Think Over & Above Podcast on Medical Error and Ethics Transcript
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Jeanine: Hello, Ethics fans everywhere and a shout out to the ethics community in Michigan. We are doing another in our series Think Over & Above. I'm Jeanine DeLay from A2Ethics, and today I have this opportunity to talk with our friends, Sandy Borden and Fritz Allhoff, professors at Western Michigan University in Kalamazoo. Our topic is a broad and expansive one.

We are talking about error. Yes. E. R. R. O. R. We may think we know all about this subject because we make errors every day. We also know them as mistakes, blunders, lapses, miscalculations, accidents, goofs, boo-boos---you get the idea. We have many different words about and meanings when we talk about errors.

Today, however, we are going to focus, focus, focus. We are discussing with Sandy and Fritz errors specific to the field of medicine. Sandy Borden and Fritz Allhoff are uniquely qualified to talk about this topic. They are the editors, and also authors of two of the chapters in a 2020 book, entitled *Ethics and Error in Medicine*, the most recent publication in the Routledge Research and Applied Ethics series.

Sandy is professor in the School of Communication and Fritz is professor in the Department of Philosophy. In addition, Sandy is the director of the Center for the Study of Ethics in Society at Western Michigan University and Fritz is affiliated with Western's School of Medicine as a community professor in the Medical Ethics, Humanities and the Law program.

Both Sandy and Fritz have also written several books. And at the same time, as I understand it, this is your first book together, is that right?

Sandy: That's right.

Jeanine: So, I'm acutely aware of making errors in this podcast...so, I'll stop talking. Why did you decide to write about the subject of error in medicine? Why is the subject important now? And who did you write the book for?

Sandy: So, the genesis of the project was a mini-conference that the Ethics Center organized in 2018 on the topic of ethics and medical error. We did this in partnership with the Association for Practical and Professional Ethics and the Western Michigan University Doctor Homer Stryker MD School of Medicine here in Kalamazoo. The reason we selected the topic was because it was of interest to Shirley Bach, who co-founded the Ethics Center back in 1985. And, this was a subject of importance to her, because her husband died as a result of medical error. In fact, she sued the hospital because they refused to apologize and used the money to establish two endowments for the Ethics Center. Shirley unfortunately passed shortly before the mini-conference took place. So I would say, in part we wanted to kind of work off the momentum of that mini-conference, which we did. Some of the papers that were presented there are in the

book, as well as additional papers that were submitted as part of a national call. But I think in large part, Fritz and I decided to partner on this to honor Shirley.

Jeanine: And so why is this subject important now?

Fritz: I think one thing that's happened here is in 1998, there was a big report that came out by the Institute of Medicine. And in that report, it showed that medical error was the sixth leading cause of death in the United States. And there really hadn't been a lot of scholarship on this topic for 20 years or so. And, in the interim, medical error rose from the sixth leading cause of death to the third leading cause of death. So there was a big response to the IOM report when it came out in the late nineties. In addition to honoring Shirley, we saw it as an opportunity to start this conversation over to, to reboot it, to try to figure out what was going on ethically and try to make a novel contribution to the literature.

Jeanine: So the work is then about reducing errors in medicine, at least for our audience. So how can an ethics lens in contrast to economics or law, help decrease or even transform the impact of errors in our healthcare system?

Fritz: I think part of the issue here is bringing attention to the scope and the magnitude that medical error plays in the hospital settings, and more generally within medicine. And to highlight that there are all sorts of areas that lead to negative outcomes. And the contribution of ethics I think is not only to highlight this as an institutional issue, but also to get people to start thinking and say, look, we have an ethical obligation to reduce the amount of medical error, to try to think about ways that that could happen, not just through the development of medical expertise or organizational expertise. But also just in terms of having people think, having interdisciplinary teams think critically about ways in which we can reduce error and the ways in which sort of being attuned to our moral obligations can, can play a catalytic role in that process.

Jeanine: Yeah. And it seems that in ethics world, there's a lot of work that has been done on the moral issues in the wake of error are concepts of atonement, forgiveness, apology, moral regret. So its aftermath obviously lingers. This work seems to contemplate the conditions of error and a concentration on what an error is, what it looks like, its circumstances, its affiliations and what and who it is associated with. And there's an attempt in this book to be well prepared for error and to build it in and minimize its harm. I'm wondering, if Sandy could address some of the chapters' concentration on preparing for error, building it in through communication, and how that plays into increasing error in medicine.

