" (lines 19-20).

Extract 2.3a — [P07-1a]

```
 4  Tor:     Yeah: her- her dad is no:t (0.3) like
 5  Res:     He doesn't see all these little things
 6           [so  he's  not ]
 7  Tor:     [Yeah he think-] Yeah he thinks that I'm over
 8           <I mean I could s- I have video to prove it now.
 9  Res:     [Yeah. ]
10  Tor:     [Right,] [      Uhm:       ]
11  Res:              [And w'll what doe]s he say when you
12           show him that. [Has he noticed her doi-]
13  Tor:                    [ He  he  he   said     ] that
14           (.) he saw it and he said (0.3) I don't see
15           anything. She's fine.
16  Res:     [I see.  ]
17  Tor:     [I'm like] she's like (.) n- And I showed it
18           to my mom too and they're like (.) °sh-°=↑I don't
19           know:_ I mean for a while I was like is it
20           j(h)ust like £is it [just me::,£ ]
21  Res:                         [It's subtle.] So it's hard.
```

In this case, Tori uses the fact that others do not register Tina's symptoms to ground her uncertainty in possibility that she could be "seeing things" that are not actually there. Through *expressing self-doubt* she invokes uncertainty related to whether there is a diagnosable problem to begin with rather than with the utility of diagnostic testing itself.

In this section, we have reviewed three main ways that parents invoke uncertainty related to their child's diagnosis or treatment: (1) through asserting a desire to know, (2) orienting to potential risks, and (3) expressing doubt. The question we now have is what are parents doing when they invoke uncertainty? That is, to what ends are they invoking uncertainty? In the next section we examine the primary context in which parents invoke uncertainty during these visits — accounting for conduct that breaches normative expectations associated with medical authority and the physician-family relationship.

2.4.3 The Functions of Invoking Uncertainty

Although parents rely on different practices to bring up uncertainty related to their children's diagnoses and treatments, I will show that they consistently use these invocations in environments where they have somehow breached normative expectations associated with medical authority and are working to account for the breach. In this section, I document how each of the cases we have already examined involves the use of uncertainty by parents in accounting for their potentially problematic behavior.

We begin by returning to Ollie and Olivia whom we met previously in Extract 2.1a. This fragment begins just before what was shown in Extract 2.1a. Here we will see three key features: (1) the nurse's expectation leaks out in the form of a presupposition underlying a question she asks Olivia; (2) Olivia's response rejects this presupposition thereby breaching the nurse's expectation; and (3) Olivia invokes uncertainty as an account for her breaching conduct. In the space below, we will examine each of these elements.

Extract 2.1b — [P40-1a]

```
Nur: ->  Did they say that they're just (.) watching him
         overnight just to see what's- what's happening,
Oli:     I requested this.
Nur: ->  [Oh:.]
Oli:     [  I ] asked for another E E G to see if he ne-
         he's been on this drug twice a day for seven
         months and I don't- it's got like seventy
         side effects or something,
```

```
 9  Nur: ->  [  Oh::.  ]
10  Oli:     [And I wan]t to know if he needs to stay on it,
11           Is it gone. Is it working,
12  Nur: ->  Ye:ah. Yeah.
13  Oli:     Is he still having the same amount of seizure
14           activity at sleep_ And we're just giving him
15           this drug. And we don't even need to be, Or
16           he needs more he needs none_
17           (0.4)
18  Oli:     I mean (.) wouldn't you want to know,
19  Nur: ->  [ Yeah.  Yeah.  (.)  Yeah.   ]
20  Oli:     [Rather than just giving your] kid this medicine
21           that has all these side effects that
22  Nur:     Yeah.
23           (0.3)
24  Oli:     That we may not even kno:w (0.3) [what ] it could=
25  Nur:                                      [Yeah.]
26  Oli:     =cause over yea:rs' worth of ti:me_ And (0.4) I'm
27           just being thorough_
28  Nur:     Yeah.
```

The presuppositions underlying questions provide a first key form of evidence for what is viewed as expectable (e.g., Heritage 2010a). Questions unavoidably advance propositions which themselves routinely impose presuppositions (Heritage 2010a). For example, "*what kind of contraception do you use?"* presupposes not only that the recipient (1) uses contraception, but that (2) she is sexually active and (3) able to bear children, but (4) does not want to get pregnant (Heritage 2010a:47). Unless the recipient actively resists these presuppositions, thereby rejecting the validity of the question, her answer will effectively ratify its presuppositions (Ehrlich and Sidnell 2006; Heritage 2003). With this in mind, we can use question design as a window into clinicians' expectations.

In Extract 2.1b, we see that the nurse is working to understand the physician's rationale for ordering the overnight testing that is planned. With her polar question at lines 1-2, the nurse puts forward a proposition for why Ollie's neurologist might have done this, which is *just to see what's happening*. With this proposition, she "advances a hypothesis for confirmation" (Bolinger 1978:104). In the absence of negative polarity items like *any* and *at all*, the grammatical construction of this question invites an affirming response, i.e., the nurse invites Olivia to confirm this as the plan (Heritage and Robinson 2011). Key for us is that the nurse's proposition is built on the presupposition that the agency for the testing lies with the physician who has the professional *medical authority* to know, and to determine, whether and when testing is appropriate (Heritage and Raymond 2005, 2012; Stevanovic and Peräkylä 2012). Although these types of declarative formulations invite unexpanded confirmations such as "yep" (Heritage 2010b:49–50), Olivia builds an expanded response wherein she asserts an alternative explanation for why they are doing the vEEG — that *she* requested it (line 3). This answer *transforms* the presupposition underlying the nurse's question, and thereby rejects the proposition she advances with it (Stivers 2022; Stivers and Hayashi 2010).

In this context, the nurse's third position change-of-state token, "Oh:." (line 4), appears to reveal her orientation to Olivia's request for vEEG testing as a breach of normative expectations. Although this change-of-state token is not itself determinative of this, with it the nurse does orient to the presumption underlying her inquiry as problematic and overtly registers Olivia's response as corrective (Heritage 1984a). The nurse's presupposition, Olivia's response to it, and the nurse's orientation to this response as corrective, all embody their mutual orientation to normative expectations and departures from them.

Moreover, in providing an account in this context Olivia orients to her request for a vEEG as accountable (lines 5, 10-11, 13-16). That is, she shows that she recognizes her conduct as a departure from normative expectations, and that doing so is a *morally accountable* matter (Garfinkel 1967). At lines 10-11, Olivia invokes uncertainty through asserting a desire to "know if he needs to stay on it, Is it gone. Is it working,". She then uses this to build an extended account wherein she situates her conduct within a constellation of uncertainty which furnishes the reasonable grounds for the breach (lines 13-16).

To situate her decision in a constellation of uncertainty Olivia articulates a series of presently unanswerable questions through which she invokes a range of uncertainties, such as whether Ollie needs to continue taking his antiepileptic medication (line 10) and whether he has grown out of his seizures (line 11) or the medication is simply inhibiting seizure activity as intended (lines 10-11).

Even after the nurse produces acknowledgment tokens (line 12), Olivia expands her list with yet more presently unanswerable questions that invoke uncertainty related to whether Ollie is still having seizures despite the medication (lines 13-15) and whether they should be giving him more of the drug (line 16) or none at all (line 16).

Through invoking these uncertainties, Olivia invites the nurse to understand her conduct in light of the circumstances — within a constellation of uncertainty. This furnishes the reasonable grounds for her conduct insofar as her decision to request a vEEG is presented as a matter of due diligence in the service of protecting her son, a mother’s obligation. In showing that there was a reason for the breach, she invites the nurse to interpret her conduct as *reasonable*.

Subsequently, at line 18, Olivia uses a negative interrogative “I mean (.) wouldn’t you want to know,” which offers further evidence of her orientation to her potentially problematic conduct as reasonable under the circumstances. In the context of complaints, “I mean” prefaced utterances have been shown to be deployed in the service of pursuing alignment, and, as is the case here, serve to “skip-tie” back to the speaker’s prior utterance thereby sequentially deleting the vacant response opportunity space at line 17 (Maynard 2012). Although Olivia is not using this in the context of complaining, her “I mean” prefaced negative interrogative at line 18 operates similarly to those discussed by Maynard (2012:219) in that it “essentially ignores a lack of responsiveness.” It also provides us with insight into what she is doing with her presently unanswerable questions — building a case for the reasonableness of having requested the testing. Prior research on negative interrogatives suggests that they are the strongest form of yes-preferring question there is, and they can be argumentative or challenging (i.e., “hostile”) to the extent that they are built to invite a response from the recipient which conflicts with their prior statements or actions (Heritage 2002:1439). Here, Olivia’s negative interrogative is strongly positively polarized in a context where the nurse’s agreement would serve to undermine her prior orientation to Olivia’s conduct as unexpected and, thus, potentially problematic. In this way, Olivia overtly takes a stance toward her rationale as reasonable and her conduct as righteous under the circumstances. In response, the nurse offers agreement (line 19) thereby affiliating with Olivia’s position and ratifying her conduct.

Extract 2.1 provides support for the claim that parents invoke uncertainty in environments where they have breached normative expectations associated with medical authority and the physician-family partnership. We gain further support for this claim if we revisit Extract 2.2a where Maria invoked uncertainty about a treatment recommendation through foregrounding the *risk potential* of the proposed medication.

In the context of the doctor-patient relationship, there is a general preference for patients to accept their physician’s professional medical advice and thus validate their medical authority. We can see evidence of this general preference across medical contexts: Doctors and patients consistently orient to diagnoses as a province of the physician’s domain (Stivers 2007). In acute care visits patients rarely accept diagnoses and clinicians rarely treat their acceptance as expected (e.g., Heath 1992; Heritage and McArthur 2019; Peräkylä 1998), and challenges in this domain are also rare (Stivers 2007). Moreover, if we consider that patients do not resist physicians' recommendations very often (Stivers et al. 2018; Thompson and McCabe 2018), and they adhere to medical advice more often than not (Yang et al. 2018), then it follows that failing to do so runs the risk of being treated as resistant to or disrespectful of medical authority.

Further evidence can be found in Extract 2.2b which begins at the onset of the treatment recommendation, just after the fellow reported the test results. Recall that Extract 2.2a was pulled from later in the treatment discussion after four explicit rejections of the clinician's Onfi treatment recommendation. Extract 2.2b shows the first of these rejections (line 24).

Extract 2.2b — [P16-1r]

```
  1  Fel:    So the only thing is (so) she ↑did have that seizure
  2  Mar:    [Yeah.]
  3  Fel:    [ S o ] probably good to start something back on,
  4  Mar:    Okay.
  5  Fel:    Uhm and Doctor Wilson and we all (.) kinda
  6          talked about it and Onfi: (.) is a good medicine fer
  7          fer those kinda seizures.
             .
             .
             .
 24  Mar:    I would not be open to just Onfi.
 25  Fel:    I see.
             .
             .
             .
132  Mar:    Yeah so (.) uhm (0.7) Yiknow (.) she's
133          just made so many gains,
134          (.)
135  Att:    Mm
136          (0.3)
137  Mar:    Tha:t (0.2) I'm (0.3) ultra hesitant about
138          a drug that (0.7) potentially could be so
139          deleterious to her
140  Att:    Mmhm.
141  Mar:    physical strength.
142          (0.7)
143  Mar:    #So:# (0.3) ((shrugs))  (yiknow) ((head tilt))
144          But we had talked a little bit about Lamictal
145          In our last (.) clinic appointment.=
146  Att:    =Mmhm:
```

```
147            (.)
148  Att:      Okay.
149  Mar:      °I mean:° (.)
150  Att:      That’s that’s another possibility,
```

Insofar as patients are normatively obligated to follow professional medical advice, Maria’s rejection of the clinician’s treatment recommendation at line 24 represents a breach of this norm and a challenge to the clinician’s professional medical authority. Here, Maria orients to the uncertainty surrounding the medication — specifically, that it “potentially could be” (line 138) risky to give Molly this medication — as an account for her resistance to the recommendation (lines 137-139, 141). She then broaches a different treatment option (line 144), and the attending appears to back down from the neurology team’s recommendation in favor of Maria’s alternative (line 150).

Extract 2.3b offers a third example of invoking uncertainty in the context of a breach. In this case the breach is a failure to adhere to the medication prescribed previously. Recall that months prior to this visit Tori began noticing that Tina would occasionally freeze and become briefly unresponsive with a blank stare (not shown). This prompted Tori to bring her in for an outpatient visit with a neurologist who prescribed Keppra, an antiepileptic drug (lines 1-2). However, Tori evidently never filled the prescription (line 3) and thus failed to adhere to the clinician’s recommendation, challenging her professional medical authority.

Extract 2.3b — [P07-1a]

```
 1  Res: ->  Oh question I wanted to ask. I know Doctor
 2           Sharron Hardy: had recommended the Keppra:,
 3           (.) but it- you guys didn’t start that right,
 4  Tor:     Yeah: her- her dad is no:t (0.3) like
 5  Res:     He doesn’t see all these little things
 6           [so  he’s  not ]
 7  Tor:     [Yeah he think-] Yeah he thinks that I’m over
 8           <I mean I could s- I have video to prove it now.
 9  Res:     [Yeah. ]
10  Tor:     [Right,] [      Uhm:       ]
11  Res:              [And w’ll what doe]s he say when you
12           show him that. [Has he noticed her doi-]
```

```
13  Tor:                    [ He  he  he   said     ] that
14           (.) he saw it and he said (0.3) I don’t see
15           anything. She’s fine.
16  Res:     [I see.  ]
17  Tor:     [I’m like] she’s like (.) n- And I showed it
18           to my mom too and they’re like (.) °sh-°=↑I don’t
19           know:_ I mean for a while I was like is it
20           j(h)ust like £is it [just me::,£ ]
21  Res:                         [It’s subtle.] So it’s hard.
22           [And you know h]er: like (.) and you know how=
23  Tor:     [    Okay:,    ]
24  Res:     =sh[e acts ] so you notice [it, ]
25  Tor:        [Ri:ght_]               [Yea-]
26  Res: ->  It’s subtle. But [ I think   ]you’re doing all=
27  Tor:                      [I mean it’s]
28  Res: ->  =the right [things.]
29  Tor:                [ Yeah. ]
```

When the resident broaches the issue of non-compliance (lines 1-3), Tori responds with a confirmation followed by the onset of an account, which she displays some difficulty formulating (line 4). Although she stops short of explicitly shifting blame for the breach onto her husband Tim (e.g., “her dad is no:t” [convinced]), she nevertheless implicates parental disagreement as a contributing factor to the breach. The resident registers this at lines 5-6, offering a candidate account that centers on Tim’s failure to align with Tori. It is within this context that Tori begins to invoke uncertainty through expressing doubt in her own judgment as a witness of “candidate symptoms” given that others disagree (lines 17-20). She then uses this uncertainty as the basis of an account for breaching the normative expectation that patients and their parents will follow professional medical advice. When Tori says “I mean for a while I was like is it j(h)ust like £is it just me::,£” (lines 19-20), she uses the possibility that Tina’s behavior is normal to account for her failure to follow professional medical advice. If there is a chance that Tina’s episodes are benign, then her decision to hold off on starting the medication is reasonable and her apparent challenge of medical authority warranted.

So far, we have seen that parents invoke uncertainty about a diagnosis or treatment in contexts where they have breached normative expectations associated with their role in the child's care. One question at this juncture is: What can help explain the use of uncertainty in accounting for conduct that threatens clinicians' medical authority? What affordances might uncertainty based accounts have over alternatives (e.g., Stivers and Timmermans 2020)? In the following section I argue that uncertainty accounts offer two key affordances: (1) they have a "no-fault" quality and (2) they minimize conflict. Together these affordances help promote progressivity of the visit and mitigate damage to the physician-family partnership arising from parents' encroachment on medical authority. Moreover, as we will see, parents can use uncertainty accounts as a vehicle for displays of identity — e.g., *doing being* a good mom (Sacks 1984b). This works, in part, by making parents' conduct intelligible as reasonable *under the circumstances*.

2.4.4 Affordances of Uncertainty Accounts

What might explain parents' use of uncertainty invocations in contexts where they have somehow encroached on clinicians' professional medical authority? I argue that there are unique advantages to this strategy. To better illustrate these advantages, let us first examine a case wherein the patient's mother does not invoke uncertainty as an account for her intrusion on medical authority. The patient in Extract 2.4 is 16-year-old Jay who has briefly lost consciousness on four occasions over the past three years. Her mom, Jessica, insisted on bringing Jay in for a vEEG after three separate clinicians diagnosed her episodes as syncope, i.e., fainting related to low blood pressure. Thus, Jessica's insistence on pursuing vEEG testing despite receiving multiple non-seizure diagnoses represents a challenge to medical authority.

This fragment is taken from the rounds phase of the visit after the resident reports that Jay’s vEEG results were inconclusive: Jay did not have an episode during the observation period, but the EEG did reveal abnormal electrical activity in her brain. Although this abnormal activity was insufficient for diagnosis, it could indicate a higher-than-average seizure potential for Jay. Consequently, the team requests that Jay stay for a second night of observation so they can try to capture an event, which will allow them to determine a diagnosis and treatment. In this context Jessica re-casts her breaching conduct as necessary due to the faulty judgement of one present and two non-present clinicians. Rather than invoke uncertainty as an account for her encroachment on medical authority, Jessica directs blame at the neurology fellow standing in front of her (lines 5-8).

Extract 2.4 — [P38-1r]

```
 1  Jes:       Oh we saw you: ((points to fellow))
 2  Res:       Yea:h.
 3  Jes:       Right. We saw you.
 4  Fel:       [(In May)]
 5  Jes:       [And you:] (.) thought it was nothing.
 6             (0.4)
 7  Jes:       Like you just sent us on our way and said don’t
 8             worry about it. And then when we went back this
 9             time (.) we went to our pediatrician and she was
10             like (.) Eh don’t worry about it.
11             (.)
12  Jes:       And then we went to see Doctor Crew and I had tuh
13             (.) demand (.) I had to sort of say ↓no: >you know<
14             So (.) literally none of this would be happening
15             were it not for me:_
16             (.)
17  Jes:       Like no:body at any point (.) said (.) come to the
18             hospital and be worried about this.
19  Att:       Well en #I-# I think (0.7) they could- we could still
20        ->   be (.) dealing with two different things, One being
21             the orthostatic (0.3) uhm symptoms and the syncope?=
22  Jes:       =Right.
23  Att:       So the fainti:ng. .h And then she has this abnormal
24             finding on her E E G.
25  Jes:       Right. I’m [just saying thee] E E G would never have happened=
26  Att:                  [ That might be  ]
27  Jes:       =[ had  ] I not said (.) I’d like tuh have an E E G.
28  Att:        [Right.]
29             (0.3)
30  Jes:       I mean ↓nobody: no doctor we’ve ever seen (0.2) expressed
```

```
31            (0.7) any (0.2) sort of interest.
32            (.)
33   Jes:     In pursuing any:thing about th[is.]
34   Att: ->                                [<Be]cause clinically it
35            doesn’t sound like seizures. <So (.) if sh- (0.4) so if
36            we hadn’t seen that on the- <So if we hadn’t see:n the
37            E E G without just (0.2) without doing the kind of light
38            (.) thing that we [did] with her (0.3) then we would have=
39   Jes:                       [Mhm]
40   Att:     =said (1.0) go home today,
41   Jes:     Mkay_
```

In this case, Jessica attributes blame to the neurology fellow for failing to take her concerns seriously during their prior visit. This creates a conflict-prone interactional environment which inhibits progressivity of the visit: After confirming that she and Jay saw this neurology fellow previously (lines 1-3), Jessica asserts “And you: (.) thought it was nothing.” (line 5). Two key elements of this formulation prime the interaction for conflict: First, Jessica’s use of contrastive stress on “you:” invokes the opposite (“me”), which sets up an adversarial stance in that it casts the fellow’s view as one which she does not share. That is, YOU thought it was nothing, but I did not agree.

