

Just Workforce Resiliency for MDIs

Introduction [00:00:05] Now this is recording, RTI International Center for Forensic Science presents Just Science.

Voiceover [00:00:21] Welcome to Just Science, a podcast for justice professionals and anyone interested in learning more about forensic science, innovative technology, current research, and actionable strategies to improve the criminal justice system. In the first episode of our Workforce Resiliency season, Just Science sat down with Dr. Jennifer Rineer, a program manager and research psychologist in RTI International's Center for Policing Research and Investigative Science, and Kelly Keyes, a research forensic scientist in RTI's Center for Forensic Sciences, to discuss workforce resiliency among medicolegal death investigators. Medicolegal death investigators face consistent exposure to stress and traumatic events on the job yet there's limited research on the daily pressures these professionals experience. An NIJ study, led by Dr. Rineer, surveyed nine hundred medicolegal death investigators to gain more information on the driving sources of stress among these practitioners, with the goal of developing better interventions to mitigate these stressors. Listen along as these experts discuss the responsibilities of MDI professionals and the difficulty retaining good staff, as well as their findings on work-related stress within the profession in this episode of Just Science. This season is funded by the National Institute of Justice's Forensic Technology Center of Excellence. Here's your host, Donia Slack, with co-host Dr. Heidi Eldridge.

Donia Slack [00:01:40] Hello and welcome to Just Science. I'm your host, Donia Slack with the Forensic Technology Center of Excellence, a program of the National Institute of Justice. Today, I'm joined by my colleague and co-host, Dr. Heidi Eldridge. Welcome, Heidi.

Heidi Eldridge [00:01:53] Thank you, Donia. Glad to be here.

Donia Slack [00:01:55] We have an exciting discussion for today based around results from a recent survey titled Understanding Work-Related Stress among Medicolegal Death Professionals. To help us with this conversation, we have two guests on the podcast today. First, we have Dr. Jenn Rineer. Welcome, Jenn.

Jennifer Rineer [00:02:10] Thank you, Donia. So happy to be here today.

Donia Slack [00:02:12] Also with us is Kelly Keyes. Welcome, Kelly.

Kelly Keyes [00:02:15] Hi, I am so glad to be here talking about this.

Donia Slack [00:02:17] So before we really dive into today's topic, Jenn, I thought maybe you could take a couple of minutes to tell us a little bit about how you got involved in this work and this survey?

Jennifer Rineer [00:02:27] Absolutely. So my background is in industrial and organizational psychology, which means that I study workplace and workforce issues. I'm in RTI's Center for Policing Research and Investigative Science. And so doing my work in that role, I conduct a variety of studies on workplace and workforce issues in different criminal legal occupations. It's really interesting work as we know police officers, medicolegal death investigators, other professionals, you know, in the criminal legal system, they have such important and challenging jobs - that often is accompanied with a

lot of stress and a lot of challenges. And so what I do in my work is I help identify ways to make those professionals' working lives better so that they can better serve their communities. And this project came about actually as a result of one of the talks at a previous RTI policing symposium. So every year, RTI hosts this symposium where we bring together police practitioners and researchers to talk about the latest research and practice in improving policing. But through that, we also have professionals from related fields, and a couple of years ago, Bobbi Jo O'Neal, who is a coroner and also a leader in the field of medicolegal death investigators, she talked about the challenges and the issues that medicolegal death investigators, or MDIs, face, and her speech was really compelling. I think everyone in the room was really moved and what she was saying is that when disasters happen or mass casualty events, there are certain practices in place for other first responders. There are critical incident stress debriefings for police. You know, there are a variety of resources to help them deal with the mental health consequences of these events. And she described that MDIs, in a sense, are really the forgotten workforce a lot of the time when these big events happen, or just in general with regard to work-related stress, and she just talked about how traumatic the work can be and just that there really are almost no resources for a lot of the people out in the field doing this work. So, you know, my colleagues and I have heard this and said, we need to do something to move this forward. So I worked with others at RTI, including Jeri Roper Miller, Hope Smiley-McDonald, and Crystal Daye, who have done other research and applied projects with MDIs to develop the idea for this study.

Donia Slack [00:04:56] I remember that talk. It was the first time that I attended the Policing Research Conference, which I think is a- it's a fantastic conference that your program puts on every year, and that talk still remains with me as being one of the most impactful. And it was the first time that my eyes were opened to the challenges that this workforce is faced with and the lack of resources or lack of awareness, really, that they should be a population that also requires support. So I'm so glad that that actually moved the needle enough and now here we are a few years later actually addressing the problem. So that's fantastic.