Sandy: So, I often joke that as a communication scholar, I see communication in everything. But I think I'm well justified, despite that disciplinary bias and, certainly the literature bears that out. Communication is actually involved in a good deal of medical error. A particular error area that's gotten attention are handoffs, you know, when one shift of medical workers hands off to the next one, right? Often communication errors happen at that critical juncture, and it's estimated that anywhere from 24 to 28% of medical errors can be attributed in part to communication

problems. About a third of all malpractice suits in medicine involve communication. So if you think about it, that's the only one place where this kind of problem happens, right? I mean, communication is integral to the entire journey a patient has through the healthcare system all the way from intake depending on: whether you ask the patient the right questions, whether the instructions are clear, whether data's recorded accurately, whether and how you deliver bad news, how you describe risks.

And then there's a host of other factors that again, are less obvious. Things like disciplinary differences or differences in status in the hierarchy about an organization that sometimes can interfere with the way that medical providers communicate with each other, not just with the patient.

And of course, as you mentioned, even afterwards, there may be issues of whether to disclose error and how and when and to what degree to admit culpability. And whether to offer any kind of atonement. Every single one of those examples I mentioned is a communication example.

Jeanine: Yeah. And I'm wondering if you could give us some more specific examples of communication errors. That would help our, that would help our listeners.

Fritz: Yes. My wife and I had a baby last week, which was pretty cool.

Jeanine: Oh, congratulations. Yes.

Fritz: Thanks. And so picking up on Sandy's point, I mean, one thing that was just really, really obvious to me the entire two days that we were in the hospital is you had these handoffs, so every eight hours you have a completely new medical team come in. And that was everything from, you know, midwives to nurses, to MDs, if that's the way you're doing it. And, I think that medical practice has changed so much, and maybe even since the late 1990s. And I think part of it is health care costs. So we used to think of medical care as being, you know, there's a person and there's a physician and that's, that's kind of the end of it. But it just doesn't work that way anymore. They're very interdisciplinary teams with lots of different principals.

And whenever we had those shift changes, I would, partially because we did this book, I was always paying attention. All the new teams would always brief the old teams on what was going on. Everything from medication to heartbeats to blood pressure. And they always got it exactly right. I was really impressed with how they, how they handled all of them, but you know, you could easily imagine that not going perfectly and that translating into a game like telephone, like kids used to play where they sort of repeat stuff, you know, over and over and you just watch the signal degrade as the conversation, you know, it gets iterated and sort of the same deal in medicine. You could imagine a small mistake and then that gets recorded and then there's more degradation in the data and you could imagine a bit down the road, things end up a little bit differently from how they started out. So I completely agree with Sandy. I think communication is really important in this one.

Jeanine: And the idea that you're getting across in terms of interdisciplinary teams I think we can emphasize, because one of the issues that you bring to light that I have become fixated on, is this idea of systems and how it would be perhaps better for a systemic approach, or what I would call a collective responsibility approach, in the context of teams to take responsibility for a given error as opposed to the traditional culture of blame and individual responsibility approach that you were alluding to where the physician and the patient are interacting. But now we have a whole range of actors who are in the mix and communicating with each other. I'm wondering if you could talk a bit about how your work and what you discuss in the book takes this systems approach--which seems to be coming from the Institute of Medicine report and some of their recommendations.

Jeanine: Yeah, that's right. That report really made the case that medical error is systemic by definition. And so, this attitude of just trying to punish a few bad apples is not productive. They talk about latent error, inactive error. So, latent errors in the system. So, the latent error is that there is this design problem with the plane, right? That makes it, let's say, not steer correctly. The act of error may be the pilot then, executing the wrong maneuver unaware that there's this design issue that's going to cause the plane to crash. And so the idea is that those kinds of latent errors are inherent to systems. And so, they are going to be the cause really, of medical errors for the most part.