Second, Jessica’s use of “thought” hearably attributes fault to the fellow as her past-tense formulation implies that the fellow’s belief then is not consistent with the medical team’s present assessment (i.e., the fellow was wrong). When her turn gets no uptake at line 6, Jessica expands with a characterization of the fellow’s conduct as dismissive — “Like you just sent us on our way and said don’t worry about it.” (lines 7-8). Insofar as her previously unmet concerns have now been validated, the fellow’s no-problem dismissal of Jessica’s concerns previously is presented as an accountable matter. Through foregrounding these elements, Jessica takes an adversarial stance vis-à-vis the fellow and thereby establishes the basis for confrontation.

At this point, Jessica expands the scope of her grievance to include Jay’s pediatrician (line 9) and a non-present member of the neurology team (line 12). In detailing her prior encounter with Dr. Crew, Jessica asserts that she “had tuh (.) demand (.)” further consideration of Jay’s episodes (lines 12-13). Subsequently, she presents herself as someone who had to overcome multiple clinicians’ professional medical advice as one after another attempted to dismiss her concerns (lines 14-15). Finally, when no uptake appears to be forthcoming at line 16, Jessica uses multiple extreme case formulations to legitimize her grievance (Pomerantz 1986). She asserts that “<u>no</u>:body” (line 17) at “any” (line 17) point along Jay’s diagnostic odyssey aligned with her as an ally. In positioning herself in opposition to the fellow, in the first instance, and to all of Jay’s prior clinicians subsequently, Jessica has created a conflict-prone context where opportunities for disagreement far outnumber opportunities for agreement.

At lines 19-21, the attending attempts to avoid disagreement through invoking the possibility that the episodes Jay presented with in the past are distinct from those that she is presenting with now (lines 23-24). This allows for the possibility that none of her prior non-seizure diagnoses were made in error insofar as she could in fact have syncope, a benign fainting condition, in addition to seizures. Moreover, it accommodates the possibility that Jessica was also correct in continuing to pursue medical care for Jay, thus neutralizing the fault implications of Jessica’s prior turns. However, Jessica resists the attending’s move to absolve all parties as she responds with a revival of her initial adversarial characterization (lines 25, 27) followed by a variation of her prior extreme case formulations (lines 30-31, 33). At this point, the attending launches an account — “<Because <u>cl</u>inically it <u>does</u>n’t sound like seizures.” (lines 34-35) — with a rapid onset indicated by the “<” that makes it sound rushed and thus, in this context, defensive. Its subsequent unpacking is marred by self-repair as the attending displays some difficulty in exiting the sequence (lines 35-38).

Extract 2.4 offers two key insights: (1) Through her attribution of fault to a present clinician as an account for her breaching conduct, Jessica primes the context for conflict, and (2) the absence of agreement inhibits progressivity of the visit. To understand how these two insights are related, consider Whalen et al.'s (1988) notion of "activity contamination." Once participants enter contexts of conflict, the activity that was underway previously becomes "contaminated" by that conflict. For instance, parents are more likely to resist non-antibiotic treatment recommendations when pediatricians explicitly rule out antibiotics (Mangione-Smith et al. 2006). Heritage (2011:342) explains this as an artifact of activity contamination, which pediatricians occasion "by casting parents as having wanted an antibiotic prescription all along and, in the very same moment, rejecting that treatment preference as inappropriate." In these interactional contexts, conflict becomes the frame of reference for conduct — assertions of fact are not heard as factual information but as moves within conflict. This is evidently the case in Extract 2.4, when the attending broaches the possibility that there could be two distinct medical problems (lines 19-21). Jessica orients to this not as a piece of factual information but as a move within an ongoing dispute. Her subsequent turn pushes back on what the attending has said but only with respect to its import for the attribution of fault thus thwarting progressivity of the visit (lines 25, 27, 30-33).

In contrast, uncertainty accounts, like inability accounts, have a "no-fault quality" (Heritage 1984b:271–72, 1988). That is, they do not attribute fault for the breach to present parties but frame their breaching conduct as the unavoidable consequence of uncertain circumstances. This makes for an interactional environment which minimizes flash points, such as blame sequences, that can serve as a catalyst for conflict. For example, in Extract 2.2 Maria could have grounded her rejection of the treatment recommendation for Onfi in an accusation against the neurology team for risking harm to her daughter. However, doing so would have surely made conflict more likely and agreement harder to come by. Instead, she invokes uncertainty as an account for her breaching conduct — "I'm (0.3) ultra hesitant about a drug that (0.7) potentially could be so deleterious to her physical strength." (lines 137-139, 141) — and thereby circumvents the attribution of fault, minimizing the potential for conflict in the process.

At times, the no-fault character of uncertainty accounts can even allow for greater physician-family alignment and affiliation than would be possible with alternative types of accounts. In these cases, parents and clinicians can stand together against uncertainty rather than as adversaries in the attribution of fault. To better illustrate this distinction let us return to Tori whom we first met in Extract 2.3a.

Extract 2.3c comes from the final minutes of the admissions phase of the visit. Here, Tori uses a statement plus tag formulation to invite the resident to agree with her positive characterization of her breaching conduct — "And it's good. Right_" (line 2). While the resident's response at line 4 does not overtly disagree, her transformative answer ("This isn't hurting her.") circumvents the question's topic and action constraints (Stivers and Hayashi 2010). Rather than agree that Tina's decision to come in for testing is good, despite having already been assessed and prescribed previously, the resident adopts a no-harm position. That is, she neither ratifies Tori's breaching conduct nor condemns it. It is within this context that Tori re-invokes uncertainty through expressing self-doubt (line 12), and re-casts her breaching conduct as positive (line 13). This time, however, the resident produces an upgraded assessment of Tori's conduct — "<I think it's a great thing that you brought her." — from "good" to "great" (lines 14-15).

Extract 2.3c — [P07-3a]

```
 1  Res:      And uhm [then we'll make some more decisio-]
```

```
 2  Tor:              [   And  it’s  good.   Right_      ]
 3           >I mean< (.)
 4  Res: ->  .tch This isn’t hurting her.
 5  Tor:     >Y- no< I gu[ess  ]
 6  Res:                 [Yeah.]
 7  Tor:     I guess I’m asking because (.) I think
 8           from like (.) hearing (0.4) from her da:d
 9           (.) and my mom like (.) Well my mom
10           actually said yeah take her. But her dad was
11           like (.) you know you’ll upset her. I feel like
12           I’m just doubting the fact that I brought her
13           but [it’s good that I brought her.]
14  Res: ->      [ <I think it’s a great thing ] that you
15           brought [her. ]
16  Tor:             [Okay.]
             .
             .
             .
58  Res: ->   [So I think] what you’re sa[ying] is=
59  Tor:                                 [Okay]
60  Res: ->  =totally: (.) reaso[nable] beyond.
61  Tor:                        [Okay.]
62  Tor:     Okay.
63  Res: ->  So uhm (0.6) this is good.
64  Tor:     Okay.
65  Res: ->  This is good and I think you did the
66           exact right thing.
67  Tor:     Okay. Thank you.
68  Res:     Absolutely.
```

In using uncertainty as an account, Tori specifically avoids attributing blame to present parties just as she avoids assuming it herself. Ultimately, these uncertainty accounts threaten neither the “face” of the parties involved nor their social relationships (Goffman 1982). Thus, parents can use uncertainty to challenge medical authority indirectly, under the guise of caution, thereby exploiting their legitimate role as a carer. This no-fault framing of accounts minimizes conflict by circumventing moral accountability for parental intrusions on medical authority and allows the visit to proceed on the basis of a presumed commonality of concern for the child’s best interests. In this case, the resident affiliates with Tori and ratifies her breaching conduct (lines 14-15, 58, 60, 63, 65-66). Unlike Jessica’s fault-driven account, Tori’s uncertainty account does not inhibit progressivity of the interaction. Rather, it minimizes disagreement and thereby provides for advancement of the visit.

Aside from promoting progressivity, uncertainty accounts can act as a vehicle for displays of identity. During these encounters, parents appear to grapple with multiple, and sometimes conflicting, vectors of normative constraint on their conduct as summarized in Table 2.1.

Social Role	**Rights**	**Obligations**
Parent	Make decisions on behalf of child.	Ensure proper due diligence in the service of protecting child.
Patient-by-proxy	Engage in medical decision making.	Follow professional medical advice.

Table 2.1: Rights & Obligations

Whereas on the one hand parents assume role of mother or father, on the other hand they assume the role of patient-by-proxy. That is, they are tasked with following professional medical advice as patients-by-proxy while also being tasked with ensuring proper due diligence in the service of protecting their children, a parent's obligation. The use of uncertainty as an account allows parents to manage these conflicting vectors of normative constraint by circumventing the attribution of blame to present parties and thereby creating a face-preserving interactional context which is resistant to conflict but hospitable to affiliation and alignment. Moreover, parents can use these uncertainty accounts as an opportunity to *do* being a good parent. The identity implications of these no-fault accounts can be observed clearly in the following case.

Let us return to Olivia from Extract 2.1. The following fragment comes from just after what was shown in Extract 2.1b. Here, Olivia invokes uncertainty through asserting a desire to know (lines 2-3) and casts her breaching conduct as motivated by her desire to be a good mother — "↑just want to be a good momma_" (line 16).

Extract 2.1c — [P40-3a]

```
 1  Nur:      [Yeah.]
 2  Oli:      [ So  ] (.) I just want answers_ I wanna know
 3            what's goin' on with his little brain_ He's thriving,
 4            He's (0.3) s:uper athletic, He's eats great food,
 5            kale salads 'nd (0.3)
 6  Tec:      Da:ng kale,
 7  Oli:      We do [sugar but not a lot of sug]ar,=
 8  Nur:            [ That's all good science_ ]
 9  Tec:      =Yeah.
10  Nur:      Yeah.
11  Oli:      Yea::h, I mean he's- (.) his sister will be here soon.
12            She's a toddler. She' s- she's an animal.
13            (0.3)
14  Oli:      But uhm: (0.5) yeah I mean he's (.) he's ra:d and I
15            just want to catch: anything_ If there's more or if
16            there's (0.2) ↑just want to be a good momma_
17            [(H)eh]
18  Nur: ->   [Aww::]
19  Tec:      Yeah.
20  Nur: ->   You're doing gr(h)eat_
```

In this case, Olivia uses uncertainty as a means of displaying her identity as a parent. She invites the nurse to understand her conduct in terms of this identity — as motivated by the desire to be *a good momma* (line 16). Here, as was the case with Tori in Extract 2.3c, Olivia's account appeals to parental rights and obligations. Her no-fault framing minimizes disagreement and ultimately gets affiliative uptake from the nurse who produces an empathic interjection — "Aww::" (line 18) — followed by an explicit ratification of Olivia's maternal identity and the conduct she has attributed to it (line 20).

Although Olivia's case presents an explicit display of the identity work brought off with invocations of uncertainty, implicit displays can be observed in other cases as well. As we saw in Extract 2.2, Maria invites the fellow to understand her opposition to Onfi as the product of her observations *as a mom* over time — "Yiknow (.) she's just made so many gains," (lines 132-

133). Meanwhile, in Extract 2.3c the resident orients to Tori’s uncertainty account in terms of its identity implications when she reassures Tori about her decision to pursue care despite her husband’s view of Tina’s behavior as normal — “It’s subtle. So it’s hard. And you know her: like (.) and you know how she acts so you notice it,” (lines 21-22, 24). That is, the resident orients to Tori as *doing being a good mom* (Sacks 1984b). In this way, identity adds meaning to the breach.

Although uncertainty accounts such as these do not always serve as a vehicle for displays of parental identity, they do appear to be one of the mechanisms by which participants can make particular identities relevant and consequential in this context (Raymond and Heritage 2006).

2.5 DISCUSSION

This chapter began with a rough sketch of “invoking uncertainty” as an interactional phenomenon. I then examined three main ways that parents invoke uncertainty in their interactions with clinicians — (1) asserting a desire to know, (2) foregrounding the risk potential of a decision, and (3) expressing doubt. Analysis of the position and composition of each instance in the collection revealed that parents regularly use uncertainty invocations in accounting for conduct that breaches normative expectations associated with medical authority. Once I established how and to what ends parents invoke uncertainty, I considered why parents might use uncertainty rather than something else (e.g., blaming their clinician) in accounting for their conduct. This led me to contemplate the affordances of uncertainty accounts and their implications. I found that the no-fault quality of uncertainty accounts helps minimize conflict between parent and doctor unlike fault-driven alternatives such as blaming the clinician directly. Uncertainty invocations in the context of a breach allow parents to circumvent direct blame for all present parties by directing blame to an outside party or to no one at all (i.e., as a product of uncertain circumstances). These findings extend prior research on parents' use of the presence of uncertainty to ground their resistance to diagnoses and treatments thereby leveraging it to influence visit outcomes (Stivers 2007). However, it also shows us how uncertainty can be used to manage the risks associated with intrusions on medical authority so as to mitigate damage to the physician-family relationship. Moreover, it shows us how participants can use uncertainty as a means of displaying particular identities in specific contexts for cause.

Parents can use uncertainty to challenge medical authority indirectly, under the guise of caution. Yet, in using uncertainty to account for their encroachment on medical authority parents display an orientation to medical authority as a part of the doctor-patient relationship. While these breaches suggest that medical authority can indeed come under siege (Stivers and Timmermans 2020), parents' orientation to them as accountable suggests an enduring orientation to medical authority as a legitimate element of the doctor-patient relationship.

This chapter started with an overview of the interplay between uncertainty, medical authority, and the doctor-patient relationship. Historically, high levels of clinical uncertainty have translated to low levels of medical authority. However, this trend was upended by a variety of cultural factors beginning in the 1960s and echoing through the rise of patient-centered medicine. While modern medicine affords a greater degree of certainty than ever, today's doctors must navigate unprecedented levels of resistance in the name of patient empowerment. Much of the prior work in this domain has emphasized the threats that uncertainty poses to the doctor-patient relationship. Yet, as we have seen, uncertainty is not always a liability. In the cases presented here parents use uncertainty as a resource in circumventing blame for conduct that encroaches on medical authority. In this context uncertainty is leveraged as an asset in the preservation of physician-family relationships. While it is certainty the case that people sometimes find themselves in uncertain circumstances, this hardly exhausts the role that uncertainty plays within the institution of medicine.

The present study reaches beyond prior research on attitudes toward uncertainty. The findings presented here support the literature surrounding the rise of patient engagement (Timmermans 2020). However, they call for a much more nuanced view of the interplay between clinical uncertainty, medical authority, and the physician-family relationship. In the cases analyzed here we can see that parents do fundamentally challenge medical authority, and yet in their use of uncertainty accounts parents can be observed orienting to and thus upholding clinicians' medical authority. Future research would benefit from a more general understanding of uncertainty as an interactional resource in everyday talk and the effect such usage has on social relationships.

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CHAPTER 3

Modulating Certainty: Pursuing Parent Acceptance of Diagnoses and Treatment Recommendations

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3.1 INTRODUCTION

Over the past several decades there have been efforts to “modernize” the doctor-patient relationship by encouraging physicians to adopt a *patient-centered* approach. These efforts have largely been responsive to the unbridled medical paternalism that was characteristic of mid-20th century *disease-centered* medicine. As a result, patients have become increasingly empowered and engaged in their care (Timmermans 2020). Recent studies suggest that this has given rise not only to patients voicing their preferences and asking more questions but also to participation in the form of resistance to professional medical assessments and advice. In the pediatric primary care context, parent resistance to non-antibiotic treatment recommendations leads some physicians to prescribe antibiotics inappropriately (Mangione-Smith et al. 2006; Stivers 2007) with consequential risks to global antibiotic resistance. Resistance, as one form of patient participation, has been found to be particularly high in the pediatric neurology outpatient context where parent resistance to treatment recommendations has been documented in 40% of cases (Stivers and Timmermans 2020).

This increase in patient engagement is often conceptualized as implying a decline in medical authority. However, the metrics by which medical authority is typically understood may be misleading. For example, the ways that physicians formulate diagnoses and treatment recommendations are commonly treated as a core dimension of the expression of medical authority in medical visits. Yet, there may be other ways by which physicians achieve the same authority as the paternalistic practitioners of yesteryear. In other words, has medical authority actually been reduced or has it merely changed forms? In this chapter, I examine a practice that physicians use to overcome parent resistance to diagnoses and treatment recommendations in the pediatric neurology context.

3.2 BACKGROUND

3.2.1 Medical Authority

At the end of the 19th century physicians were neither highly regarded nor well compensated for their work. During this period barriers to entry were negligible for aspiring physicians, medical training varied wildly, and public trust in practitioners was exceedingly low (Starr 1982). The 1910 release of the *Flexner Report* — a comprehensive study of the quality of medical education in the United States and Canada — resulted in widespread reform including standardized medical training and state licensing requirements (Flexner 1910; see also Duffy 2011). For the first time in American history, it became illegal for doctors to practice medicine without a license, ensuring an ample supply of patients who had little choice but to pay a licensed practitioner for care. Advancements in medical science such as the development of antibiotics and new surgical techniques coincided with the consolidation of power among the medical profession and these changes secured for physicians not only legitimacy in the eyes of the public but also their dependence (Starr 1982). By the middle of the 20th century, medicine was among the most respected professions and physicians enjoyed near absolute autonomy. In this era of medicine licensed physicians stood as gatekeepers to medical goods, services, and knowledge. Together these conditions garnered practitioners a tremendous amount of medical authority and their paternalistic approach to the doctor-patient relationship reflected this.

By the late 1960s, however, scholars began to recognize that this heightened medical authority had given rise to paternalistic communication styles that they posited (and then showed to some extent) were associated with negative health outcomes and low patient satisfaction scores (Korsch and Negrete 1972). In this historical context patient empowerment movements began to gain momentum (Tomes and Hoffman 2011), lay access to medical information began to expand (McKinlay and Marceau 2002), and physician autonomy began to be displaced by accountability (Light 2000).

3.2.2 Patient-centered Care

To address these problems with physician authority health policies started encouraging patients to assume a more active role in their care (Mead and Bower 2000, 2002; Timmermans et al. 2018). Broad acceptance of patient-centeredness as a core organizing principal of modern health care, and its subsequent incorporation into government policy, ignited a run on research in this domain. The resulting findings fed into yet more growth by further enticing policy wonks and legislators with promises of newfound healthcare optimization.

The United States was among the first to prioritize patient centeredness by adopting it as one of six aims for quality improvement outlined in a report issued by the Institute of Medicine in 2001 (Institute of Medicine Committee on Quality of Health Care in America 2001). In the years since, the United States has continued to invest in patient-centered research, most notably by establishing the Patient-Centered Outcomes Research Institute (PCORI), a nonprofit, nongovernmental enterprise authorized by Congress in 2010 as part of the Patient Protection and Affordable Care Act. PCORI receives approximately 80% of its funding from the Patient-Centered Outcomes Research Trust Fund, also authorized by Congress. The magnitude of this funding commitment is staggering — PCORI awarded $397 million for patient-centered comparative clinical effectiveness research in 2022 alone (Patient-Centered Outcomes Research Institute 2022).