Heidi Eldridge [00:05:33] So, Kelly, let's hear from you for a moment. I know we've had you on an episode before. It was the episode titled Just Being Vocal About Vicarious Trauma. And here we are again a few years later, and it looks like this topic is still pretty relevant to the MDI community. We're glad to have you with us and could you tell us a little bit about how you got involved in this project?

Kelly Keyes [00:05:54] Absolutely. I've recently come over to RTI's Center for Forensic Sciences as a forensic science researcher following twenty-four years' experience as a medicolegal death investigator, and I'm currently the President-Elect of the International Association of Coroners and Medical Examiners, or IACME. And this was obviously something that was always important to me. Jenn approached IACME probably about a year and a half ago when she started this project and looked for the support of IACME for the project, and I just thought it was incredibly important research that needed to be done. It's really been validating to me to see what Jenn has found, and so I'm thrilled to be here alongside Jenn for this.

Donia Slack [00:06:32] So, Jenn, if you could give a little bit about project design.

Jennifer Rineer [00:06:36] One of my favorite things about this project is the collaborative nature of it. As Kelly mentioned, we had approached IACME as well as ABMDI, the American Board of Medicolegal Death Investigators, and they were included in the project

from the start, from the proposal phase, because I'll be the first to admit, I did not know anything about this profession really until this project started. And so, you know, we do have others at RTI, as I mentioned, who are involved in the project who have worked with this community before, but I didn't know very much about it, and there has been very little research, as we mentioned, done in this space. So, you know, there are one or two scales that exist in the research literature that have tried to measure work-related stress in this population, but they're somewhat narrow in scope. And so we knew in order to even identify, you know, kind of the large buckets of topics that needed to be measured in our survey because we wanted to be comprehensive, we knew we need to talk to the people out there in the field who are in the profession. They're the experts. And so built into the design, we started with those few existing scales and then we also borrowed from other criminal legal contexts. There has been more work done, for example, in policing on work-related stress, so some of what we did is we took those validated scales because we wanted it to be strong empirically and methodologically. We took some of those validated scales and internally our team took a stab at adapting those for the MDI community. But then we took those drafts to our partners at ABMDI and IACME and had them tell us, you know, this item doesn't resonate. You need to add an item on this. And you know, they really helped us make sure that we were covering the breadth of challenges that they face because we wanted to make sure that it was comprehensive. We did some focus groups initially with ABMDI and IACME to make sure that we were covering all the categories that we needed to assess in our survey. But then they also reviewed drafts and provided both written and verbal feedback. One of the other things that I wanted to mention is, you know, this proposal was written before COVID-19 existed, and so that was not built into the original design to measure that, but of course, we needed to. So we developed a whole scale to look at work-related stress as it relates to COVID-19 specifically. And then we also asked additional questions about the extent to which other challenges or stressors were or were not affected by the emergence of COVID. All that's to say, the partners were critical at every step and really informed the construct and the individual questions that we asked on the survey.

Heidi Eldridge [00:09:22] And so the survey that you've done, that's actually only one part of the entire project you're working on for NIJ - is that right?

Jennifer Rineer [00:09:29] Yes. So we are currently developing the second part of this project, and I am so excited about it. And Kelly has been instrumental in helping me think through the plans for that. So the second phase of this is to develop a stress reduction mobile app for MDIs. In some ways, it'll be similar to other mindfulness or stress reduction apps that are on the market, but the key is that one, at the end of the project, it'll be made available for free for everyone in the MDI community. And the second thing that's exciting is that it will be tailored to MDIs, and Kelly can speak to this better than me. But, you know, there are certain constraints around the nature of the work, the schedules that MDIs have, and we want to make sure that the app works for them in the face of those constraints. And my ultimate goal for this project, too, is develop deliverables that really turn the findings of the survey and that second phase into actionable recommendations for employing an organization so that they can really make the work environment better for MDIs.

Donia Slack [00:10:32] In order for our audience to fully understand some of the stressors that are experienced, I was hoping, Kelly, could you give us a little bit of context about what the job of a medicolegal death investigator actually entails and some of the stressors that you encounter in that profession?