There's a sense in which many medical errors could occur to just about anybody in the system Fritz meant in this idea of kinda communicating between team members. That's certainly part of it. If we expand our notion of communication to think about digital data. And how machines are sometimes communicating with each other now in modern medicine, that's another part of the system. If you think about things like how many people are on staff during a shift. What are the protocols for disinfecting your hands in between patients? You know that, that if anybody's been in a hospital setting recently, you know that you're asked a million times your name and your birth date. This is one of those safety procedures that was put into place after this IOM report to try to make sure that you're not committing errors just based on having the wrong person. Right? So all of this is part of a systems approach of thinking. When you really start to think about it's very complex. That's the approach that needs to be taken. And, a couple of our authors in the book, as you mentioned, actually write specifically about this: Jeremy Garrett and Leslie Ann McNolty. They talk about a restorative justice culture in medical organizations as trying to avoid that kind of pointing of fingers to individuals, and instead addressing the systemic issues that using medical errors has opportunities for learning so that the system itself can be adjusted and reduce the number and severity of medical errors.

Jeanine: Well, I'm going to veer off in another direction just for a moment, to pick up on some of the communication snafus, and this is a question about intentional error. And that is, are errors a form of decision- making so that you have the problem of commissions as well as the usual omissions? Would you consider, for example “workarounds” intentional errors to get by some of the system itself because it's so complex?

Sandy: So I would be reluctant to call any and all workarounds the commission of medical error. I do think that that could lead to medical error because, I think part of the problem with workarounds is that you may not be able to anticipate all the consequences of your workaround. But often I think people in organizations engage in workarounds because the formal procedures in place aren't working for some reason. Either they're taking too long and people are getting in trouble. For doing something or not doing something that's impossible to do in the first place. Those kinds of things happen often in organizations. And so I, I would be reluctant to label all workarounds as kind of automatic commission of error. Often they can save the day, but sometimes of course, because you're basically improvising within the system, without formal oversight, without maybe formal evaluation of any sort. That could lead to error.

Jeanine: Wouldn't that be an intentional error?

Sandy: I think the workaround is intentional. I do think professionals in general are committed to their vocations, and want to do the right thing. I think often professionals do workarounds, because they think they're going to be able to better do their jobs. So I guess I would not, again, automatically conclude that that's a commission of error. I think the workaround is intentional. If error occurs as a result of the workaround, I would say that's usually unintentional.

Fritz: I think that for me, most error is negligent. In other words, it's a failure to take due care. It would be, as it were, an omission as opposed to a commission. You know of these classic cases where the surgeon amputates the wrong leg. There's two different ways to look at that. One is that he affirmatively cut off the wrong leg, but I think the more natural analysis would be he failed to check his notes, he failed to verify that it was the right limb. And so I do think a lot of errors can be characterized that way.

One interesting broad class that might go the other way is medical over-testing and so we talk about over-testing a bit in our book. Say that a physician is meeting with the patient and the patient wants some sort of scan, and the physician thinks it's just not medically indicated, nevertheless ordered the scan anyway, because the patient is being annoying or really wants it. There, I guess you could look at that as negligence, but I mean, I'd be more inclined to say that's some sort of affirmative error, a commission of an act. Still, you get these interesting cases where even if that happens: what if the physician orders a test that she shouldn't have ordered, and nonetheless, the test ends up showing something that was really unexpected?

So in those cases, you effectively would have an error without having a harm. In other words, you could have an error that leads to a benefit, which is one of the things that I was looking at in my chapter. But it's kinda hard to figure out how you want to classify those and what you want to call those. And the Institute of Medicine report said those just aren't errors at all, if the provider as it were, makes a decision that isn't medically indicated, but that does not eventuate in harm. That just isn't an error by definition. I don't think that sounds quite right, but you can start to see some of the philosophical issues you'd have to figure out.

Jeanine: Well, in terms of that incidental finding that is beneficial that you just alluded to-- if a physician finds an incidental finding or something that he or she is not looking for and it's there, then they're obligated to tell the patient. Is that correct?