If policy provided encouragement for patients, the internet provided the means for them to explore their ideas (Timmermans 2020). As the internet has become ubiquitous, patients have begun to leverage information gleaned from it during medical visits. Through mentioning information from the internet patients can justify their concerns and apply pressure for or against particular treatment options (Stevenson et al. 2021). Combined, these factors have started to manifest patients who question physicians' diagnoses and treatment recommendations (Bergen et al. 2018; Hardey 1999; Stivers et al. 2018; Stivers and Tate 2023). Thus, patients have undoubtably gained latitude with respect to the authority they express in medical visits.

3.2.3 Medical Authority in Specialty vs. Primary Care Contexts

Many of the factors that originally gave rise to medical authority such as scientific and technological advancements, educational gatekeeping, and licensing requirements are still present in medicine. This would suggest that physicians have maintained professional authority, especially in specialty medical contexts like pediatric neurology where technical professional knowledge is somewhat insulated from lay access (Freidson 2001) and the complexities introduced by new medical technologies help preserve physician authority relative to patients. By contrast, primary care often involves the diagnosis and treatment of routine medical problems like upper respiratory tract infections (URTIs) to which patients likely have some degree of independent access via prior experience with similar symptomatic presentations. Thus, in medical specialties there may be a more pronounced epistemic imbalance between patients and physicians, and from this epistemic asymmetry follows the potential for physicians to exert greater control over visit outcomes.

However, Heritage (2021) suggests that the opposite may be the case — that is, in high-burden, high-risk treatment contexts physicians may adopt a more egalitarian stance with respect to treatment recommendations. He notes that in primary care contexts (Stivers et al. 2018), treatment recommendations are more often formulated as pronouncements, the most paternalistic recommendation format, than are those in oncology (Tate 2019) and psychiatry (Thompson and McCabe 2018). While this is true, the recommendation format represents just one way that physicians express authority in these visits. When oncologists encounter patient resistance to treatment recommendations, for example, they may invoke the prospect of death as a means of securing patient acceptance (Tate 2020). While there has been a decline in physician authority relative to patient authority since the mid-20th century, there is evidence to suggest that physicians still have ways of exerting control over visit outcomes in specialty contexts. Thus, while parent resistance to treatment recommendations is not uncommon in pediatric neurology, occurring in over one-third of visits, physicians in this context employ persuasive resources to great effect, transforming parent resistance into acceptance most of the time (Stivers and Timmermans 2020).

In this chapter, I argue that although there has been a decrease in medical authority relative to patient authority since the 1950s, pediatric neurologists in the inpatient context have maintained a degree of “relative” authority over parents. In specialty medical contexts physicians continue to have a steady stream of scientific and technological advances and they continue to control educational gatekeeping and licensing. Given that these factors are still present, we would expect physicians to maintain their medical authority in specialty contexts. However, patients have also become much more engaged in their care since the mid-20th century and they have gained more authority in the process (Timmermans 2020). Physicians have seen an overall reduction in their authority relative to patients and parents, yet they continue to express medical authority in the pediatric neurology context. While most of the conversation analytic work on medical authority has focused on the recommendation format, or turn design more generally, the present study aims to explore whether and how authority can be diversely expressed in specialty contexts. I focus on how physicians pursue parent buy-in through “modulating certainty” — including upgrading or downgrading the (un)certainty of medical findings — vis-à-vis their medical assessments and advice.

3.3 DATA AND METHODS

Data for this project consist of video-recorded inpatient medical visits for overnight vEEG testing. These data were collected in 2018 at a teaching hospital in Southern California. During these visits, the patient is fitted with an EEG electrode cap that captures and stores a real-time record of their brain’s electrical activity. The video component of the vEEG is made possible by an in-room camera that allows the neurology team to examine neural activity and the patient’s physical presentation concurrently, which can help identify clinical correlates that aid interpretation of the EEG data. A total of 41 families and 12 physicians agreed to participate in the study yielding over 10 hours of audiovisual data. Data were collected at discrete points in the visit trajectory: (1) admission interviews, (2) neurology team meetings in the vEEG lab, and (3) the rounds phase of the encounter where the vEEG findings were presented to the families.

The physicians in this study include neurology residents, fellows, and attending (or supervising) clinicians. The patients in this study include 21 boys and 14 girls ranging in age from six months to 17 years but half were five years old or younger. Additional participants include EEG technicians who are tasked with fitting the patient with EEG electrodes and nurses who carry out a range of tasks such as administering medication. Institutional Review Board approval was secured in advance, and all participants provided their informed consent to be included in the study. Detailed transcriptions of the data were made using the Jeffersonian notation system (*Appendix A*) (see also, Hepburn and Bolden 2013).

This study uses conversation analytic methods to systematically examine a corpus of naturalistic data from a structural perspective.

3.4 ANALYSIS

In this section, I argue that physicians' *modulations of certainty* are a resource for pursuing parents' buy-in. When physicians modulate certainty, they take a stance toward something as either more or less (un)certain than previously indicated. For instance, physicians may orient to vEEG findings as increasingly certain over the course of several sequences in an encounter. I will show four types of evidence to support this: First, modulations of certainty are most commonly used in interactional environments that are *inhospitable*, that is, when parents have earlier indicated a stance that is opposed to a diagnosis or treatment recommendation that is now being made. Second, I show that in *hospitable* environments, even if findings are uncertain, physicians do not typically modulate certainty. Third, I show that when parents actively resist a diagnosis or treatment recommendation, certainty modulations are often combined with other persuasive resources as clinicians pursue parent acceptance. Finally, I show that when parents do buy into a previously resisted recommendation, clinicians cease modulations of certainty. In what follows, I provide examples of each type of evidence in turn.

3.4.1 Inhospitable Environments

It is not uncommon for parents to indicate opposition to diagnoses or treatments early in the visit before the neurology team has presented a diagnosis or treatment recommendation. For instance, during the admission phase parents may display their stance vis-à-vis specific diagnoses and treatments either directly or indirectly. When they do indicate that they are opposed to a particular diagnosis or treatment recommendation, this constitutes an inhospitable environment for the subsequent delivery of that diagnosis or treatment recommendation. Consequently, in inhospitable environments physicians may modulate certainty *in anticipation* of parent resistance. Extract 3.1 provides an example of this.

The patient is Dana, a six-month-old who recently presented with infantile spasms thought to be associated with excessive cerebrospinal fluid deep in her brain. Her mother, Daisy, and grandmother, Doris, brought her in for this visit to assess the efficacy of a shunt that was surgically implanted to drain this fluid and relieve pressure on her brain. During the admission interview, Daisy asserted that she believes Dana is on too many medications for a baby. In this context Daisy's sentiment constitutes an inhospitable environment for the neurology team's recommendation which not only entails maintaining the existing regimen but also adding a new medication on top of it. Daisy is not present when the neurology team enters for rounds, but Doris is standing next to the bed comforting Dana. Extract 3.1a begins as the resident launches his news delivery. First, he provides a characterization of the news' valence as "good" (line1). Then, after his initial informing (line 3), the resident provides a characterization of the present EEG as better relative to Dana's prior EEG (lines 5-6). However, he subsequently introduces uncertainty in terms of Dana's prognosis (lines 8-10). While there was initially no indication of uncertainty at lines 1, 3, and 6, the resident subsequently *downgrades* the certainty of Dana's prognosis with "potentially: she could (.) have a seizure again_" and he uses this uncertainty as an account for the team's recommendation to maintain the medication regimen (lines 12-13).

Extract 3.1a — [P24-2r]

```
 1 Res:     So good news,
 2 Dor:     Mmhm,
 3 Res:     No seizures. Overnight, No spasms.
 4 Dor:     ((Nods))
 5 Res:     Uh: overall compared to the last E Esh G:
 6          Dana got (.) it looked a lot better.
 7 Dor:     Mhm.
 8 Res:     Yihknow. Uhm (.) there's still some signs
 9          that (.) potentially: she could (.) have
10          a seizure again_
11 Dor:     Okay,
12 Res:     Which is why we wanna continue on with the
13          medications,
14 Dor:     Okay_
15 Res:     Like we talked about, .tch .hh uhm you know
16          the steroids,
17 Dor:     [Mmhm, ]
18 Res:     [She'll] finish (.) in about two weeks,
19 Dor:     <Okay_
20 Res:     Uhm the Keppra: and the Topamax.
21 Dor:     ((Nodding))
22 Res:     Keep the same for now.
23 Dor:     Okay_
```

After downgrading the certainty of seizure control (lines 8-10) and using this as an account for the neurology team's recommendation (lines 12-13), the resident articulates the recommendation specifically, first by reference to the short-term steroid regimen (lines 16, 18) and then the Keppra and Topamax (lines 20, 22). At this point Doris has provided continuers (lines 2, 4, 7, 17, 21) and acknowledgements (lines 11, 14, 19, 23) that register the recommendation and accept it, albeit weakly.

In Extract 3.1b the resident continues to *downgrade* the certainty of seizure control as a means of accounting for the neurology team's recommendation to add a new medication on top of Dana's existing regimen (line 31). Here, the resident broaches Vigabatrin, a drug that the neurology team recommended previously but which Dana's insurer refused to cover without prior authorization. Once Dr. Crew completes the prior authorization paperwork (lines 24-25), Dana's medication will be mailed to the family's home. However, access to the medication does not ensure compliance with the recommendation, and in this case, the potential for noncompliance is amplified by how Doris responds at line 26: While her "Okay," does acknowledge or accept the recommendation to add Vigabatrin to Dana's regimen, the turn-initial "Oh" that it follows serves to mark this element of the resident's extended informing as one of particular import (Heritage 1984) and this may project resistance to the recommendation. In other words, this remains an inhospitable environment for buy-in.

Extract 3.1b — [P24-3r]

```
24 Res:      And then: uhm Doctor Crew: is filling out
25           the paperwork for the Vigabatrin.
26 Dor: ->   Oh Okay,
27 Res:      So you know even though we're not seeing
28           spasms now (.) uh we often: like to use
29           the steroids and Vigabatrin together,
30 Dor:      Okah.
31 Res:      To make sure that the spasms don't come back.
32 Dor:      Okay, [Good_]
33 Res:            [.tch ] °alright.°
34 Dor:      That's good news.
35 Res:      °Yeah.°
36 Dor:      Mm.
37             (0.5)
38 Dor:      [Thank you.]
39 Res:      [  Uhm:    ] Yeah.
```

In response to Doris's *Oh*-prefaced acknowledgment (line 26), the resident continues to *downgrade* the certainty of seizure control implied by the vEEG findings, specifically, that Dana is no longer having seizures (lines 27-29, 31). He frames the neurology team's Vigabatrin recommendation as incongruent with these findings and in need of an account. If he were to have said, for example, "We're not seeing spasms now. We'd like Dana to start taking Vigabatrin," then he would not have oriented to the recommendation as accountable. Moreover, note that the resident works to “routinize” the recommendation when he says, “we often: like to use the steroids and Vigabatrin together,” (lines 28-29). This type of routinization in institutional encounters has been documented as one of the means by which participants can overcome potential or actual resistance to professional assessments and advice (Pillet-Shore 2023). As a final form of evidence for the resident’s orientation to downgrading the certainty of seizure control as a resource for overcoming resistance to this treatment recommendation, consider that he stops downgrading certainty once Doris accepts the recommendation (line 32) and treats the news as sufficiently complete (lines 34, 38). When the resident stops modulating certainty at this point he reveals that acceptance of the recommendation is what he was after all along.

Further evidence of the use of modulating certainty in inhospitable environments can be found if we examine what occurred in the hallway just before the neurology team enters Dana’s room: Extract 3.1c begins as the neurology team prepares to enter for rounds at which point the resident will present the vEEG findings and the neurology team’s treatment recommendation to the family.

Extract 3.1c — [P24-1h]

```
 1 Res:     Background looks better:.
 2          (.)
 3 Res:     Still some spikes.
 4          (.)
 5 Res:     No s: No seizures. No spasms.
 6 Fel:     ↑You don’t have to say the spike thing_
 7          You can just say it looks better(H)
 8 Res: ->  Well I They had a question about resuming
 9          the Keppra and Topamax so
10 Fel:     Oh: okay. Yeah. I guess that’s (a good reason.)
11          ((Res knocks three times on the door to Dana’s room))
```

At the onset of Extract 3.1c, the resident, without selecting a specific recipient, voices what he plans to convey to the family: the background neurological activity looks better (line 1), but there are still some spikes (line 3), although neither seizures nor spasms were detected (line 5). At this point, the fellow standing near him proposes that he omit mention of the spikes (line 6) — the relatively bad news sandwiched between good news. In this case the presence of electrical discharges or “spikes” represents a dimension of uncertainty insofar as they suggest that Dana is still *at risk* of having seizures even though they have presently subsided. When the fellow proposes that the resident elide this in his presentation of the vEEG findings, the resident alludes to Daisy’s opposition to the medication regimen the morning prior as an account for his intention to include it. Specifically, he begins his turn with a pre-disagreement “Well” (Heritage 2015) then does not back down but provides an account: “They had a question about resuming the Keppra and Topamax so” (lines 8-9). With this, the resident orients to their “question” of the treatment as a sufficient warrant for his initial formulation (lines 8-9). Finally, although he does not complete the clause, the “so” marks what came before as an account. The fellow treats this as appropriate both with the *Oh*-prefaced acceptance at line 10 and the explicit acknowledgment that “that’s (a good reason.)”.

Taken together, Extract 3.1 shows that physicians can modulate certainty as a means of preempting *anticipated resistance* in contexts where parents have earlier indicated opposition to a diagnosis or treatment that is now being made. Yet, the presence of electrical discharges in Dana’s brain does introduce a degree of prognostic uncertainty and this may drive the resident’s decision to disclose it notwithstanding the prospect of resistance to the treatment recommendation. If this is the case, we would expect to see certainty modulations in hospitable environments as well.

3.4.2 Hospitable Environments: A Contrast Case

One question at this point is will we see modulating certainty anytime physicians have it available regardless of whether they find themselves in an inhospitable environment or a hospitable one? Based on the data analyzed for this chapter the answer is no. Evidence for this can be found in cases where uncertainty is available but is not used, and Extract 3.2 is a useful contrast case in this regard.

The patient in Extract 3.2 is eight-year-old Emma. Her parents, Eli and Erica, brought Emma in for her annual visit for routine vEEG monitoring. When the neurology team reviewed the vEEG data in the lab there was some debate as to whether the spikes in neural activity they observed were seizures. At that time, the EEG reader noted that some of the spikes looked "sharpish" and might therefore represent seizure activity. However, the spikes may just be associated with normal "arousals" during sleep. Ultimately, though, the physician supervising the EEG reader said that he did not "buy any of them" as seizures and that the EEG reader was "finding things" that the family is "not looking for" and that are "debatable" (not shown). Extract 3.2a begins in the hallway outside of Emma's room as the neurology team prepares to enter for rounds the morning after vEEG testing. Here, the resident indexes the uncertainty that arose during the lab discussion as she requests confirmation that the neurology team's official assessment is that no seizures were detected during the observation period (lines 1-3).

Extract 3.2a — [P14-1h]

```
 1 Res:     >We're not-< We're saying these are
 2          not (.) seizures. Right. Is that the
 3          [ f i n a l ]
 4 Att:     [These are n]ot sei[zures.]
 5 Fel:                        [↑No th]at's
 6 Res:     Okay.
```

Extract 3.2a provides support for the claim that uncertainty is available to the physicians as a resource in this case. Although this uncertainty has been "settled" by the neurology team, it is nevertheless still available and could be readily invoked as an account for the team's recommendation to increase the dose of Emma's antiepileptic medication. Recall that the resident in Extract 3.1c was in a similar situation insofar as the fellow proposed omitting mention of the spikes observed in Dana's EEG entirely. In that case, the resident accounted for his plan to mention the presence of spikes by alluding to the prospect of family resistance to the treatment recommendation. However, the resident in Extract 3.2 does not downgrade the certainty of the team's findings, and the family in this case has not indicated any opposition to this diagnosis or the planned recommendation to increase her medication dosage.[1]

Once in the room, the resident launches her news delivery in Extract 3.2b. Like the resident in 3.1, she favorably characterizes the news to come (line 1) before presenting the informing proper (line 3). When she presents the neurology team's recommendation to increase Emma's Lamictal dose (lines 7-8), the resident does not modulate the certainty of the findings as an account for their recommendation. Rather, she accounts for the increase by reference to Emma's weight (lines 8, 10) and Erica readily accepts this recommendation (lines 10, 12).

Extract 3.2b — [P14-2r]

```
 1 Res:     Alright well we have good news about the E E G:,
 2 Eri:     Oh g[ood.]
 3 Res:         [ So ] so we haven't seen any seizures.
 4 Eri:     Great.
 5 Res:     [Okay,]
 6 Eri:     [Good ] good good.
 7 Res:     Uhm so what we do want to do is ah just increase
 8          her Lamictal a little bit. Bec[ause ] of uh her=
 9 Eri:                                   [Okay,]
10 Res:     =incre[ase (in)] her weight.
11 Eri:           [  Yes.  ]
12 Eri:     Good. Good.
```

---

[1] Contrary to what one might think, parents will at times argue *for* a problem diagnosis and are often faced with a series of visits where they are told there is no problem.

What can account for the resident's decision not to modulate certainty in this case despite its availability? What makes Emma's treatment recommendation different than Dana's treatment recommendation? Or, more specifically, why might the resident in Dana's case have opted to modulate certainty as an account while the resident in Emma's case did not, despite the availability of uncertainty in both cases? I argue that this decision was driven primarily by the absence of resistance (anticipated or otherwise) to the treatment recommendation in this case.

Evidence for this claim comes from the admission interview where Erica reports that she thinks Emma's last breakthrough seizures were caused by the natural titration of medication associated with the gradual increase in her body weight as she ages. As Emma's weight increases, the effective dose of her medication decreases. Thus, Emma will need to take more of the drug to maintain a therapeutic dose that will adequately suppress her seizure activity. In this context, the resident is likely to anticipate that the recommendation to increase Emma's dose will be well received by her parents. Indeed, this hospitable environment materializes in Extract 3.2c with Erica's agreeing response to the recommendation (lines 14-20) followed by her stated desire to "stay ahead of the weight." (line 22).

Extract 3.2c — [P14-2r]

```
13 Res:     So we just [don't (wanna) drop off.]
14 Eri:                [ Yeah so she's ninety_ ] Ninety pounds.
15          And that's And that was the last time that the (.)
16          meds (.) that was what we thought was the problem
17          we increased it, (.) And it took some time it was
18          like the Lamictal we got it to a therapeutic dose
19          but it still took like a month and a half for the
20          seizures to stop after that.
21 Res:     °↑Hmm.°
22 Eri:     So now I wanna stay ahead of the weight.
23 Res:     [(It's) reasonable]
24 Eri:     [  And   start giv]ing the meds prior to waiting
25          for her tuh (0.2)[ (.) yihknow go back to s]eizures.
26 Res:                      [  Have  seizures  again  ]
27 Res:     And that's totally reasonable.
```

In this *hospitable* environment the neurology team does not, at any point, indicate that the EEG captured epileptiform activity that could potentially be understood as seizure events. This is consistent across cases involving hospitable environments — even when physicians can topicalize uncertainty, they do not. By contrast, as we saw in Extract 3.1, physicians do modulate in environments that are inhospitable. In these cases, physicians upgrade or downgrade (un)certainty as a resource in their pursuit of parent buy-in with respect to the diagnosis and treatment recommendation.