Fritz: I would think in, in general, yes. There's kind of, there's some quirky cases. If you have people acting in medically functional roles that aren't technically physicians with fiduciary obligations to patients, it can get more complicated. So examples, military doctors--might not have the exact same moral structures. I don't mean that they're immoral people. I just mean the structure, the ethical obligations could be different because you know, those personnel might be served, might be subject to what we call "the dual loyalties challenge." They care about the people that are in front of them, but they also care about chain of command. Sometimes if you go for a new job, you know, or for insurance you have to go get a physical, but you know, the person who gives you the physical isn't really your physician. They work for the company. So what do they do if they find a brain tumor? Do they have to tell you when they're not really your physician? They're really more like the company's physician. But in the sort of traditional ones, like where you go to the hospital, then I think these issues are more or less fine because the medical team's gonna have to communicate directly with the patient.

Jeanine: Another example would be sports physicians in the context of "dual loyalties," similar in some ways to the military physician. Let's talk about your chapter Fritz, which is about medical error, and, that great concept that all high school students, at least in the Ethics Bowl are very, very intrigued with--and that is moral luck. In reading that chapter, medical error is sort of an excellent way to segue and move into the concept of moral luck. I'm wondering, when it seems as if moral luck reinforces some popular assumptions about medical error that we'd like to rethink. I'm wondering if you agree with that, if I got that correctly? What do you think about that idea?

Fritz: Yeah, so let me just quickly summarize what moral luck looks like for people that might not be familiar with it. This sort of standard example is something like, you know, imagine you're backing out of your driveway and you don't really look over your shoulder, you're looking at your phone. So you back out of the driveway and then we can imagine two cases, case number one, some kid runs behind your car as you're backing out, and unfortunately you hit the kid and cause injury. Scenario number two, there just is no kid behind the car; and the reason this is kind of an interesting ethical issue is the agent, the driver of the car, is literally doing the exact same thing, right? Whether there's a kid behind the car or not. So whether there's an injury--it's completely external, it has something to do with--to the person that we're trying to assess morally. And, so you just, you end up with these things where if I'm back out of my driveway and there happened to be a kid present, well then all of a sudden I'm a bad person. If I back out of the driveway and there was no kid, then it's fine. And so, how we assess me morally depends on things that are completely outside of my control. And that just isn't really generally how we look at ethics. We tend to have this view that we're only morally blameworthy or praiseworthy for things within our control. That just doesn't really look like one of them. So then if you try to apply

that to the medical context, I mentioned the IOM report that says, if you make a medical mistake that does not lead to harm, that is technically not a medical error.

Say the surgeon cuts off the wrong leg, but unbeknownst to the surgeon, the leg was developing gangrene and had to be cut off anyway. So on the IOM model, that would not have been a medical error. That doesn't seem to be right. My analysis is, yeah, it was a medical error. You cut off the wrong leg and you shouldn't have done that. Nevertheless, it turns out that it was a good thing, but I don't see any reason, we can't say, there are errors that lead to good things. That sounds fine. But it's interesting that the IOM excludes that as an approach, and I kind of wonder if they do that just to keep the number of medical errors down. So, it's more of a prudential analysis. We want to have a smaller category than a bigger category. Regardless, I think philosophically, we could easily think that something isn't, something cannot be an error solely because it had a good consequence. That doesn't sound quite right to me.

Jeanine: Well, we're here talking with Fritz Allhoff and Sandy Borden of Western Michigan University about their new edited work called, *Ethics and Error in Medicine*. And we've talked about a range of topics that the authors in the book are working through. I want to return for a second and pick up on what Fritz was just talking about on different conceptions of error and different words and meanings that we use about error.

I found in the book that it was sometimes difficult for me as a lay person to understand why it was that there was a lot of discussion about preventable adverse events--noxious events--that was probably my favorite, as terms that we would in the public understand as mistakes, or understand even as negligence faults. I'm wondering if the use of those terms that are not necessarily accessible or in the vernacular of the ordinary person, decrease or diminish trust in the healthcare system if they're routinely used.

Fritz: I think those are generally used to diminish or mitigate legal liability. And so when we want it, when we use words like adverse event instead of error, it makes it look more like an earthquake, than, you know, a drunk surgeon, for example.

Jeanine: A natural disaster.