3.4.3 Modulating Certainty in Response to Parent Resistance

I have thus far argued that it is the prospect of conflict with the parents (inhospitable environments) that is associated with clinicians' reliance on the practice of modulating certainty. I now turn to a third form of evidence for my claim that this practice works to secure parent buy-in. In this section we see that when parents resist a diagnosis or treatment recommendation, clinician reliance on modulating certainty works toward buy-in. Whereas the resident in Extract 3.1 modulated certainty in *anticipation* of parent resistance, physicians also modulate certainty in *response* to parent resistance.

For instance, in Extract 3.3 we have 15-year-old Connor who has been taking an antiepileptic drug called Lamictal since he was in fourth grade. His mom, Cassie, reports that he has not had any observable, or *clinical*, seizures since he started the medication. However, Connor's prior vEEGs captured *subclinical* seizures. While clinical seizures produce outward signs like convulsions that can be readily observed without medical imaging, Connor's subclinical seizures can only be detected by monitoring the electrical activity of his brain.

Nevertheless, like their clinical counterparts, subclinical seizures can lead to significant cognitive impairment if left untreated.

Extract 3.3a begins near the end of the rounds phase of the visit wherein the resident informed Cassie and Connor that no subclinical seizures were detected during the observation period, and although there were some delta waves they were not as prevalent as they had been in the past (not shown).[2] After reporting these findings the resident presented the neurology team's recommendation for Connor to maintain his current dose of Lamictal and Cassie receipted this with "Okay." (not shown).

Just before the onset of Extract 3.3a, the resident asked Connor and Cassie if they had any questions and Connor said "N:o.". At line 1, Cassie responds by topicalizing the duration of treatment, potentially as a means of broaching the possibility of discontinuing medication. In this context, Cassie's question constitutes retrospective resistance to the treatment recommendation as it stands. When the resident's response does not appear to be forthcoming (line 3), a second-year resident (Re2) launches a multi-unit response (line 4). After displaying deference to Connor's primary neurologist on the matter (lines 5-8), the resident *upgrades* uncertainty with respect to Connor's prognosis (lines 10-13). She does this by invoking the risk of seizure events "if" (line 10) there is irritability in Connor's brain and she subsequently orients to this as a possibility — "which I (.) think" (line 11) the EEG is showing "a little bit," (line 12). Finally, the resident presents the decision to maintain Connor's current treatment regimen as contingent upon whether there is irritability (lines 15-16) while maintaining deference to his primary neurologist (lines 18-20).

Extract 3.3a — [P29-1r]

```
 1 Cas: ->  How much longer do you think he will
```

---

[2] Slow waves like these are commonly associated with deep sleep but they can also be indicative of seizure activity.

```
 2          be on the medication.
 3          (1.0)
 4 Re2:     Mmm .tch So it that’s a good question,
 5          Uhm it and it’s variable. It kind of
 6          depends on: the primary neurologist,
 7          and how long uhm he remains sort of
 8          seizure free? Without any episodes.
 9          (.)
10 Re2:     Uhm but if he does have some irritability
11          in the brain which I (.) think you know
12          the E E G is (telling that) a little bit,
13          He’s not having seizures,
14 Cas:     [Mm]
15 Re2:     [So]me people would feel inclined tuh
16          con- tuh continue.
17 Cas:     Okay.
18 Re2:     The medication. (#So that#) I think it’s a
19          great question to bring up at your (     )
20          neurologist.
21 Cas:     Okay, (Doctor May)
```

Thus far the resident has alluded to Connor’s seizure potential as an account for maintaining the current treatment recommendation even though he did not have any seizures during the observation period (lines 10-13). However, she qualified this by making it contingent upon whether there is irritability in Connor’s brain, and she treats this as somewhat uncertain (lines 10-13). Finally, the resident defers the decision to Connor’s primary neurologist (lines 18-20) and Cassie aligns (line 21). At this point the resident has failed to secure Cassie’s buy-in and thus her compliance with the treatment recommendation is not assured. Within this environment we would expect the physicians to modulate certainty as a means of pursuing explicit buy-in from Cassie and this is precisely what we get in Extract 3.3b.

After a one-second silence (line 22), the attending physician assumes a more certain stance regarding the risk of seizures if Connor were to stop taking his medication (lines 24-26). While the resident oriented to the presence of irritability in Connor’s brain as somewhat uncertain (lines 10-12), the attending treats the presence of slowing as certain (line 24), and she orients to seizures not only as possible but as *likely* without medication (lines 24-26). That is, she *upgrades* the certainty of danger associated with a failure to adhere to the neurology team's recommendation to maintain the current treatment regimen. She then weighs this risk against the marginal benefits of discontinuing medication (lines 28-31) as an account for the neurology team's recommendation (lines 33-34).

Extract 3.3b — [P29-2r]

```
22            (1.0)
23 Cas:       [(          )]
24 Att:       [His episodes] of slowing make us think that
25            he's liable to have a s: have a seizure.
26            If we like took the medicine off?
27 Cas:       Mmhm.
28 Att:       So I think if he's tolerating the medicine
29            and like there's no side effects from the
30            medicine: it seems like it's done a good
31            job for you,
32 Cas:       Mmhm.
33 Att:       .HH Uhm: that (.) it makes us less excited
34            about (.) about taking it off.
35 Cas:       [#Ri:ght.#]
36 Att:       [You know_] Yeah.
```

Although Cassie does acknowledge the attending's account (line 35), she does not explicitly accept the recommendation here. And subsequently, in Extract 3.3c, she implicitly resists the recommendation to continue treatment through invoking the potential for harm resulting from the medication (lines 37-39). When Cassie asserts that Connor has only had bloodwork done once "to see if the medication is <u>h</u>arming hi:m or anything." (lines 38-39), she presupposes that the safety of Lamictal is uncertain. Thus, she continues to resist the neurology team's recommendation to maintain the current regimen. In response, the attending modulates certainty once more as a resource to overcome this resistance. Specifically, she rejects Cassie's presupposition that bloodwork is necessary (lines 45-46) and *upgrades* certainty with respect to the safety of the drug (line 48).

Extract 3.3c — [P29-3r]

```
37 Cas: ->  An:d uhm (1.0) he's he's only had one blood
```

```
38            work done. For to see if the medication is
39            harming hi:m or anything.
40            (.)
41 Cas:       I never got the results. To tha:t?
42            (0.2)
43 Cas:       And I don’t know if he needs another one,
44            (0.3)
45 Att:       Uhm we don’t typically need to do much
46            blood tests for this medicine,
47 Cas:       Okay.
48 Att:       Uh it’s a pretty safe medicine.
49 Cas:       (It is, [Okay thank you.)]
50 Att:               [  So   uhm  (.) ] I don’t think
51            that it’s e- I- (.) I think it’s okay to
52            not do the (.) tests?
53            (.)
54 Att:       I don’t know what the results of that one
55            test were but
56 Cas:       Okay.
57 Att:       Uhm (.) yeah.
58 Cas: ->    ↑Okay_ Sounds good.
```

As a third form of evidence for my claim that physicians modulate certainty in pursuit of parent buy-in, consider that physicians modulate certainty in response to parent resistance. Moreover, consider the effect that this modulation has on parent resistance: Ultimately, the attending does secure Cassie’s explicit acceptance of the recommendation (line 58). Thus, Extract 3.3 demonstrates that modulating certainty can indeed prove effective in overcoming parent resistance in this context. Importantly, however, this is not to say that modulating certainty is always successful. Indeed, parents may continue to resist in contexts where physicians have modulated certainty. Notwithstanding the success or failure of certainty modulation in overcoming parent resistance, there is clear evidence that physicians employ it for the task. As I have shown, physicians tend to modulate certainty in inhospitable environments (e.g., Extract 3.1) where they have reason to anticipate parent resistance, but they do not modulate certainty in hospitable environments (e.g., Extract 3.2) despite the availability of uncertainty in both contexts. Moreover, physicians modulate certainty in response to parent resistance as well (e.g., Extract 3.3). When physicians do modulate certainty in anticipation of, or in response to, parent resistance they tend to continue upgrading or downgrading (un)certainty until they secure parent acceptance (e.g., Extract 3.3); and when physicians do secure parent acceptance, they tend to stop modulating certainty thereby indicating that buy-in is what they were after all along (e.g., Extracts 3.1 and 3.3). As a final form of evidence for my claim that physicians modulate certainty as a means of pursuing parent buy-in, consider its co-occurrence with other persuasive resources leveraged in the service of overcoming parent resistance. This is particularly evident in Extract 3.4 to which we now turn.

3.4.4 Modulating Certainty in Contexts of Persuasion

In Extract 3.4, the attending incrementally *upgrades* the certainty of his diagnosis across a series of turns in response to persistent parent resistance. In this case, the diagnosis of seizures is initially asserted with moderate certainty and is gradually upgraded to absolute certainty in the face of parent resistance. Here, we have Tori, Tim, and their three-year-old daughter Tina with suspected absence seizures. Tim was not present during the admission interview, and Tori indicated that Tim does not believe Tina's episodes are cause for concern (a source of resistance). Extract 3.4a begins just after the attending has explained that although they did not capture any seizures during the observation period, they did capture "blips of electrical activity" (not shown). At lines 1-2, the attending uses these blips to ground the neurology team's assessment that Tina's episodes are possibly seizures. However, he presents this assessment as a less-than-certain upshot of the testing — "we suspect that these are actually <u>are</u> seizures.". Note that he self-repairs to insert "actually" and this may be sensitive to the potential that this outcome may run counter one or both parents' expectations (cf. Clift 2001).[3]

---

[3] Clift (2001) looks at "actually" in TCU-initial and TCU-final positions, but she does not examine self-initiated repair where "actually" is inserted as is the case here.

Extract 3.4a — [P07-1r]

```
 1 Att:     So with that information we suspect that
 2          these are actually are seizures.
 3 Tim:     Okay.
 4          (.)
 5 Att:     But it would be (.) nice to actually
 6          capture one. On the E E G.
 7 Tor:     Ye:[ah_]
 8 Tim:        [M h]m.
 9 Att:     But (.) I wouldn’t say we have to.
10 Tim:     (Mm)
11 Att:     My suspicion of seizures is (.) high enough
12          at this point, That I’d probably want to
13          treat her anyway?
14 Tor:     Okay_
```

While the physician knows that Tim has previously taken the position that these episodes are not a legitimate cause for concern, which makes this an inhospitable context for offering a seizure diagnosis, in Extract 3.4a there is no explicit resistance to the news. Tim acknowledges the informing (line 3) before the attending, at lines 5-6, concedes that the findings are not entirely certain — the “blips” they observed are not seizures themselves, but they are indicative of seizure activity. However, when Tori aligns with this sentiment (line 7) and Tim produces a continuer (line 8), the attending responds by slightly *upgrading* the certainty of his position (lines 9/11-13). Ultimately, the attending suggests that, notwithstanding the lack of direct evidence (i.e., a seizure on the vEEG), he would want to treat Tina for seizures (lines 11-13).

While parent resistance may have been anticipated in Extract 3.4a, neither Tim nor Tori overtly rejected the treatment recommendation. In Extract 3.4b, the attending physician pursues explicit acceptance of his recommendation (line 63), but no acceptance is forthcoming (line 64). Physicians routinely orient to the absence of explicit acceptance in response to treatment recommendations as passive resistance (Heritage and Sefi 1992; Stivers 2006). In this case the attending works to persuade Tori and Tim to accept the treatment recommendation. He starts by characterizing the recommended drug as a “typical medication” (line 66) and further routinizes its use (lines 67, 74).

Extract 3.4b — [P07-1r]

```
63 Att:     Why don’t we do it_
64          (0.3)
65 Att:     Ah:m (.) .tch (0.3) so the medication we
66          wanna start is kind of a typical medication
67          that we as first (w) on almost all epilepsy
68 Tor:     Okay_
69 Att:     It’s a drug called Keppra,
70          (.)
71 Tim:     [Yeah_ ]
72 Att:     [It’s a]lso called levetiracetam_
73          (.)
74 Att:     It’s a really common drug_
75          (.)
76 Att:     We like it because it’s very effective,
77 Tor:     Mmhm
78 Att:     Very safe, (.) Doesn’t (.) interact with
79          other organs, It doesn’t interact with
80          very many medications:,
81 Tor:     Okay_
```

After the attending frames Keppra as a routine first-line therapy for epilepsy, he continues to work to persuade Tori and Tim to accept the treatment recommendation as he enumerates a variety of “selling points” such as its effectiveness (line 76) and safety (lines 78-80). In response, Tori and Tim provide acknowledgements but continue to withhold explicit acceptance of the recommendation.

Subsequently, in Extract 3.4c, the attending discloses one potentially undesirable side effect — that Keppra can make kids hyperactive (line 82) — perhaps in the interest of informed consent. However, even here he mitigates this disclosure by emphasizing that hyperactivity manifests infrequently (in “a few kids”). Nevertheless, Tim is quick to orient to the prospect of inducing hyperactivity with Keppra as particularly undesirable in this case when he says of Tina, “She’s (I think) she’s already: (.) extremely (bad)” (lines 87-88). In other words, Tim leverages this potential side effect to resist the recommendation.

Extract 3.4c — [P07-1r]

```
82 Att:     #Uh# but it makes a few kids hyperactive_
83 Tor:     Okay_
84 Att:     That's like the last thing you want when
85          you got a [three] year old.
86 Tim:               [Yeah.]
87 Tim: ->  She's (I think) she's already: (.)
88          [extremely (bad)] Yeah.
89  2+:     [ ((laughter))  ]
90 Tim:     (    )
91 Att:     Bu:t (.) I think it's a small minority, of
92          kids get (that.) High functioning kids like
93          her are at lower risk_
94 Tim:     Okay
95 Att:     Even if she does get a little hyper er
96          aggressive (.) likely to get (.) better and
97          go back to normal within a couple weeks.
98 Tor:     Okay=hh
99          (0.8)
```

In response to Tim's resistance, the attending assumes a more certain stance regarding the safety of the drug in Tina's case — emphasizing again that "a small minority, of kids" (lines 91-92) become hyperactive, and "High functioning kids like her are at a lower risk_" (lines 92-93). Moreover, the attending indicates that even if Keppra does engender undesirable side effects, they would likely be short-lived (lines 95-97). Despite these efforts to persuade, however, neither Tori nor Tim explicitly agrees with the recommendation at this point: Tori provides only acknowledgment (line 98), and Tim withholds uptake entirely (line 99).

Over the next few minutes, the attending utilizes similar persuasive resources in pursuit of buy-in, but Tori and Tim continue to withhold it. Subsequently, in Extract 3.4d, Tori indirectly resists the recommendation, likely on Tim's behalf, on the basis that perhaps what she has seen at home is not, in fact, indicative of seizures (lines 190-193). In the face of this resistance, the attending physician assumes a more certain stance vis-à-vis the status of Tina's episodes as seizures (lines 194-195).

Extract 3.4d — [P07-1r]

```
190 Tor:     Yeah. <I mean (.) #e# So the thing that makes
```

```
191          me like So I was I'm still (.) doubting myself
192          because I feel like, Oh, maybe I'm the only one
193          who look- like seeing it Uhm [and]
194 Att:                                [ I ] think you're
195          actually right this time. ((shifts gaze to Tim))
196 Att:     My apologies.
197 Tim:     No no that's okay, That's okay,
198 Att:     Heh heh
```

Thus far the attending has modulated the certainty of his diagnosis by assuming a more certain stance vis-à-vis Tina's episodes as seizures. However, Tori and Tim have indirectly resisted his recommendation to treat Tina with Keppra. In Extract 3.4e, Tim explicitly resists the diagnosis, and thereby the treatment recommendation, through suggesting alternative, mundane explanations for Tina's staring spells (lines 219-225). At this point, the attending *upgrades* the certainty of his diagnosis much more strongly — asserting that the neurology team is "essentially sure these are seizures." (lines 226-227).

Extract 3.4e — [P07-1r]

```
219 Tim:     But she just start school so she's in a learning
220          process different things different experiences
221          you know. Yeah but I don't (.) w'l she's more
222          focused on her she spends more time so I don't
223          want to say oh no I don't youknow you're wrong
224          it is natural (but like) come to the professional
225          and see [ youknow ]
226 Att:             [(I'd say)] We're we are essentially
227          sure these are seizures.
228 Tim:     Yea:h_
229 Tor:     Okay_
230 Att:     And the goal of therapy >if we get rid of
231          these episodes< there's a si:de goal that
232          is (maybe her learning will get better.)
233 Tor:     Okay_
```

Across a series of sequences, the attending upgrades the certainty of his diagnosis from somewhat certain ("we suspect that these are actually are seizures.") at lines 1-2 to near-absolute certainty ("we are essentially sure these are seizures.") at lines 226-227. Extract 3.4 demonstrates that physicians can modulate certainty as a persuasive resource in inhospitable environments where they have reason to *anticipate* parent resistance and in *response* to resistance when it materializes. Moreover, physicians can and do combine certainty modulations with other persuasive resources in pursuit of parent buy-in.

3.5 DISCUSSION

The rise of patient-centered medicine coincided with the reduction of medical authority over the past several decades. While there is evidence to suggest that the expression of authority in medical care has softened since the mid-20th century (Heritage and McArthur 2019), there is also evidence to suggest that physicians are fully capable of overcoming resistance to their assessments and advice (Stivers and Timmermans 2020; Tate 2020). The present study contributes to the literature on medical authority by documenting one method by which physicians can enact their expertise that is perhaps less obvious than the design of their recommendations or diagnoses. Yet, as a persuasive resource modulating certainty inherently points to a reduction in medical authority. By engaging in persuasion, physicians implicitly treat parent buy-in as something that must be secured rather than something that can be taken for granted (Starr 1982). In these visits, physicians orient to parent agency by pursuing parent buy-in, but they continue to express medical authority (albeit delicately) to exert control over visit outcomes. When physicians are overly paternalistic in their approach to the doctor-patient relationship, satisfaction with and adherence to medical advice worsen (Korsch and Negrete 1972). However, when patients are heavily engaged in their care, their involvement does not guarantee optimal outcomes. Parent pressure for antibiotics, for instance, can lead to inappropriate prescribing in discrete visits and ultimately this has the potential to accelerate global antibiotic resistance (Stivers 2007).

In this chapter, I have argued that physicians *modulate certainty* as a means of pursuing parents' buy-in on diagnoses and treatment recommendations. I have shown that modulations of certainty are used in interactional environments that are inhospitable (e.g., Extracts 3.1, 3.3, and 3.4) but they are not used in hospitable environments (e.g., Extract 3.2) despite the presence of uncertainty in both contexts. Moreover, I have shown that modulating certainty is one of many persuasive resources that can be combined to pursue parent buy-in either in anticipation of resistance or in response to it. Finally, I have shown that when parents do buy into a previously resisted recommendation, clinicians cease modulations of certainty, and this suggests that buy-in is the end to which modulation was employed all along. Taken together, the evidence suggests that notwithstanding the rise of patient engagement and decline of medical authority relative to parent authority, physicians continue to express their authority in ways that shape visit outcomes in the pediatric neurology context. Future research should consider the full range of ways that physicians can express medical authority, either directly or indirectly, and how these might be shaped by the care context (e.g., primary vs. specialty care). Moreover, future research should examine the use of certainty modulations by patients and parents as well.

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CHAPTER 4

When Good News Falls Flat: Complications in the Delivery and Reception of Good News

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4.1 INTRODUCTION

The social distribution of knowledge and interpersonal relationships come together in our everyday lives when we deliver and receive news (Maynard 1997, 2003; Raymond and Heritage 2006; Sacks 1967; Terasaki 1976, 2004). If a friend tells you that she is pregnant, it may seem easy to determine what kind of response would be prosocial — a positive assessment or congratulations, for example. These reactions do two important things: (1) they treat the informing *as news*, and (2) they assess the news as positive. Assessments in this context can be either affiliative if they match or disaffiliative if they conflict with the teller's position. Consequently, assessments in the news delivery context can affirm social relationships or undermine them. When you respond to your friend's pregnancy announcement with a positive assessment, you respond as someone who is close enough to her to know that this news is good. However, responding to good news is not always as straightforward as one might expect. Indeed, you would likely have more trouble formulating a prosocial response to your friend's pregnancy announcement if you knew that her husband had undergone a vasectomy in the past (cf. Maynard 2003:19–20). Nevertheless, her announcement is still news to you, and the information it conveys must be taken up in some way.

Although popular belief tends to regard good news as easy to deliver and receive, systematic research on news deliveries shows that participants engage in complex interactional work to collaboratively achieve the status of an announcement as news and, moreover, as news of a particular type, e.g., as good, bad, funny, or sad (Maynard 1997, 2003; Terasaki 1976, 2004). From this perspective, the valence of news as “good” or “bad” is jointly negotiated in and through its delivery and reception rather than inherent in its content. This is also true in specialized institutional contexts such as medicine where doctors and patients can find themselves at odds over the valence of medical facts. For instance, physicians routinely present the exclusion of serious diagnoses as patently good news, but patients treat these exclusions as a failure to adequately explain their presenting complaints (Maynard and Frankel 2006). Alternatively, patients may orient to undesirable implications of news that is ostensibly good — e.g., when patients feel too ill to work but their medical evaluations indicate that they are too well to qualify for disability assistance (Maynard 1997). Consequently, each news delivery holds the potential to both generate social solidarity and jeopardize it.

In this chapter, I consider how knowledge and interpersonal relationships play out in news delivery sequences where physicians deliver *good news* to patients and their families in pediatric neurology visits for vEEG testing. I find that these sequences are occasionally fraught with hesitancy and become protracted as a result. This initial observation poses a puzzle: Why is good news sometimes challenging in pediatric neurology? To approach this puzzle, I ask what drives this interactional trouble and argue that some of the difficulty associated with good news arises from its structure. I will argue that in these encounters, physicians prioritize the informing component of the news over their evaluation of it, but parents tend to treat both components as necessary before they are willing to assess the news. When physicians fail to provide either component parents orient to news deliveries as incomplete, leading to both parties, at times, looking for more. This not only causes difficulties in parents’ reception of the news but also leads to protracted news deliveries.

4.2 BACKGROUND

4.2.1 The Dual Imperatives of News Deliveries

The knowledge and affiliation dimensions of news are embodied by what I call the *dual imperatives of news deliveries*: (1) the news should *inform* the recipient, and (2) the recipient should *affiliate*, i.e., the news should be taken up in a way that supports the teller's position. Existing research provides empirical support for these imperatives by reference to the complementary conduct of the teller and recipient (Maynard 1997, 2003; Terasaki 1976, 2004). Specifically, news delivery sequences represent a course of action where one participant proposes that some piece of information is news to a recipient, and the recipient then confirms (or not) the newsworthiness of this information. If the recipient rejects the newsworthiness of the informing, i.e., if the informing imperative has not been satisfied, then the sequence is usually aborted. However, if the recipient confirms the newsworthiness of the informing, then the teller typically develops it further, and the recipient should ultimately display their stance toward the news with an assessment. The final move of the news delivery sequence represents an opportunity for affiliation — if the news recipient's assessment supports the teller's stance vis-à-vis the news' valence, then it will serve to generate affiliation and satisfy the second imperative of news deliveries in the process.

4.2.1.1 The informing imperative

Support for the informing imperative comes from prior research that has shown that speakers consistently work to avoid telling recipients things that they already know, which would erroneously cast them as uninformed. Sacks (1973:139) made the case for there being a normative constraint on telling people what they know, and additional support came with the identification of specific interactional practices that participants deploy to avoid this situation. For instance, before presenting information *as* news speakers routinely implement preliminary sequences (Holt 1993; Schegloff 1988; Terasaki 1976, 2004) and prefaces (Sacks 1974; Sacks and Schegloff 1979). These are at least partially dedicated to establishing whether the recipient of a prospective news delivery will hear the information *as* news (e.g., *Did Joey tell you the news?*) while also allowing for the possibility that the recipient is already informed and providing an opportunity for this to be conveyed in advance (Terasaki 1976, 2004).

Beyond showing that speakers avoid telling others things that they already know, prior research has also demonstrated that speakers work to make their news informative in a variety of ways. For example, tellers often design announcements in ways that *renew* their newsworthiness in contexts where a recipient may have prior knowledge of the news. As Goodwin (1979) observed, a husband's report that he quit smoking to a mixed group of recipients has the problem that while others do not know he quit, his wife does. How can he satisfy the informing imperative for all recipients? He begins with "I gave up smoking cigarettes::." but then adds, while directing his gaze to his more informed wife, "one-<u>one</u> week ago t'da:y. acshilly," (Goodwin 1979:98). Thus, marking the occasion as a milestone in his move to quit smoking makes this announcement newsworthy to both his wife and their guests.

4.2.1.2 The affiliation imperative

The affiliation imperative has significant implications for the relational dimension of news deliveries which is primarily driven by the extent to which interlocutors agree on the type of news that it is, e.g., as good, bad, funny, or sad. Goffman (1955:213) synthesized the social norms of interpersonal relationships in the concept of *face* — the sense of self that manifests publicly through the flow of social interaction as dimensions of participants' identities are claimed or imposed and affirmed or undermined. Brown and Levinson (1987) subsequently extended this conceptual framework by differentiating between *negative face*, the human desire to be unimpeded in one's actions, and *positive face* or the desire to be understood and affirmed in social interaction. This is precisely what is at stake in the context of news deliveries: If the recipient does not have access to the teller's stance regarding the valence of the news, then the recipient will likely encounter difficulty in formulating an affiliative response, and a failure to affiliate in this context is face threatening (Goffman 1955). Specifically, it jeopardizes the teller's positive face (Brown and Levinson 1987). For this reason, when the teller's stance toward the news is unclear, the ambiguity can create an "affiliation problem" for the recipient (Stivers, Rossi, and Chalfoun 2022:1558).

To mitigate this threat, speakers may embed evidence of their stance toward the news in their delivery of it. For example, while speakers may use pre-announcements as a means of gauging whether their recipients already know the news, these preliminary utterances can also indicate the speaker's stance vis-à-vis its valence (e.g., *Did Joey tell you the good news?*). Moreover, while pre-sequences are designed so that sequences can be aborted if a recipient has already heard the news, the practice of prefacing the news in a multi-unit turn is largely oriented to conveying the speaker's stance toward it (e.g., *The funniest thing happened on the way here* vs. *I had the worst drive here*). When speakers build assessments or characterizations of the news into their pre-announcements and prefaces of it they aid in the second imperative of news deliveries by projecting what kind of response would be affiliative (Terasaki 1976, 2004).

When recipients have, or believe they have, access to the teller's stance toward the news, they can readily manage the dual imperatives of news deliveries from second position. One common way that recipients address both of the critical features is through the use of “oh” + assessment in response (Heritage 1984). Deploying a change-of-state token (“oh”) in turn-initial position displays that the speaker has registered the prior turn *as news*, and the subsequent assessment shows what the speaker has made of it, i.e., whether it be good, bad, funny, or sad (Heritage 1984). While the change-of-state token registers the newsworthiness of the announcement, the subsequent assessment generates affiliation when displaying a stance toward the news that matches that of the prior speaker. However, the affiliation imperative is complicated by the fact that news deliverers do not always have primary rights to ascribe valence to the news they convey.

4.2.2 Relative Rights to Ascribe Valence to News

While valence (e.g., the good, bad, funny, or tragic character of the news) is best understood as a negotiated product of collaborative social interaction, participants nevertheless have asymmetrical roles in establishing it (Heritage and Raymond 2005; Maynard 2003; Raymond and Heritage 2006). Maynard (2003:89) shows that participants engaged in the delivery and reception of news orient to the consequences that it has for specific individuals or the “consequential figures” of the news. He argues that the relative rights to ascribe valence to the news are directly associated with the degree to which the respective participants will be affected by it. If the news is consequential for the recipient, rather than the teller, then the recipient has a more pronounced role in shaping its valence (Maynard 2003). There are three basic permutations of news deliveries in this regard: the teller announces news that is primarily about, and of consequence for, (1) themselves, (2) the recipient, or (3) a third party. The relative rights associated with each of these configurations are summarized in Table 4.1.

	News Mainly Consequential for...			Primary Rights to Ascribe Valence
Teller	X			Teller
Recipient		X		Recipient
3rd Party			X	Participant Closest to 3rd Party (otherwise defaults to Teller)

Table 4.1: Primary Rights to Ascribe Valence

In each version outlined in Table 4.1, the rights to ascribe valence are shaped by the consequences of the news, or more specifically, who must ultimately bear them and to what extent. When the news is about a third party, the participant closest to the third party has primary rights to ascribe valence to the news. That is, through their social relationship to the third party, the teller or recipient (or both) will also be affected by the news, albeit to a lesser extent. If the news affects neither the teller nor recipient then, by virtue of going first, the teller has primary rights and opportunity to ascribe valence, and, by virtue of going second, the recipient is generally in a position to affiliate with the teller’s stance on the matter (Heritage and Raymond 2005). This holds for news that is similarly consequential for both deliverer and recipient — e.g., when a father tells his son that his mother has cancer (Beach 2002).

4.2.3 News Deliveries in Medical Contexts

Managing the dual imperatives of news deliveries can be challenging for both teller and recipient and this is particularly true in the domain of medical interaction. Although the informing imperative of news deliveries is often assured by virtue of patients’ lack of independent access to test results and the like, the affiliation imperative can be difficult to achieve. In this context, physicians deliver news that they have primary rights to know about but which primarily concerns and is of consequence to patients and their families. This can make the affiliation imperative of news deliveries challenging for three main reasons: First, patients and their families may not be able to appreciate the full range of implications that the news will have for them and thus may struggle to determine whether the news is good or bad. Second, parents may fully understand how the news will affect them but may be hesitant to encroach on physicians' epistemic rights to medical knowledge. Third, physicians and families may orient to the news differently. Perhaps nowhere is this more evident than in the pediatric context where parental authority and medical authority sometimes collide. For instance, when physicians present the exclusion of diagnoses (e.g., *your son's episodes aren't seizures*) as good news, parents sometimes orient to this as problematic because it fails to address their presenting complaint, and they may design their responses to expose this "symptom residue" rather than to affiliate with the physician (Maynard and Frankel 2006). In cases such as these, physicians engage in what Maynard (1997:119) calls "problematic presumptiveness" where their presumptive orientation toward the news' valence does not jibe with parents' treatment of the news upon its delivery. Occasionally this can be exploited to temper ostensibly bad news: By foregrounding good elements of bad news physicians and families can make news *bivalent* (Stivers and Timmermans 2017).

Researchers have examined the delivery of diagnostic news after autism evaluations (Gill and Maynard 1995; Maynard 2003), pediatric primary care visits (Stivers 2007), and genetic screenings (Stivers and Timmermans 2017), among others. What is clear from these studies is that parents evaluate the news for what it means for them and their children. However, less is known about the extent to which physicians and parents orient to the relative rights and obligations associated with news deliveries in these highly specialized contexts. This leaves open the question of how the dual imperatives of news deliveries are managed when issues related to who has primary rights to evaluate the news and what constitutes affiliative uptake become more complicated.

In this chapter I target news deliveries in pediatric neurology visits for vEEG monitoring. Here, news deliveries normally involve an informing such as a statement about the presence or absence of seizure activity as well as sometimes a further informing about how this may alter treatment. However, while physicians may have primary rights to interpret the vEEG data and deliver the news, parents have primary rights to assess the news in terms of what it means for their family. As tellers, physicians are well positioned to comply with the informing imperative of news deliveries but how do they manage the affiliation imperative in light of the complications outlined previously? This chapter explores whether, how, and to what extent physicians and parents orient to the dual imperatives of news deliveries in the pediatric neurology context.

4.3 DATA AND METHODS

Data for this study come from a corpus of video-recorded pediatric neurology visits for overnight vEEG testing. These data were collected in a teaching hospital located in Southern California in 2018. The corpus contains recordings from three phases of the visit: (1) admission interviews, (2) the neurology team reviewing the vEEG data in the lab, and (3) the rounds phase where the neurology team reports their findings to the families. The present study focuses on the "rounds" phase of these visits, which comprises 38 discrete encounters. All participants provided their informed consent to be included in this study; IRB approval was obtained in advance; and all identifying references to persons and places have been replaced with pseudonyms to preserve confidentiality.

When the neurology team sets out on rounds the morning after overnight vEEG monitoring, they stop at each patient's room to report preliminary findings. In most cases, but not all, this entails delivering (un)desirable news of some kind. In building a collection for analysis, I excluded cases that did not involve the presentation of findings. This happened when, for instance, the neurology team requested that the patient stay for a second night of observation, and thus testing remained "in progress." After excluding such cases, a collection of 25 encounters remained.

For the purposes of this study, valence statements are operationalized as utterances that display an evaluative stance vis-à-vis the news to which they refer. Consistent with prior research in this domain, preliminary review of the initial collection confirmed that participants orient to "bad" news in ways that diverge from cases where the news was treated as "good" or desirable. For instance, explicit characterizations of the news as "bad" were virtually non-existent in the corpus (Freese and Maynard 1998). Yet, valence is typically conveyed overtly in cases where the news is good (Maynard 2003). This overt or "on record" treatment of valence offers greater analytical leverage and clarity, and it is for these reasons that the present study deals exclusively with cases wherein at least one participant characterizes the news as good or desirable in some way. Of course, this operationalization is imperfect: Parents can, and sometimes do, orient to news as bad even when the clinician has treated it as good. The reverse is also occasionally true. Consequently, primary attention is given to cases in which physicians and parents ultimately arrive at a mutual orientation toward the news as "good" or desirable overall. Application of this operationalization to all 25 cases in the collection led to the exclusion of eight visits involving the provision of “bad” news. However, the exclusion of these cases should not be taken to imply that “bad” news cannot or should not be the subject of similar analytical investigation. Rather, the present study is best understood as an initial step which will ideally inform the analysis of these cases in future research. That said, the current study is based on a detailed examination of the 17 “good” news delivery sequences.

This study utilizes conversation analytic methods to identify patterned usage of interactional practices in the context of news deliveries (Sacks, Schegloff, and Jefferson 1974; Sidnell and Stivers 2013). Consistent with the principles of conversation analysis, data were transcribed in detail following Jeffersonian transcription conventions to capture various features of voice quality such as amplitude, stress, and tempo (*Appendix A*) (Hepburn and Bolden 2013). I then built a collection comprising all news delivery sequences in my data and refined this collection based on the operationalization discussed previously. Analysis of the core collection proceeded in two phases: First, I identified the primary components of the news delivery sequences in these data. Second, I looked for patterns relevant to these components. My analysis focuses on participants’ orientations as they are delivering or receiving news; parent uptake of the news; and whether and how these news delivery sequences are expanded. In line with CA methods, I also took into account the relative frequencies of particular elements of news deliveries, their uptake, and their expansions. Accordingly, I analyzed each case separately and worked to identify regularities across the collection (Schegloff 1997). In what follows, I present this analysis in detail.

4.4 ANALYSIS

I will first provide evidence for my claim that parents tend to treat news deliveries as incomplete if either the information component *or* the evaluation component is missing. *Section I* of the analysis focuses on cases where physicians provide the informing, typically the selective presentation of vEEG findings, such as the presence or absence of specific epileptiform activity, without characterizing its valence. Drawing on responses to these informings as my primary evidence, I argue that parent conduct embodies a reluctance to assess the news ahead of the physician. *Section II* focuses on cases where clinicians foreground evaluations of the news, typically the explicit characterization of the news as good or desirable. Here I show that although parents tend to treat physicians' evaluations of the news as a necessary condition for their own assessments, as with the informing components, parents do not typically treat these evaluations as sufficient on their own. In *Section III*, I show that although parents treat both the informing and the physician's evaluation of it as necessary before they are willing to assess the news, physicians tend to orient to parent uptake as due upon the provision of the informing regardless of whether they have evaluated it themselves. Moreover, I argue that unlike parents, physicians tend to prioritize the informing component of the news over their evaluation of it, putting them at odds with parents in terms of what constitutes a complete news delivery. Finally, in *Section IV*, I argue that while informings represent a necessary condition for parent uptake, not all informings are treated as sufficient. I consider how physicians and parents negotiate the adequacy of news deliveries in this context. We begin by exploring parents' uptake of news as it is most frequently delivered, with the informing presented initially.

4.4.1 Section I — Foregrounding the Informing

When physicians provide the news informing without displaying their stance vis-à-vis its valence, parents generally fail to assess the news and, moreover, treat it as insufficient for them to assess until the physician offers an evaluation. These account for 71% (n=12) of cases analyzed for this study. While an informing without an evaluation can stand as a complete provision of news in some conversational contexts (e.g., *I got an A on my history test*.), I show that parents tend to treat the physician's evaluation of the news as a normatively required component of news deliveries in this context. This is evidenced by various features of parents' situated conduct including, for instance, their pursuit of a missing evaluation. This is readily apparent in Extract 4.1.

Ben is an eight-year-old in the clinic for routine monitoring. He is accompanied by his parents, Brittany and Bryan. In this case the fellow begins his news delivery with a pre-announcement that stops short of characterizing of the news' valence (line 1) in favor of foregrounding the informing (line 3).