Fritz: We transition out of these agency-driven concepts, like error and mistake. Those are things people do. So from agency-based analyses into outcome-based analyses. So when we say adverse event, that could be like the earthquake. It might be that nobody did anything wrong, but something bad happened. And so I think that that language is largely driven by our legal culture. Whereas if we were to say things like error or mistake, that means you're going to get sued. Whereas if I say adverse event, not necessarily. For me there's not a huge difference conceptually among those. I mean, what we care about is you're getting the right outcomes for patients and having the right decision-making processes. So if those norms are violated, it doesn't matter so much I think, what we call it. But I do think historically, at least those words are tracking legal exposure to civil suits.

Jeanine: And what that leads to then too, in my way of thinking, is a form of injustice so that it's unjust for patients and their families to have to try and deal with terms that are legally based. And I'm wondering if, if that is part of this notion of treating medical error as a matter of justice is changing the language as part of a reform or a new approach.

Sandy: So actually I think there's a little bit of a debate about that within the book itself? So earlier I mentioned the McNolty Garrett chapter on restorative justice culture, but then there's another chapter by Samuel Reis-Dennis that talks about the usefulness of blame. Looking backwards, I do think there's a tension. So on the one hand, I think it's problematic to, as you say, use legal euphemisms to maybe take attention away from individual agency. On the other hand, if in fact most medical errors are systemic, it's problematic, right, to also use terminology that unfairly as well as inaccurately pins the blame on individuals if in fact it's a systemic problem that could have happened to almost anybody. In one sense, maybe it doesn't matter so much what we call things, because we were talking about the same thing, but in a sense of justice and maybe it does matter, right?

Jeremy and Leslie Ann are making this argument that there's an issue of justice not only concerning patients but concerning fellow professionals. That if in fact there's a systems problem, it is not fair to scapegoat. Single out professionals within that system. And furthermore, it's counterproductive in terms of outcomes because then the system doesn't get fixed. You just fire usually somebody lower in the hierarchical order. They're the ones who usually get disciplined or dismissed and then nothing changes. The system remains. And so I do think it is challenging to find the right terminology that, on the one hand does not minimize the agency that is there and that is relevant morally speaking in terms of assigning responsibility. And also there's a sense, again, just kind of building on Sam's point of victims of medical error kind of deserving right to, to be able to express anger and resentment. You know, when in fact a medical error was severe and or preventable. On the other hand, we use language that's too geared toward blame, especially toward blame of individuals. Then we're taking our eye off the ball as far as addressing the systemic nature of most medical errors.

Jeanine: Well, at the same time, it would be a matter of justice, Medical error would be a matter of justice--in the context of population. So the terms that are being used for more vulnerable populations are addressed in your work and a whole series of articles or chapters on the disabled, racial mistrust of the system. And that's where I'm going next. And that is, how are some of the ethical ways to affect, to effectively communicate the disparate unequal impacts to vulnerable populations in the context of medical error?

Sandy: So I think the kinds of health disparities that exist for marginalized populations are well documented and well known. So in terms of communicating to medical professionals, I mean, I do think there's probably been some progress made there in terms of awareness of implicit bias, and structural racism, structural sexism, structural ableism is kind of baked into, again, the system. So I guess I would come back to maybe part of the answer at least is, again, focusing

on the entire framework in which medicine and research are practiced. And the prejudiced assumptions that exist within that framework regarding the default patient. Who's the default patient and we're making decisions based on the default patient as opposed to the real flesh and blood person in front of us? That needs to be treated. So we know, for example, that we lack sufficient data to actually improve outcomes when it comes to maternal mortality, because we just haven't studied it enough.

And why is that? Well, some people would say because there's too much research and focus on males as default patients. This happens with medications and happens in other areas as well. And so again, not to say that you and each individual practitioner should not work on his or her own biases. Clearly they should. And clearly they need to learn how to try to compensate for those and acknowledge those and listen more. But again, so much of it is baked into the system.

Jeanine: Yeah. First, do you have anything to add regarding the issue of vulnerable populations which is addressed in the book? One by your graduate student, Luke Goleman. And his very fascinating chapter about race in the context of how we should deal with this.

Fritz: Yeah, Luke's essay is great. When he and I started talking about that chapter, I had read something that said, basically the punchline was a study that showed minority patients had on average 60 to 90 fewer seconds with their clinicians than non-minorities. So I think that's a good example of this sort of structural feature about medicine, like Sandy was alluding to earlier. And there's all sorts of reasons for that. And including economics, including overcrowding, population density. And I mean, there's lots of reasons. But one thing that's really neat about Luke's article is he sort of starts off with, we'll look at: what are these sorts of structural inequities? And how do they translate into medical error? And you might think that, I'm sure you don't, but I mean, someone might not be impressed and they might think 60 to 90 seconds with a clinician isn't really a big deal.