Extract 4.1 — [P05-1r]

```
 1  Fel:     Alright so: the thing is the news=is:
 2  Bri:     [Yeah.]
 3  Fel:     [  Uh:]m (.) So no significant spike burden.
 4           (.)
 5  Bri:     O[kay.]
 6  Fel:      [Duri]ng sleep.
 7           (.)
 8  Fel:     Like I was talking about_
 9  Bri:     Uh huh.
10  Fel:     So: that's (.) nixed.
11           (.)
12  Fel:     None of that. .h >It< there wa:s (.)
13           spikes (.) during s:leep though,
14  Bri:     Uh hah,
15  Fel:     But it was so few that (.) >#ih#<=it's
16           not worth quantifying?
17  Bri:     >Okay,<
18  Fel:     Yeah. It was from: both sides of the brain?
19           [ A::nd   ]
20  Bry:     [Com- comp]arative tuh (.) previous: year.
21  Fel:     Yeah previous it's uh: (.) better.
22  Bry:     Better.
23  Fel:     Yea[h.]
```

```
24  Bry:        [Ok]ay.
25  Fel:     Uh::m >we don’t< (.) So we see spikes in
26           different (.) parts of the brain.
27           (.)
28  Fel:     We don’t see like a generalized (0.5) a:ll
29           brain spikes that were seen (0.3) °last time.°
30  Bri:     ‘kay:, [so  that’s::  ]
31  Fel:            [So in that way] it’s better.
32  Bri:     an improvement.
33  Fel:     Im improvement.
34           (0.3)
35  Bri:     Okah:_=
36  Fel:     =#Yeah.#
37           (0.3)
38  Fel:     So: (.) that’s kind of (0.3) where we’re at_
39  Bri:     K[ay_    ]
40  Fel:      [<So the]re’s nothing to treat. Acutely from
41           #our standpoint.#
42  Bri:     Okay,
43  Fel:     Yeah. Uh:m I’ll let Doctor Alberter: (0.2)
44           like (.) decide about the lamictal,
45  Bri:     Uh hah,
46  Fel:     Uh:m cuz not we’re not having any side effects
47           from i:t.
48           (.)
49  Fel:     Not at a high dose or anything_
50  Bri:     [Right.]
51  Fel:     [ So   ] (.) we don’t wanna stop it.=Uh:m (.)
52           without her: approval.=So I’d (.) just leave
53           it on #until#
54  Bri:     Okay,
55  Fel:     °#until then.#°
56  Bry:     [°Kay.°]
57  Fel:     [ <AND ] shi’ll see the full report of the EEG.
58  Bri:     Yeah.
59  Bry:     So it’s good news.
60  Fel:     Yeah.
```

Brittany receipts the informing with an acknowledgment token at line 5, which she produces in overlap with the fellow as he expands his turn with more contextual detail (line 6). At this point the valence of the news remains unstated: The fellow’s language is technical and vague insofar as “no significant spike burden” on the one hand sounds positive, but on the other hand, it implies at least some degree of “spike burden”; and neither “spike” nor “burden” sound promising on their own, let alone when combined (line 3). As is typical of these data, the parents treat this as an incomplete provision of the news. Brittany offers acknowledgments that reveal neither her understanding of the information nor her stance vis-à-vis its valence (lines 5, 9). Rather, they treat the news delivery as ongoing (Heritage and McArthur 2019; Jefferson 1981; Schegloff 1982).

Instead of evaluating the news at this point, the fellow expands his informing at lines 12-13 with another layer of factual detail that explicates his prior "no significant" formulation (line 3). Yet again, Brittany treats the news delivery as incomplete, receipting this information only with an acknowledgment token (line 14). And the cycle repeats once more as the fellow expands his informing with more factual detail (lines 15-16), and Brittany receipts this information with a continuative "Okay," (line 17) that registers the information but does not evaluate it (Guthrie 1997). With each increment of the informing the fellow generates structural opportunities for Ben's parents to display how they have understood the news, thereby treating an indication of understanding, such as an assessment, as relevant and invited. Yet, in withholding an assessment of the news thus far produced, Brittany and Bryan treat the informing as insufficient for them to evaluate on its own.

So far Brittany has acknowledged each detail offered by the fellow as part of his informing, but her response tokens do not treat the information as "good" or "bad" — i.e., she treats the description of results alone as insufficient for her to issue full receipt of the news. The fact that Ben's EEG revealed spike-wave discharges originating from both hemispheres of his brain may be viewed as self-evidently good or bad to members of the neurology team. Yet, this valence is embedded in medical knowledge to which the parents have both limited access and reduced rights. This epistemic asymmetry may help explain parents' reluctance to assess such results ahead of the physician, especially when you consider that first-position assessments, by virtue of coming first, "carry an implied claim that the speaker has primary rights to evaluate the matter assessed” (Heritage and Raymond 2005:16). Moreover, first assessments have a binding quality insofar as evaluating the news first implies that the speaker independently holds the stance embodied by their evaluation, which entails a degree of commitment to it as well as a sense of accountability for it. As we will see, parents routinely withhold assessments until clinicians evaluate the news. In this way, parents orient both to valence as a key component of news deliveries, and to physicians as having primary rights to ascribe valence to the news in this context.

We gain further support for the claim that the parents are “withholding” assessment as part of orienting to the news as incomplete in what comes next: In a context where the physician has expanded his informing with additional details but has refrained from evaluating them as positive or negative, Bryan explicitly seeks to draw out the clinician’s stance by broaching a contrast with Ben’s prior vEEG (line 20). Through inviting the fellow to compare the present vEEG with the previous one, Bryan generates the relevance of an assessment on the fellow’s part. However, this establishes the relevance of an evaluation in relative, rather than absolute, terms. In response, the fellow marks the *relative* valence of the present vEEG results, drawing on Ben’s prior vEEG as a baseline, as *better* than before (line 21), but this creates problems for affiliation (Stivers et al. 2022).

Typically, after one person provides a clear assessment of something, coparticipants will also provide an assessment (e.g., Pomerantz 1984). Here, the physician complied with Bryan’s comparative language, assessing the vEEG as *better*, but his stance regarding the present news remains ambiguous overall — it is unclear whether this news is to be taken as actually *good* or still *bad*, despite being *better*. This ambiguity appears to be at issue in what follows where, even after the fellow specifies how the current vEEG results are better (lines 25-29), neither Brittany nor Bryan readily treat the news delivery as sufficiently complete. Rather, Brittany issues a B-event question (Labov and Fanshel 1977:100) at lines 30 and 32 that displays her orientation to the fellow as having primary rights to assess the information he has presented. In an environment where the parents have yet to receipt the informing as good, this question format creates an opportunity for the physician and parents to converge on a mutual orientation toward the news' valence.

Further compelling evidence for this can be found at line 59, which comes after the fellow has indicated that he plans to defer to Ben's primary neurologist on all treatment decisions (not shown). Here Bryan reaches back to the news delivery and revives the relevance of agreement on the valence with a *So*-prefaced assertion that invites the fellow's confirmation — *So it's good news* (line 59). In prefacing his assessment with "so" Bryan treats valence as the upshot of the fellow's prior talk, and this may "imply that what had been conveyed inexplicitly, or en passant, has required resuscitation through its explicit articulation *as* the import of the speaker's (prior) talk" (Raymond 2004:188). When the fellow does finally, and unequivocally, confirm this at line 60, he does so with an interjection "Yeah."; however, contrast this with the fellow's repetitional response to a similar question at line 33, which serves more to confirm what he had been alluding to previously (Schegloff 1996). Interjections depend on the questions to which they respond for their intelligibility, while repetitions do not. Thus, at line 33 "Im improvement" asserts more commitment to the assessment than does "Yeah." at line 60 which simply aligns with Bryan's characterization of the news as good. This apparent reluctance to assert his evaluation of the news overall may indicate that the fellow is sensitive to the potential for downstream trouble resulting from such an evaluation. For instance, the news might be better than before in some ways, but it might not be exclusively good; and characterizing the news as good from the start could lead parents to overlook some of the complexity involved in the diagnosis and treatment of neurological conditions. Moreover, physicians' apparent reluctance to evaluate the news in some cases may also be indicative of an enduring orientation to "affective neutrality" among medical professionals (Parsons 1951).

Extract 4.1 represents a pattern in these data: Parents treat physicians as having primary rights to characterize the valence of the news they deliver and tend to withhold uptake of the news until the physician has evaluated it.[1] When parents do assess the news first they may nevertheless orient to the physician as having primary rights to evaluate it (Antaki 2012; Sidnell 2012; Stivers 2002).

We see this in Extract 4.2 with Walter who brought his 11-month-old son, Wyatt, in for vEEG testing. Just under two weeks prior to the present visit Wyatt presented to his neurologist with seizure symptoms indicative of infantile spasms. At that time, he was prescribed a short-term course of a steroid called prednisolone to curtail his episodes. The present visit is to evaluate the effects of the drug and, if it is not working, to pursue an alternative course of action to quell his seizure activity.

Extract 4.2 — [P28-1r]

```
 1  Res:     So we looked at the E E G:, (0.3)
 2           uhm And we didn't see any subclinical
 3           seizures? We didn't see any: spasms or
 4           anything_
 5           (.)
 6  Res:     Those uh:m the startles that
 7           you saw: (.) [(      )]
 8  Wal:                  [  Mhm,  ]
 9  Res:     They're just (like) (.) small twitches? But
10           nothing consistent °#with like an actual spasm.#°
11  Wal:     Okay_ ((nodding))
12  Res:     ↑Yeah so what we're thinking of doing is
13           that we'll probably send him home today:?
14           And we're gonna taper down the prednisolone?
15  Wal:     Okay.
             .
```

---

[1] Parents were first to characterize the news' valence in just 24% of the cases (n=4).

```
             .
             .
56  Res:     Yeah_ .h Uhm so we’ll s:lowly taper
57           that o:ff, other medications I believe
58           we’ll keep the same? .h Uhm and then we’ll
59           get him (.) get you guys home today?
60  Wal:     Okay. [Not a problem.]
61  Res:           [    Any   ques]tions for us?
62  Wal:     .h Uhm no #I don’t think so# I mean (.)
63           sounds like all great news.
64  Res:     Yeah_ Good news.
65   2+:     Heh heh
66  Att:     Yeah we were really pleased by what we saw
67           (on thee) E E G.
68  Wal:     O[kay. ]
69  Att:      [<It’s] not completely normal:, but [that-‘s]=
70  Wal:                                          [Right. ]
71  Att:     =to be expected_ But it’s a lot (.) uh there’s
72           a lot of reassuring °#things in there too.#°
73  Wal:     #Okay,# Alright.
```

As with Brittany and Bryan, when the resident foregrounds the informing (lines 1-7, 9-10) Walter responds with continuers and minimal acknowledgments (lines 8, 11), treating the news as incomplete (Heritage and McArthur 2019; Jefferson 1981; Schegloff 1982). The resident then provides a plan of action that entails discharging Wyatt and tapering his prednisolone (lines 12-14). After a brief discussion of the titration schedule (not shown), the resident signals completion of her extended telling by re-invoking the plan to discharge Wyatt (lines 58-59).

Walter accepts the treatment plan thereby providing for closure of the treatment recommendation sequence (line 60), but, unlike Brittany and Bryan, he does not go further to elicit the physician’s evaluation of the news here. However, when the resident subsequently projects that she is ready and willing to close the news delivery sequence — “Any questions for us?” (line 61) — Walter orients to the news’ valence as missing (lines 62-63).

First hesitatingly (“Uhm”) and with mitigation (“think”), Walter passes on the opportunity to ask questions (line 62). He then self-repairs with “I mean” before producing an assessment but even here, at the end of the news delivery, he downgrades his assessment with the evidentially marked “sounds like” at line 63 (Raymond and Heritage 2006). Thus, his valence is presented for the physicians’ confirmation rather than spoken as a declaration on his own behalf (Sidnell 2012). Through inviting confirmation, Walter orients to the physicians in the room as having primary rights to know and to evaluate the news, and the resident aligns with this epistemic positioning when she designs her response as a confirmation followed by an assertion that the news is in fact good (line 64). Note also that here the resident responds with an interjection followed by a downgraded repetition (Stivers 2022) “Yeah_ Good news.”; and this might speak to her reluctance to be overly optimistic in conveying complex or ambiguous news. Indeed, as we see subsequently, the attending concedes that the news is not exclusively good (lines 69, 71-72).

Like Extract 4.1, the clinician in Extract 4.2 does not evaluate the news at her own initiative. Rather, she presents an informing through a series of facts delivered in a relatively neutral manner; that is, without evaluative terms that would reveal her stance vis-à-vis the news’ valence. Consistent with Extract 4.1, the parent in Extract 4.2 orients to the valence of the news as relevant but absent. These informings without evaluations constitute the vast majority of cases, and this suggests a striking contrast between how clinicians approach news deliveries (as primarily about the informing) and how parents approach them. When physicians provide only the informing component parents consistently treat the news as incomplete by producing continuers but withholding more substantive uptake. If withholding uptake does not lead the physician to characterize the news’ valence, parents have other practices for securing an evaluation including, as we saw in Extracts 4.1 and 4.2, proffering a candidate one for the clinician’s confirmation. This indicates that parents might prioritize the physician’s evaluation of the informing over the informing itself. However, the present section leaves this largely unexplored. In the next section we will see what happens when physicians lead their news deliveries with an evaluation of the news rather than the informing.

4.4.2 Section II — Foregrounding the Evaluation

Thus far we have seen that when physicians foreground the informing component of their news deliveries without displaying their stance vis-à-vis its valence parents withhold uptake and thereby treat the news delivery as incomplete. This suggests that parents orient to informings as insufficient for them to assess on their own in this context. In a minority of cases, however, physicians do lead their news deliveries with an evaluation (29%, n=5). In this section I argue that the presentation of a valence characterization without an informing is *also* treated as insufficient for parents to respond with an assessment. Thus, I will argue that for parents news delivery sequences should include both an informing and an evaluative component from the physician.

Cases where physicians foreground their evaluation of the news include those like: “So we have good news on her EEG,”. In these cases physicians present their evaluation of the news as the *headline* of it (Button and Casey 1985). Although a report of good news can be sufficient to engender rapid affiliative uptake before the news is unpacked in some conversational contexts (e.g., when telling your family that you have good news upon returning home from a job interview), I offer evidence that parents routinely treat such evaluations as prefatory in the context of vEEG news delivery and as insufficient for uptake on their own. Thus, while parents treat the physician’s evaluation as a necessary condition for their own assessments, they do not treat it as a sufficient condition on its own.

The patient in Extract 4.3 is Veronica, a developmentally disabled 16-year-old previously diagnosed with “electrical status epilepticus in sleep” (ESES). Her condition is characterized by near-continuous spike-wave discharges during sleep. Although this electrical activity is subclinical (meaning it cannot be observed in daily life as it happens), it interferes with normal cognitive development and can lead to cognitive decline when left untreated. Veronica’s psychiatrist prescribed an antibiotic (minocycline) in an attempt to reduce brain swelling, which could be provoking her ESES, but the effects of the drug on her brain cannot be assessed without the aid of a vEEG. For this reason, Veronica’s mother, Vickie, brought her in for testing.

Extract 4.3 begins as the attending physician characterizes findings from the vEEG (lines 1-2). In this case she immediately issues an evaluation of the news, “So we have good news on her E E G,” (line 1) and follows it with a valence-based gloss of the vEEG (line 2). Importantly, however, neither the pre-announcement nor the announcement proper articulates the basis for the valence they advance — i.e., the actual informing about the vEEG findings. In other words, the attending conveys *that* the news is good but not *what* the news is.

Extract 4.3 — [P21-1r]

```
 1  Att:      So we have good news on her E E G,
 2            It looks good_
 3            (.)
 4  Vic:      Yeah?
 5  Att:      °Yeah,° ((nodding))
 6  Vic:      Is it at zero or
 7  Fel:      Mmhm,
 8  Att:      Yeah_
 9  Fel:      ‘S [totally normal.]
10  Vic:         [    (Aw::h)    ]
11  Vic:      YAY HON[EY,     That’s     grea’        ]
12  Att:             [SO WE WANTED TO KNOW Who started]
13            the minocycline_
14            (0.4)
15  Vic:      Uhm: s:o it was uhm (0.3) Doctor: °Thames°
```

As a first form of support for the claim that physicians' evaluations of the news are treated as insufficient for meaningful uptake on their own, we can observe that Vickie, like the parents in Extracts 4.1 and 4.2, treats the news as incomplete (line 4). Initially Vickie does not respond at all (at line 3), and when she does respond it is with a request for confirmation (line 4). This generates an opportunity for the physician to articulate the information on which her positive evaluation is based. Known-answer requests for confirmation such as this are routinely used, and oriented to, as account solicitations (Raymond and Stivers 2016). Here we see that Vickie is orienting to an account for the positive evaluation of the news as not only relevant but as absent (and therefore as expected in this context): When the attending provides only a minimal confirmation (line 5), Vickie pursues a basis for the valence of the news (i.e., the informing) directly — "Is it at zero or" (line 6) — by reference to Veronica's spike-wave index. It is only after Vickie receives confirmation that Veronica's spike-wave index was at zero (lines 7 and 8) that she moves to affiliate with the attending. We see a big evaluative response at lines 10-11, first with the particle "Aw::h" and then with a loud "YAY HONEY," and finally with the assessment "That's grea'". Thus, again, the participants arrive together at a shared orientation toward the news' valence but only when both components of the news delivery are provided.

We see a similar pattern in Extract 4.4. The patient is 17-year-old Parker. He has had two lifetime seizures, neither of which occurred recently. However, his parents noticed that his legs jerk occasionally when he sleeps, so they brought him in for testing to determine the cause. Only Parker and his father, Paul, are present during the rounds phase of the visit. In this case the attending begins her news delivery with a valence characterization that serves as a headline for the news — "So uhm we have very good ne:ws." (line 1). The attending then goes on to produce an announcement at line 5 that utilizes an extreme-case formulation of a positively valenced gloss of the EEG as “co:mpletely normal.”; and this formulation may help legitimize her initial evaluation of the news as “very good” (Pomerantz 1986).

Extract 4.4 — [P18-1r]

```
 1  Att:       So uhm we have very good ne:ws. So Doctor
 2             Turner his neurologist is actually here and
 3             he’s [looking at th]ee E E G.
 4  Pau:            [ .tch=Okay.  ]
 5  Att:       .hh So the EEG looked (.) co:mpletely normal.
 6          -> (0.4)
 7  Att:       So no evidenc[e: o]f any potential=
 8  Pau:                    [Hm. ]
 9  Att:       =seizures: or anything [ like  that.        ]
10  Pau:                              [ >(Kay.) Good good.<]
11  Att:       So we can probably send him home today.
12  Pau:       Okay.
13  Att:       A’right?
14  Pat:       Uh huh.
```

However, as with Extract 4.3, Paul treats neither the valence-based preface (line 1) nor the valence-based gloss (line 5) of the findings as a complete provision of the news. An assessment from Paul is most clearly relevant at line 6 just after the attending’s gloss of the EEG as “co:mpletely normal.” (line 5). Yet, he withholds uptake until after the attending provides the informing — that there *is no evidence of any potential seizures* (lines 7, 9). As the attending rules out the possibility of seizures — the informing component of her news delivery — she makes the basis of her positive evaluation of the news available to Paul and he affiliates with her via a positive assessment of his own (line 10). Moreover, Paul’s assessment is designed as a “multiple saying” delivered in a single intonation contour (“Good good.”), which serves to deter further elaboration (Stivers 2004). In this way Paul treats the news delivery as complete immediately upon the provision of the second component of the news.

Taken together, Section I and Section II show that parents consistently orient to news as incomplete if either the informing or the physician’s evaluation of it are missing. Extracts 4.1 and 4.2 showed that when physicians present only an informing parents will pursue the physician’s evaluation of the news. This led me to consider whether parents *primarily* sought valence. If this were the case, we would expect parents to readily provide assessments when the physician foregrounds an evaluation of the news. Yet, Extracts 4.3 and 4.4 show that parents do not have an exclusive interest in securing the physician’s evaluation: Parents tend to wait when presented with an evaluation of the news and continue to withhold affiliation until a basis for the evaluation is provided. Thus, we see that physicians can foreground either the informing or their evaluation of it, but parents tend to treat both as relevant and expected prior to their own assessments. This model of news delivery is depicted in Figure 4.1.

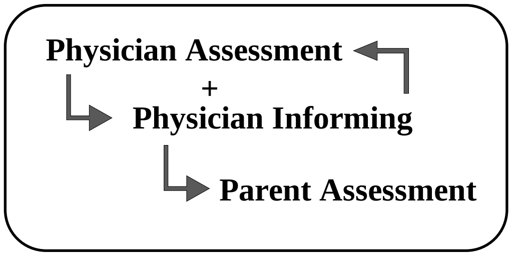

Figure 4.1: The Parent Model

As Figure 4.1 illustrates, physicians can foreground either the informing or their evaluation of it, but parents generally treat both as relevant and expected prior to their own assessments. This claim is supported by three key forms of evidence: (1) Parents tend to readily assess the news once both the informing and the physician’s evaluation have been provided; but (2) they tend to withhold uptake when only one component has been provided; and (3) if either component is absent, parents will usually solicit it.

4.2.3 Section III — Physician Pursuit of Parent Uptake

Although parents treat both the informing and the physician’s evaluation of it as necessary before they are willing to assess the news, physicians tend to orient to parent uptake as due upon the provision of the informing whether they have evaluated it or not. Drawing on both physicians' orientations to parent uptake and the fact that they lead their news deliveries with informings over 70% of time, I will argue that the physician model of news delivery is at odds with parents, focusing primarily on the informing.

In building a case for this claim I draw on prior research that has documented some of the ways in which physicians treat parent uptake as (un)necessary in particular contexts: While physicians rarely pursue parent uptake of diagnoses before advancing to the treatment recommendation phase of the visit (Stivers 2005), they consistently orient to parent acceptance of the treatment recommendation as necessary before the visit can progress further, and they actively pursue acceptance when it is not forthcoming (Stivers 2007). This is important for the present analysis because it offers two key points of analytical leverage for my claim that physicians pursue parent uptake of the news after the informing component has been provided: (1) When parents withhold uptake of the informing physicians tend to delay progressivity of the visit by producing incremental elaborations of the news that may add new, or recycle the same, information but do not advance the visit; and (2) as soon as parents take up the informing, usually with an assessment, physicians readily transition to the treatment recommendation phase of the visit.

In these data physicians orient to the relevance of parent responses which indicate not only that parents have heard the news (e.g., acknowledgments and continuers) but that reveal what they have made of it (e.g., assessments). When parents withhold these displays, physicians pursue them: In Extract 4.1 we saw that after the informing the physician pursues uptake from Brittany and Bryan as he creates multiple structural opportunities for them to respond. The first piece of information is provided at line 3. That receives an acknowledgment “Okay.”, and the fellow expands his turn at line 6, creating a new opportunity for parent uptake at line 7. When this receives no uptake, the physician then adds an increment — "Like I was talking about_" (line 8) — which provides neither additional information nor valence and thus fails to constitute progressivity. This creates another opportunity for uptake but receives only a continuer (line 9). The physician subsequently offers another increment (line 10) that again fails to constitute meaningful progress and again fails to elicit parent uptake. Notwithstanding this, the physician expands his turn further at line 12 with “None of that.”, which again creates an opportunity for parent uptake and receives none. The physician now, as is the case with physicians pursuing uptake of treatment recommendations, expands his informing about spikes during sleep again, thus treating the informing activity as incomplete rather than advancing the visit (lines 12-13). This receives a continuer and nothing more (line 14). Note that despite all of these opportunities for uptake, Brittany and Bryan consistently treat the physician’s news delivery as incomplete. At lines 15-16 the physician takes a slightly different tack, now assessing the incidence of the spikes as negligible but still failing to evaluate the news. This elicits an acknowledgment from Brittany that, while stronger than the continuers she issued previously, still fails to treat the news as good (line 17).

The physician now adds another dimension of the news, that it was from both sides of the brain, once again pursuing parent uptake. Finally, Bryan provides some insight into the problem as he issues a question that makes an evaluation from the physician conditionally relevant, as we discussed previously (line 20). While the physician does readily provide an evaluation here (line 21), note the many rounds of pursuit that have preceded this. Through his pursuit the fellow treats parent uptake after the informing not only as relevant but as absent and therefore as due in this context. Once they arrive at a mutual orientation toward the vEEG findings as “better” (lines

22-23), Bryan’s subsequent “Okay.” (line 24) takes on a sequence closing form thereby treating the physician’s evaluation as sufficient for that sequence to be closed. However, the fellow continues to pursue uptake as he elaborates the findings incrementally first at lines 25-26 and subsequently at lines 28-29, thus treating parent uptake of the informing as insufficient for activity closure.

Extract 4.1 — [P05-1r]

```
 1  Fel:     Alright so: the thing is the news=is:
 2  Bri:     [Yeah.]
 3  Fel:     [  Uh:]m (.) So no significant spike burden.
 4           (.)
 5  Bri:     O[kay.]
 6  Fel:      [Duri]ng sleep.
 7           (.)
 8  Fel:     Like I was talking about_
 9  Bri:     Uh huh.
10  Fel:     So: that’s (.) nixed.
11           (.)
12  Fel:     None of that. .h >It< there wa:s (.)
13           spikes (.) during s:leep though,
14  Bri:     Uh hah,
15  Fel:     But it was so few that (.) >#ih#<=it’s
16           not worth quantifying?
17  Bri:     >Okay,<
18  Fel:     Yeah. It was from: both sides of the brain?
19           [ A::nd   ]
20  Bry:     [Com- comp]arative tuh (.) previous: year.
21  Fel:     Yeah previous it’s uh: (.) better.
22  Bry:     Better.
23  Fel:     Yea[h.]
24  Bry:        [Ok]ay.
25  Fel:     Uh::m >we don’t< (.) So we see spikes in
26           different (.) parts of the brain.
27           (.)
28  Fel:     We don’t see like a generalized (0.5) a:ll
29           brain spikes that were seen (0.3) °last time.°
30  Bri:     ‘kay:, [so  that’s::  ]
31  Fel:            [So in that way] it’s better.
32  Bri:     an improvement.
33  Fel:     Im improvement.
34           (0.3)
35  Bri:     Okah:_=
36  Fel:     =#Yeah.#
37           (0.3)
38  Fel:     So: (.) that’s kind of (0.3) where we’re at_
39  Bri:     K[ay_    ]
40  Fel:      [<So the]re’s nothing to treat. Acutely from
41           #our standpoint.#
42  Bri:     Okay,
```

Across Extract 4.1 the physician appears to be looking for the parents to treat this as good news, but they appear to be waiting for the physician to indicate that this news is, in fact, good. Only once Brittany has independently registered that, and how, this news is good (lines 30 and 32) does the fellow move to begin discussing next steps (lines 40-41).

A similar pattern can be observed in Extract 4.4: Recall that in this case the attending physician starts with a valence headline, “So uhm we have very good ne:ws.” (line 1), and then produces a gloss of the vEEG findings as completely normal (line 5). Then, after nearly half of a second of silence in which no uptake from Paul is forthcoming, the attending expands her informing with an incremental elaboration — *so no evidence of any potential seizures or anything like that* (lines 7 and 9) — and this gets rapid evaluative uptake from Paul in last-item onset overlap (line 10). Immediately following Paul’s assessment of the news, the attending explicitly advances the visit, “So we can probably send him home today.” (line 11). Taken together, Extract 4.1 and Extract 4.4 provide support for my claim that physicians orient to parent uptake of the informing as relevant.

In addition to cases like Extracts 4.1 and 4.4, across these data physicians consistently treat substantive parent uptake as relevant and due following the informing component of the news. When the informing component of the news is not met with substantive parent uptake (n=8), physicians consistently pursue it (n=6, 75%); and most informings get substantive parent uptake eventually (n=16, 94%).

There is a minority of cases (n=2) where physicians do not pursue parent uptake of the initial informing about the vEEG findings (e.g., Extracts 4.2 and 4.3). In these cases, physicians prioritize the treatment discussion over pursuing parent uptake of the vEEG findings. In so doing, physicians orient to parents' prioritization of treatment implications as one possible account for their lack up uptake to the informing, but again, this is infrequent.

There is clear evidence in these data that physicians prioritize the informing over their evaluation of it: Physicians lead with informings far more frequently (71%, n=12); in some cases they work to delay (or avoid) expressing their evaluation of the news (n=5); and occasionally they indicate a readiness to close the news delivery activity before they have characterized news' valence (e.g., Extract 4.2). Thus, as Figure 4.2 illustrates, the physicians' model of news delivery differs from the parents' model in that priority is given to the informing.

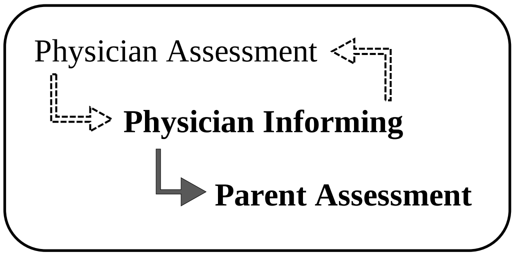

Figure 4.2: The Physician Model

Although physicians tend to prioritize information over evaluation in this context, parents treat both components as critical for the news delivery. When physicians fail to characterize the valence of the news, parents tend to withhold uptake. If withholding uptake does not elicit an evaluation from the physician, parents may pursue it explicitly. Consequently, news deliveries are prone to protraction when physicians withhold their evaluations of the news.

Since physicians deliver informings first most of the time, they may find themselves working to elicit parent uptake at a point that parents treat as "too early" because physicians have not yet provided their own evaluation. The result is, as shown in Extracts 4.1 and 4.2, protracted news deliveries where physicians are searching for a parent evaluation while parents are searching for a physician evaluation. By contrast, when clinicians include an evaluation of the news parents tend to respond with assessments leading to relatively short, unproblematic news deliveries. However, occasionally parents withhold uptake despite the presence of an informing and an evaluation (e.g., Extract 4.5, discussed below).

4.4.4 Section IV — Negotiating the Adequacy of Informings

While informings represent a necessary condition for parent uptake, not all informings are treated as sufficient. To support this claim, I examine how parents respond to clinicians' informings and how clinicians orient to these responses.

In Extract 4.1 we saw that in the absence of his own evaluation of the news, the physician pursues uptake from Brittany and Bryan as he creates multiple structural opportunities for them to respond by expanding the informing incrementally at lines 6, 8, and 10 (Ross 2021). Through his pursuit, the fellow treats parent uptake after the informing not only as relevant but as absent. Yet, Brittany and Bryan treat the fellow as having primary rights to characterize the valence of the news. In Extract 4.2 we observed additional evidence that parents treat physicians as having primary rights to evaluate the news (cf. Weiste, Voutilainen, and Peräkylä 2016). Although Walter does assess the news first, he does so cautiously with an evidentialized characterization presented for the physician's confirmation (lines 62-63) (Heritage and Raymond 2005). By contrast, we saw parents in Extracts 4.3 and 4.4 readily provide assessments after their physicians had presented both the informing and their evaluation of it.

However, much remains to be understood about how these components shape parent uptake. What exactly is it about an informing and an evaluation that makes the difference for parents? In this section I argue that not just any informing will suffice but rather an informing that addresses parents' primary concerns (e.g., their motivation for the present visit) paired with an evaluation that they can endorse. Thus, while a sufficient news delivery minimally contains an informing and an evaluation, the adequacy of each is jointly negotiated.

Extract 4.5 illustrates this. The patient is Dana, a six-month-old with a history of infantile spasms. Her grandmother, Doris, brought her in for this visit to assess the effects of a shunt that was surgically implanted to relieve pressure on her brain two weeks prior. During the admission interview Dana’s mother was also present, and she conveyed concern about the medication regimen the neurology team implemented following Dana’s procedure. As we will see, this turns out to have implications for the adequacy of the informing component of the news delivery. Here, as with Extracts 4.3 and 4.4, the clinician begins with an evaluation of the news (line 1). And, again, the recipient does not readily affiliate with the clinician’s stance. Rather, Doris responds with a *go-ahead* (Schegloff 2007:30) in the form of a continuer, “Mmhm,” (line 2), thereby treating the news delivery as ongoing (Heritage and McArthur 2019; Jefferson 1981; Schegloff 1982). The resident subsequently presents an informing — “No seizures. Overnight, no spasms.” (line 3). At this point the resident has produced both components of the news delivery that parents typically orient to as relevant, yet Doris provides only minimal acknowledgment (line 4). In the absence of uptake from Doris, the resident renews the relevance of an assessment by invoking Dana’s prior EEG as a baseline for comparison with the present EEG, which he characterizes as “a lot better.” (line 6). Based on Extracts 4.3 and 4.4 we would expect affiliation to be forthcoming once the resident has characterized the news as good and has made the basis for his stance both available to Doris, in the first instance (line 3), and relative to Dana’s medical history subsequently (lines 5-6). Yet in producing a continuer and nothing more, Doris continues to treat the news delivery as incomplete (line 7).

Extract 5 — [P24-1r]

```
 1  Res:     So good news,
```

```
 2  Dor:     Mmhm,
 3  Res:     No seizures. Overnight, no spasms.
 4  Dor: ->  ((Nods))
 5  Res:     Uh: overall compared to the last E Esh G:
 6           Dana got (.) it looked a lot better.
 7  Dor:     Mhm.
 8  Res:     Yihknow. Uhm (.) there’s still some signs
 9           that (.) potentially: she could (.) have
10           a seizure again_
11  Dor:     Okay,
12  Res:     Which is why we wanna continue on with the
13           medications,
14  Dor:     Okay
15  Res:     Like we talked about, .tch .hh uhm you know
16           the steroids,
17  Dor:     [Mmhm, ]
18  Res:     [She’ll] finish (.) in about two weeks,
19  Dor:     <Okay_
20  Res:     Uhm the Keppra: and the Topamax.
21  Dor:     ((Nodding))
22  Res:     Keep the same for now.
23  Dor:     Okay_
24  Res:     And then: uhm Doctor Crew: is filling out
25           the paperwork for the Vigabatrin.
26  Dor:     Oh Okay,
27  Res:     So you know even though we’re not seeing
28           spasms now (.) uh we often: like to use
29           the steroids and Vigabatrin together,
30  Dor:     Okah.
31  Res:     To make sure that the spasms don’t come back.
32  Dor:     Okay, [Good_]
33  Res:           [.tch ] °alright.°
34  Dor:     That’s good news.
35  Res:     °Yeah.°
```

At lines 8-10 the resident expands his informing to include a different dimension of the news, and as Doris acknowledges this (line 11), he goes on to recommend that Dana continue treatment (lines 12-13). Through his turn-initial “Which” (line 12), the resident designs this turn as an increment (Ford, Fox, and Thompson 2002; Schegloff 2016), thus “skip-tying” back to his prior utterance (see Sacks 1995:734) and leveraging it as an account for his recommendation to continue treatment.

Finally, having reviewed the treatment plan, the resident orients to uptake from Doris as still relevant yet absent, joining an item of news “So you know even though we’re not seeing spasms now” with the treatment plan “we often: like to use the steroids and Vigabatrin together,” (lines 27-29). In this context, *you know* serves to re-invoke the recipient's support and thereby renews the relevance of affiliation (Clayman and Raymond 2021). When Doris offers only acknowledgment (line 30), the resident treats this as insufficient: By again designing his next utterance as an increment of his prior turn (line 31), the resident sequentially deletes Doris's acknowledgment (Jefferson 1978) and thereby renews the relevance of a response to his informing. This incremental construction provides support for the claim that physicians treat an assessment as relevant and expected once their evaluation of the news and the basis for their evaluation have been made available to parents. Through this incremental elaboration, the resident creates a series of structural opportunities for meaningful uptake to materialize. Eventually the resident's technique proves successful: After accepting the treatment recommendation (line 32), Doris finally produces an assessment — "That's good news." (line 34).

Thus far we have seen *that* incremental elaboration of the news can engender uptake, but we have not yet considered *how* this works or, more importantly, *why* it was necessary in the first place. Based on my claim that parents withhold uptake of the news, usually in the form of an assessment, until the physician has presented both an informing and an evaluation, we would expect Doris to produce an assessment as early as line 4. Yet, Doris continues to withhold uptake long after both components have been presented; and although we might have expected this to be a harbinger of disagreement, Doris ultimately does affiliate with the resident (line 34). What can account for her apparent reluctance to treat the news delivery as sufficient after the resident's initial informing and evaluation? Recall that during the admission phase of the visit Dana's mother and grandmother were both present. At that time Dana's mother indicated that she was not happy with the medication regimen that the neurology team had implemented. In her view, the prescribed drug cocktail was excessive for a baby. Thus, here a key part of the news is that Dana will be able to stop taking some of the prescribed medications soon. This serves as the basis for a positive characterization of the news that Doris can endorse, and once the resident makes it available, she affiliates with him explicitly (line 34).

Extract 4.5 shows that the adequacy of the informing underlying an evaluation is subject to negotiation and can be contingent on parents' concerns about the child, which suggests that valence is morally accountable (Garfinkel 1967). This adds an additional analytic layer to my previous claim that for parents both components of the news delivery are relevant, and they treat either component as absent until both are provided. Specifically, it shows us that parents do not treat just any informing as sufficient when paired with an evaluation but one that addresses their primary concerns (in this case, the treatment implications of the news). Thus, incremental elaborations of the news are successful insofar as they allow physicians and parents to jointly negotiate the adequacy of the informing and evaluation components of the news delivery. Parents can withhold uptake until the informing addresses their primary concern(s) and physicians can elaborate incrementally until parents orient to the news delivery as sufficiently complete.

4.5 DISCUSSION

This chapter began with the observation that good news can be difficult to deliver and receive. Contrary to common perceptions of good news as unproblematic, I have shown that trouble can arise in the course of negotiating what the news is and how it should be taken. Of course, some of this difficulty can be attributed to clinical uncertainty, which can make delivering news inherently difficult. Indeed, part of what makes good news deliveries arduous is in this context is that they are rarely clear-cut — unlike HIV tests which are typically reduced to either HIV positive or HIV negative outcomes, vEEG results are complex and somewhat subjective (Hussain et al. 2015). However, I have argued that, in addition to this inherent difficulty, there are structural features of news that make it challenging in this context.

The present study contributes to the literature on news deliveries in the following ways: I have shown that the dual imperatives of news deliveries can become complicated in medical contexts when the relative rights to ascribe valence to the news diverge from those observed in everyday life. As we saw in Section I, the relative rights associated with negotiating the valence of news come into conflict in the pediatric neurology context: Generally, when the recipient of some news is its main *consequential figure* then the recipient has more control over the negotiated valence of the news (Maynard 2003:113); and they can claim primary rights to characterize the news by virtue of evaluating it first (Heritage and Raymond 2005); however, physicians have epistemic primacy over medical science (Heritage 2021). Consequently, if parents assess the news first, they risk being heard as claiming epistemic primacy over matters that fall within the physician’s domain. Insofar as this could be face threatening for physicians and parents alike, the latter may be reluctant to assess the news first. Yet, when physicians delay or equivocate their evaluations the resulting ambiguity can create a face-threatening “affiliation problem” of its own (Stivers et al. 2022:1558), and efforts to resolve it can result in protracted news deliveries.

What, then, might explain parents’ reluctance to receive the news as good once physicians indicate that it is good but before they have produced an informing? This may have to do with the fact that without a clear basis for their assessment, parents’ evaluations risk being heard as affiliating for the sake of affiliation rather than as affiliation resulting from the congruence of independently held positions (i.e., “genuine” affiliation). Moreover, pro forma affiliation is face threatening insofar as it undermines physicians' desire to be understood and affirmed — their positive face. While parents may lack the epistemic basis to *agree* with physicians on the nature of the news being delivered, they can position themselves to affiliate with the news independently if and only if they have sufficient access to the information underlying the physician's evaluation.