But you know, you just imagine how many questions could get asked during that time or family history that could be delved deeper into or medical histories or drug interactions or anything. And you know, and you just imagine that you're empowering one cross- section of the community with, you know, more clinical time than others. And that's obviously in- equitable, but you know, to the extent that it then could disproportionately affect healthcare outcomes of an already vulnerable population that has structural and historical obstacles. You can see how this can become a pretty big deal pretty quickly. And the other essays that are in that unit look at disability ethics and mental health ethics and ways in which they intersect as well. And, you can run the same analysis and as we particularly care about those that have the hardest time securing their own well-being, whether it's children or the elderly or prisoners or racial minorities or the mentally ill, I mean, these are groups of people that need extra help.

And then again for whom we need to be extra vigilant, vigilant to secure good outcomes. And so I think that part of the book comes through pretty strong in that regard.

Jeanine: And a good reason to write this book, at the same time to bring out several of these issues. You know, as the editors, you're an error seeker and sort of a finder of a certain type. So you're writing about error, and you're editing out errors presumably, which I suppose are more of the technical kind, but also in content and the selection of the essays that you include or exclude. I'm wondering right now if there would be material or information that you would like to put in that you were unable to put in the work that was published.

Fritz: Not that I can think of. We were really happy about the response to the call for papers. As Sandy said, we started at a conference where we had maybe, what, six or eight presenters, but then we did this national call, and we probably had I think it was about 35 submissions. We ended up with 15 essays. So there were a few people that couldn't finish their essays. So, I mean, if we ever want to do a second edition, I think there'd be a lot more to look at. But we really got what we thought were great essays and really good representation. You know, I'm in philosophy and Sandy's in communication, so it's kind of fun to hybridize the book in those sorts of ways. But we also have medical doctors in here. We have philosophers that teach medical ethics in hospitals or the medical schools, which is very different from teaching in a philosophy department. I just think that sort of trying to crowd sources, our disciplinary work made it a lot stronger in that regard.

Jeanine: I have one more question for you that we always traditionally do and in A2Ethics podcasts and that is we have an Ethics Bar and Grill, and we have been soliciting from our podcast guests--you walk into the Ethics bar and Grill and you're on, in your case, a book signing tour for your *Ethics and Error in Medicine*. And we are interested in learning about what surprised you in writing this book? Is there anything that you were surprised about?

Fritz: I think the one thing that surprised me was I did not, I wasn't as used to this sort of systems-based thinking, as maybe Sandy was working in communications. So when I thought of medical error, I always thought about it in terms of a single provider, just making a mistake and sort of this transition to this systems-based thinking was really interesting. I mean, one of the examples I used in my book was: pretend a drunk surgeon amputates the wrong limb, which is the sort of example we were talking about maybe 30 years ago or something. It's really easy to say, well, that's just a bad physician. He shouldn't have done that or she shouldn't have done that. But I mean, I think one way in which this book really affected my thinking is even in those sorts of cases, it's not just the physician.

You can ask questions like: how is the hospital set up such that this physician got to perform surgery? You know, why was there not a breathalyzer before they enter the operating room? You know, what about the nurses and the rest of the medical team? And just trying to think through this whole project through that lens I think was substantially different from what I expected when we started on it. And I think it's the right way to go. It's just kind of not what I was thinking was going to happen when we got started.

Sandy: Yeah. I think mine is kind of related to that. I was more used to systems thinking. I've worked with organizational culture as a concept, for example, in my own work. And I've always been interested in that context for ethical decision-making. But for me, I suppose I'm related to this is kind of thinking about medical error and not just as cutting off the wrong leg in the operating room, but actually possibly beginning way, way, way before that moment right at intake where you may not get the right diagnosis for a variety of reasons. I mean, error can happen super early in the process and actually can happen after what you considered a big event. So maybe everything went well in the surgery, but then you have complications afterwards, but nobody followed up with you. So I think for me that was something that was added to my understanding of medical error. That medical error is not just the dramatic moment in the operating room, but medical error is really kind of insidious in the sense that it can happen, as I said, at so many junctures and again, the patient's journey through the healthcare system, and the healthcare system is really complex. So there's just so many opportunities for error.