Although the informing and evaluation components can be delivered in either order, their relative positioning clearly has implications for parent uptake. In this regard, there appear to be advantages to valence-first news deliveries. First, since bad news is typically delivered without explicit orientation to the news as bad, good news runs the risk of being heard as bad when it is delivered without valence. While there are interactional resources, like prosody, that participants can deploy in the service of displaying an orientation toward the news without characterizing the valence explicitly (Freese and Maynard 1998), these may not be sufficient for parents to risk encroaching on medical authority with a first assessment. Valence headlines, in contrast, appear to mitigate face threatening actions, such as explicit disagreement, while also cashing in on the affiliation potential that assessments offer.

However, if early evaluations have these apparent advantages, then what can account for the placement of "good news" evaluations that are delayed or those that are cautious or nuanced in general? I have shown that physicians tend to mitigate and/or delay positive evaluations of news that is not (1) completely certain and exclusively good or when (2) an early unmitigated positive evaluation of the news might conflict with recommendations to maintain medications that parents are opposed to. Together these observations suggests that the position of clinicians' evaluations may be "strategic" in light of their overall sense of the case as-a-whole.

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CHAPTER 5

Conclusion

5.1 SUMMARY OF FINDINGS

In this dissertation I have explored how pediatric neurologists and families navigate the inherently uncertain landscape of childhood epilepsy particularly drawing out the themes of uncertainty, valence, authority, and agency. In this final chapter I take stock of each of the three substantive chapters and discuss how they contribute to existing literature both in their own right and collectively as a body of research. I will begin by briefly summarizing each chapter before moving to discuss the implications of my findings for social theory, medical sociology, and conversation analysis. Finally, after a brief discussion of the limitations of this dissertation, I conclude with some reflections on this work and propose future directions for scholarship in this domain.

5.1.1 Chapter 2

In Chapter 2, I examined instances wherein parents invoke uncertainty in their interactions with clinicians. The puzzle that underlies this chapter comes from two observations: (1) uncertainty is omnirelevant in the pediatric neurology context, so it can be topicalized at virtually any point in the encounter; yet (2) parents broach uncertainty selectively, invoking it in some situations but not others. Taken together, these observations led to the following question: If uncertainty can be brought up at any time, but parents only bring it up occasionally, then what leads parents to broach it when they do?

To approach this question, I built a collection of cases wherein parents invoke uncertainty in their interactions with clinicians. As I analyzed cases in this collection, I found that parents were using uncertainty as a means of accounting for their own conduct, specifically, when that conduct encroached on medical authority in some way. In these cases, parents' conduct violates normative expectations associated with their role as patient-by-proxy in the child's care, thus running the risk of damaging the physician-family partnership. However, in their role as parents they are obligated to ensure due diligence in the service of protecting their child. As a result of their dual roles (as parent and patient-by-proxy) in the pediatric context, parents face multiple, sometimes conflicting, vectors of normative constraint on their conduct. When their role as a patient-by-proxy comes into conflict with their role as a parent, the latter tends to take precedence. Consequently, parents may find themselves in situations where ensuring due diligence in the service of protecting their child requires that they encroach on medical authority.

Ultimately, these data suggest that rather than reject their role as patient-by-proxy entirely, parents invoke uncertainty as an account for their encroachment on medical authority. Although parents' conduct does tread into the physician's domain, their accounts nevertheless embody an enduring orientation to medical authority as legitimate. Moreover, through invoking uncertainty as an account in this context parents invite physicians to understand their intrusions as the unavoidable result of uncertain circumstances rather than as an act of defiance or aggression. In this way they also use uncertainty-based accounts as a vehicle for displaying their identity as a good parent, which adds meaning to their breaching conduct insofar as it invites physicians to understand their behavior as an artifact of their desire to be a good parent.

5.1.2 Chapter 3

Whereas in Chapter 2 my focus was on parents' use of uncertainty in accounting for conduct that encroaches on medical authority, in Chapter 3 I considered physicians' use of (un)certainty in their encounters with families. While we can think about test results, diagnoses, risks, etc., as having an inherent degree of certainty at a given point in time, in these data, physicians occasionally orient to them as increasingly (un)certain across a single encounter. Specifically, uncertainty is not being treated as static but rather as a dynamic state that can change during the course of a conversation. In light of this, Chapter 3 focuses on the following question: In what environments are physicians essentially shifting the certainty level in the course of the interaction and to what effect?

To explore this, I built a collection of cases wherein physicians upgrade or downgrade the (un)certainty of something — e.g., a test result, treatment efficacy, or the potential for future seizures — that is relevant to a diagnosis or treatment recommendation being made. I call this *modulating certainty.* In analyzing this collection, I found that physicians use certainty modulation as a resource in pursuing parent acceptance of diagnoses and treatment recommendations. I provided four types of evidence to support this: First, modulations of certainty are most commonly used in interactional environments that are *inhospitable*, that is, when parents have earlier (e.g., during the admission phase of the visit) indicated opposition to a diagnosis or treatment recommendation that is now in the offing. Second, physicians do not typically modulate certainty in *hospitable* environments even when findings are uncertain. Third, when parents actively resist a diagnosis or treatment, physicians combine certainty modulations with other persuasive resources as they pursue parent buy-in. Finally, when parents do agree to a previously resisted recommendation, clinicians cease modulations of certainty and thereby reveal that parent acceptance was what they were after all along.

Although there has been a decrease in medical authority relative to patient authority since the 1950s, my analysis suggests that pediatric neurologists have maintained a degree of *relative* medical authority over parents. Modulating certainty helps physicians overcome parent resistance to diagnoses and treatments and thereby to exert control over visit outcomes. In this way, modulating certainty represents a vehicle for the expression of medical authority.

5.1.3 Chapter 4

Chapter 4 began with the observation that, contrary to common perceptions of good news as unproblematic, in my data the delivery and reception of good news is occasionally fraught with hesitancy. This initial observation formed the basis of a puzzle: Why is good news sometimes challenging in pediatric neurology? What drives this interactional trouble?

There are two main dimensions of news deliveries, the social distribution of knowledge and social relationships, and these dimensions are embodied by dual imperatives — the news should *inform* the recipient and the participants should *affiliate*. In the context of news deliveries, participants can achieve the affiliation imperative by arriving at a mutual orientation toward the valence of the news. However, news deliveries can become complicated in medical contexts when the relative rights to ascribe valence to the news diverge from those observed in everyday life. In everyday life primary rights to characterize the valence of news lie with the party that will be impacted by it most directly (Maynard 2003). Yet, in the pediatric neurology context, parent conduct embodies a reluctance to assess the news before the physician.

Ultimately, I found that some of the difficulty associated with good news in pediatric neurology arises from its structure: Whereas physicians prioritize the informing component of the news over their evaluation of it, parents tend to treat both components as necessary before they are willing to assess the news. When physicians fail to provide either component, parents orient to news deliveries as incomplete. This not only causes difficulties in parents' reception of the news but also leads to protracted news deliveries.

5.2 IMPLICATIONS OF FINDINGS

5.2.1 Uncertainty & Authority in Medical Sociology

5.2.1.1 Uncertainty

In this dissertation, I have explored the concept of uncertainty in medicine through the lens of social interaction. Early research on uncertainty in medical contexts focused on how physicians were socialized to think about and manage it in their encounters with patients (Fox 1957). From this perspective uncertainty is understood as an undesirable *circumstance* that participants encounter. Yet, this disattends to how participants actually invoke uncertainty in naturally occurring conversations in the clinic. I found clear evidence that both physicians and parents use (un)certainty to accomplish specific interactional goals, which revolve around balancing medical authority and parent agency.

In Chapter 2, I demonstrated that parents invoke uncertainty as an account for conduct that encroaches on professional medical authority. Clearly uncertainty is an inherent part of the illness experience, and this is particularly true for parents of children suffering from paroxysmal events. However, parents are not simply lamenting the unknown when they invoke uncertainty in their conversations with physicians. Regardless of whether uncertainty actually motivated parents' decisions to challenge medical authority, they can claim that it did, which means that there is a distinction to be made between the experience of uncertainty and its use in social interaction.

I offered additional support for this distinction in Chapter 3. Specifically, I provided evidence that physicians modulate certainty as a persuasive resource in their pursuit of parent acceptance of diagnoses and treatment recommendations. We might be inclined to view test results, treatment efficacy, and other dimensions of the patient's condition and care as having an inherent degree of certainty that is beyond physicians' control. However, I presented evidence that physicians may indicate one level of certainty about test results and the like only to then modulate it on a moment-by-moment basis. In these cases, modulating certainty represents a form of pressure employed by physicians as they work to persuade parents to accept their professional assessments and advice. Taken together, these chapters suggest that although participants can find themselves in uncertain circumstances, this provides only a partial picture of the role that (un)certainty plays in medical visits.

5.2.1.2 Medical Authority

Since the 1960s research on medical authority has largely been directed at sorting out its decline — how fast, how far, and how consequential. While it is evident that modern physicians do not express authority in the same ways as their paternalistic predecessors, it would be unwise to conclude that medical authority no longer plays a role in modern medical care. In fact, as we have seen throughout this dissertation, medical authority continues to figure centrally in the pediatric neurology context, but now it is much more of a negotiated product and physicians can no longer act on a presumption that parents will simply follow their lead. Yet, we saw evidence of an enduring orientation to medical authority as a legitimate property of the physician-family relationship in Chapter 2. Although parents did encroach on medical authority, they also treated their encroachment as accountable. Through invoking uncertainty as an account for their conduct, parents treat deference to medical authority as the rule rather than as an exception to it.

Whereas Chapter 2 showed that parents continue to orient to medical authority, Chapter 3 provided insight into how physicians express medical authority in their conversations with families. Whereas the paternalistic practitioners of yesteryear expressed their medical authority overtly, I found that physicians can enact their expertise in a less obvious way — specifically, by modulating certainty associated with some dimension of the patient's condition or care. When physicians assume a more/less (un)certain stance vis-à-vis a diagnosis or prognosis, for instance, they apply pressure on parents to accept their professional assessments and advice.

Physicians' use of certainty modulation as a persuasive resource does inherently point to a reduction in medical authority by implicitly orienting to parent acceptance as something that needs to be secured rather than as something that can be presumed. Yet, when physicians modulate certainty, they do ultimately exert control over visit outcomes. In other words, the expression of medical authority today may be more subtle than it was during the height of allopathic medicine's professional dominance, and it may require work to uphold, but it continues to shape medical care in significant ways.

5.2.2 Methodological Contributions

Much of the conversation analytic research in medicine attends to the particulars of social interaction within discrete encounters, and this has proven to be a powerful approach for the rigorous study of social life. In this dissertation I have examined visits lasting 24 hours or longer, leveraging data from three phases — admission, lab, and rounds — to develop an analysis that is sensitive to the longitudinal dimension of social relationships and social action.

Working in this way has affordances: In Chapter 3, for example, I drew on evidence from the admission and lab phases of the visit to ground my analysis of physicians' use of modulating certainty during the rounds phase of the encounter. These data allow us to peek behind the curtain, so to speak, by providing direct access to physicians' conversations in the lab as they collaboratively construct medical facts. Recall that when the neurology team met in the lab to review Emma's vEEG data, the EEG reader conveyed that some of the electrical activity she observed looked "sharpish" and could potentially represent seizure activity. Ultimately, the attending physician remained unconvinced that the spikes observed on Emma's EEG were seizures, noting that the reader was finding things in the data that the parents were not looking for and that were debatable.

In the moments before the neurology team entered Emma's room for rounds, the resident orients to this uncertainty when asking for confirmation regarding the neurology team's official position — "We're saying these are not (.) seizures. Right." (Extract 3.2a). In this brief moment we can see evidence that uncertainty is readily available and could be easily topicalized during the news delivery. If I were to have analyzed only the rounds phase of the encounter, then I, like Emma's parents, would not have been aware of the uncertainty that arose in the lab; and my claim that physicians do not modulate certainty in hospitable environments despite the presence of uncertainty would have lacked empirical grounding.

In addition to drawing on interaction in the lab and the hallway, I used evidence from the admission interviews to ground my claim that physicians modulate certainty in inhospitable environments as a means of preempting parent resistance. In these cases, parents had indicated opposition to diagnoses or treatment recommendations during the admission phase of the visit. And, as we saw in Dana's case, physicians design their news deliveries in ways that are sensitive to this. In Dana's case, the resident elects to downgrade the certainty of seizure control that would otherwise be implied by his report that Dana had neither seizures nor spasms during the observation period. As the neurology team was preparing to enter Dana's room for rounds, a fellow suggested that the resident not mention the observed spikes when reporting findings to the family. Yet, the resident accounts for his decision to disclose the spikes, and thereby to downgrade the certainty of seizure control, by implicitly invoking Daisy's earlier opposition to the treatment regimen.

Taken together, Emma's case and Dana's case provide a strong empirical basis for my claim that physicians can use (un)certainty as a resource. Rather than being something that is relatively stable, static and beyond the physician's control, certainty is used dynamically as a tool in interaction. Importantly, the primary evidence for this claim would have not been recognized had I analyzed each segment of the corpus independently, as standalone encounters, rather than as components of a larger ongoing project.

5.2.3 Implications for Social Theory

My work extends our understanding of concepts that we tend to think of as stable and static, like certainty and valence. When physicians walk into a patient's room to deliver test results, we tend to think about them as having good news or bad news and a high degree of certainty or a low degree of certainty. Yet, in the data analyzed for this dissertation, I found clear evidence that certainty and valence shift in the course of the interaction. Rather than being stable medical facts, certainty and valence are shaped in and through social interaction. From this perspective certainty and valence are fundamentally social, participants use them as resources to accomplish goals in social interaction. This observation is consistent with other seemingly stable concepts, like knowledge, that conversation analysts have shown to be dynamic, locally negotiated dimensions of social life (Heritage 2012). Moreover, my work suggests that there may be other, ostensibly static, concepts that operate in this way as well.

Aside from concepts like valence and certainty, my work also contributes to our understanding of social roles and the presentation of self in social interaction. Evidence from Chapter 2 suggests that parents grapple with multiple, sometimes conflicting, vectors of normative constraint on their conduct. In these visits parents have dual roles — they must serve as both parent and as patient-by-proxy. As parents they are obligated to ensure due diligence in the service of protecting their child, but as patients-by-proxy they are expected to follow professional medical advice. This double bind is informative for scholars of human behavior in that it allows us to explore the ways in which humans manage conflicting norms and this reveals which social roles (and their associated norms) take precedence. When forced to breach some norms to satisfy others, participants implicitly reveal which dimensions of their identity are more important to them in situ, and this may open new ways of thinking about the self and social relationships.

In Chapter 4, I examined a how participants manage competing demands when the social distribution of knowledge and interpersonal relationships come together in the delivery and reception of news (Maynard 1997, 2003; Raymond and Heritage 2006; Sacks 1967; Terasaki 1976, 2004). Combining insights from research on news deliveries (e.g., Maynard 1997, 2003; Terasaki 1976, 2004) with more recent research on epistemics (e.g., Heritage 2012, 2021; Heritage and Raymond 2005) led me to an understanding of news deliveries as guided by dual imperatives — news should inform the recipient and the participants should affiliate. Of particular interest here is how these imperatives can become complicated in medical contexts where the relative rights to ascribe valence become more complicated than they are in everyday life. When the recipient of some news is its main *consequential figure* in everyday life then the recipient generally has more control over its negotiated valence (Maynard 2003:96, 113) and can claim primary rights to characterize the news by virtue of evaluating it first (Heritage and Raymond 2005). However, physicians have epistemic primacy over medical science (Heritage 2021). Consequently, if parents assess news first they risk being heard as claiming epistemic primacy over matters that fall within the physician's domain; and if physicians evaluate news first, they run the risk of engaging in "problematic presumptiveness" (Maynard 1997:119). Taken together, these insights suggest that there is more work to be done on the situated management of competing demands in the context of medicine.

5.3 LIMITATIONS

This dissertation has some limitations that warrant consideration. The analyses presented here are based on a limited collection of instances, so my findings might not generalize to other clinics. The data for this study were collected in the United States where health care is primarily a fee-for-service enterprise. Claims regarding participants' orientations to relative rights and expectations might not hold for countries that have adopted a single payer healthcare system. Moreover, the families who agreed to participate in this study were largely white and wealthy. Further work with a larger and more diverse sample of participants with respect to race, SES, and region of residence would be necessary to assess the robustness of these findings. Finally, there are undoubtably many ways that physicians and parents can use (un)certainty in interaction. The present study focuses exclusively on the primary uses observed in these data.

5.4 FUTURE DIRECTIONS

The findings presented here suggest that there is still a great deal to be understood about the interplay between authority, agency, (un)certainty, valence, and social roles in pediatric neurology. Moreover, there is still important work to be done on physician-family relationships, particularly in pediatric contexts where medical authority and parental authority sometimes collide. Like a particle accelerator, these visits create situations wherein, norms, roles, and other dimensions of the self may smash into each other and thereby reveal what they are made of. Future research will benefit from a more general understanding of these fundamental components of social life.

Future research in this domain should leverage longitudinal data to explore how distal social interactions can shape local participant conduct. This will provide useful insights into the management of social relationships over time and better ground our understanding of strategic social interaction.

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APPENDIX A

Conversation Analytic Transcription Conventions

(0.5)	Numbers in parentheses are silences timed in tenths of a second.
(.)	A period in parentheses represents a very brief silence or “micro pause” lasting less than two-tenths of a second.
((horn honks))	The transcriber’s comments are enclosed in double parentheses.
( )	Empty parentheses denote an indecipherable utterance.
(word)	Text in parentheses represents the transcriber’s “best guess” as to a speaker’s utterance.
.	A period following an utterance indicates falling intonation, not necessarily the end of a sentence.
?	A question mark following an utterance indicates rising intonation, not necessarily a question.
,	A comma following an utterance indicates slightly rising or “continuing” intonation.
_	An underline following an utterance indicates “flat” intonation, i.e., neither rising nor falling.
:	A colon indicates that a sound is stretched. The more colons, the longer the sound.
.hh	The letter “h” preceded by a period indicates an audible in-breath; the more “h”s, the longer the in-breath.
hh	The letter “h” without a preceding period indicates an audible out-breath; the more “h”s, the longer the out-breath.
every	Underlines indicate parts of utterances that are stressed.
wor-	A hyphen indicates an abrupt cutoff of a sound.
(h)	A parenthesized “h” indicates plosiveness, often associated with laughter, crying, breathlessness, etc.
>word<	Utterances enclosed in inward pointing angle brackets are spoken more quickly than surrounding talk.
<word>	Utterances enclosed in outward pointing angle brackets are spoken more slowly than surrounding talk.
°word°	Utterances enclosed in degree symbols are spoken more quietly than surrounding talk.
WORD	Upper case indicates increased amplitude or loudness relative to the surrounding talk.

↑↓	An upward-pointing arrow indicates a high-pitched sound; a downward arrow indicates a low-pitched sound.
=	Equal signs indicate that utterances are latched, with no gap between them.
[ ]	Square brackets show beginning and ending of overlap in speakers’ utterances.
£word£	Utterances within pound sterling symbols are spoken with “smile voice”
#word#	Utterances surrounded by pound symbols are spoken with “creaky voice”
<	A single left-facing angle bracket indicates the following utterance has a rapid onset known as a “left push” or “abrupt join.”
.tch	Indicates a dental click.