Jeanine: Yeah. I think that what this book did for me that surprised me is it made me look at teaching in a systemic way so that there are accretions of error over time, that when you are, say, in elementary school and you miss fractions because the teacher doesn't understand fractions or teaches it in a way which is error-prone, then you move on and you have to go back and learn fractions. So it made me think about how--as a system--teaching works and the real consequences that can be harmful consequences to children as a result of error over time because I'm teaching older students. And so I'm wondering about the accretion of error over time. And that was really very striking to me. So, thank you very much.

Sandy: I appreciate that. So, I just really liked that example, I can say something in terms of the kind of lessons from that example that you just shared. So, I think that example shows in part the importance of acknowledging errors. Like, if the teacher doesn't really know fractions. She needs to, to retool a little bit. As opposed to pretending like nothing's happening here. And also learning from error? So that one of the ways we learn is by making mistakes and so rather than pretending as if they don't exist or trying to sweep them under the carpet. We could actually make use of them and several of our authors make that point as well. And if we are going to be serious about a systems approach, then things like record-keeping become important. Preserving histories becomes important because how do you know that the kid didn't get fractions in the fourth grade? You have to be able to track that somehow to be able to resolve the error eventually.

Jeanine: Yeah, I think that sometimes in teaching those errors are not perceived to be as important because they are not life-threatening as they would be in the medical profession or even in the military. So that, you have professions, whole professions where error is recognized and it is sometimes punished, but it is not part and parcel of what is evaluated in a teacher's portfolio. So I think that teacher errors are just like accepted. And so I'm pushing back in some ways on the notion that we learn from error because clearly in teaching we don't necessarily learn from error. It just keeps going on.

Sandy: Right. But we should, right? I think that another point that our authors make is that, if we wanted a world in which medical error didn't happen, we probably wouldn't have medicine. Right? In other words, there's trade offs here. There's no way to practice medicine without some error. And I think you probably could say the same thing in teaching. So I mean, presumably we don't want to give up on teaching. And so, it seems to me more helpful to think about errors as kind of part of the bargain. But, nevertheless, we have to be really thoughtful about avoiding those that we can, creating systems again for catching them and rectifying them and trying to make use of them, as far as part of lifelong learning.

Jeanine: Well, so to go back to our Ethics Bar and Grill, you've done your book signing, you've talked...do you have a signature cocktail that describes your book that we can put into our drinks and cocktails menu?

Fritz: So one thing that we were thinking was that sort of given the ubiquity and insidiousness of medical error, we could just walk through the world with some sort of good luck charm, right? They would inoculate us against all of this error floating around. And so when we researched our cocktails, we actually found one called the "Good Luck Charm" cocktail. This would be a great pairing if you will, for a book on medical errors.

Jeanine: So what are the ingredients in the "Good Luck Charm" cocktail?

Fritz: So you start with one and a half ounces of bourbon.

Jeanine: Got it.

Fritz: You then add three quarters of an ounce of limoncello, an Italian, lemon-based liqueur, then you add two ounces of lemon sour, you add some mint, and then some sugar. You stir it all up and then you're good to go.

Jeanine: That sounds great. I hope you can come to Ann Arbor, and I can come to Western Michigan and we can share a "Good Luck Charm" cocktail at our next meeting.

This has been an exceptional discussion. I've hope you've enjoyed it as well--our ethics fans everywhere in A2Ethics. We want to thank Fritz Allhoff and Sandy Borden for getting us to think above and beyond--and "Over and Above"--through their new book *Ethics and Error in Medicine*. We also would be remiss if we didn't give a boost to Western Michigan's department of philosophy and your fine graduate programs.

Finally, we also want to make sure that you go to the website of the WMU Center for the Study of Ethics in Society. The Center is really essential to the public philosophy ethics ecosystem and Michigan. And once again, thanks to Fritz and Sandy for your own work and advancing public philosophy, not just in our state, but everywhere. Thanks alot.