Kelly Keyes [00:10:47] Yes. The interesting thing about medicolegal death investigation is it does vary significantly from jurisdiction to jurisdiction. But there are a wide variety of job duties that the majority of offices do do. The primary responsibility for all offices is to determine the cause and manner of death. But also, this includes identifying a decedent, notifying family of the death, interviewing friends, family, and then you're the point person for the family to contact throughout what can often be an investigation that takes several months. This would involve dealing with the family in all stages of grief throughout those couple of months. You hear their stories, learning about their loved ones, and then sometimes you have to tell them what needs to be done by the office, even when it isn't their preference. You know that you're going to be bringing their loved one to the office for an autopsy maybe or what the timing is going to be, that it's going to be a couple of days before they're able to have them back to have a funeral service. Many investigations are happening simultaneously. You might have a caseload of 10, 15, 20, even 30 cases during that couple month period that you're balancing in all stages of the investigation. You're getting calls from the media. One morning, I woke up at six o'clock in the morning to a media blitz on a case that we had, all while also balancing calls from the family. You've got county officials wanting to cut your budget because they don't understand the importance of what you do or they're asking you to do more and more despite being in the middle of a pandemic and an epidemic with opioids. So I'm hard pressed to find many offices that feel they're adequately resourced, especially with personnel. And this is occurring all hours of the day and night. Sadly, it doesn't take holidays off, so it truly is 24/7, 365 days a year type of job. So there's really no rest, potentially.

Donia Slack [00:12:27] So from a practitioner point of view, can you maybe speak to your thoughts on the importance of a comprehensive national survey?

Kelly Keyes [00:12:35] It's a very specialized job with specialized training, and that training really isn't offered at any university. It's not offered anywhere but on the job training, for the most part. So with that, worker retention is even more important because when you need to replace somebody, you've got to start from square one and hire them and train them from the get-go. So once you put that effort in to train somebody, you really want to retain your employees. And if ways aren't identified to mitigate stressors, we will continue to lose valuable workers. And additionally, if we don't tend to staff, then our errors are more likely to occur. Staff are stressed from too much work and not enough staff or many jurisdictions because pay is low, they have to have second jobs. Often, they're called out in the middle of their sleep when they're tired from their other job that they have to pay the bills. Until we have definitive research on what exactly the stressors are and how they affect the variety of people in the field, I don't think we can set about to correct things to make it a better place to work, to retain workers.

Heidi Eldridge [00:13:32] Obviously, this is a survey and we needed to get lots of participants so that you could collect all those great insights and opinions. Can you tell us a little bit about who participated in your survey and how did you go about recruiting those people?

Jennifer Rineer [00:13:46] We ended up with over 900 respondents from the MDI professional community and our partners at the American Board of Medicolegal Death Investigators and the International Association of Coroners and Medical Examiners were critical with this piece as well. So they distributed notifications and information about our study, including the invitation to their membership, and they also, you know, they helped us by promoting the survey in various ways. John Fudenberg, a leader at IACME, had recorded a video for us talking about the importance of this work, which we put on our

study web page. So it was great because we felt like we really had buy-in from respected leaders in this workforce and we couldn't have done it without them. We had respondents from 49 of 50 states, so we had almost the whole country covered from a wide variety of offices. You know, people who work alone in this job - they're the only one in their jurisdiction - to larger offices in bigger cities. So I feel really good about the samples that we ended up with in that I think it really does reflect the diversity of individuals in the job and the diversity of the kinds of offices. And I have to say, I was really blown away with the participation that we got on this survey. We weren't able to provide incentives. We couldn't pay people for their time for taking the survey. And as many people know, it's tough to get people to take a survey. People are busy - they have a lot going on. There's kind of survey fatigue in general and on other projects, even when we do have incentives, sometimes it's just really hard to get people to participate. And I mentioned earlier that the survey is really comprehensive. The downside to that is that it is long, and I really had some concern at the outset, like, are people really going to take this survey if we're not able to pay them? It's pretty lengthy, and our friends and partners at ABMDI and IACME said people will take the survey. They are going to take the time because it is that important to them and they want their voices to be heard. And it was so true. We had over 900 people complete the survey, not just, you know, start the survey and drop off halfway through - truly complete it, including an open-ended question where we said, you know, tell us about anything related to your work that we haven't already covered. Sometimes people expanded on something that we had addressed in the closed ended items on the survey, and people told us a lot, a lot of really good information. So we had a really great participation and it's thanks to our partners. And I think it's because of the fact that this research is really needed in the field.

Heidi Eldridge [00:16:23] Yeah, that's really impressive. Getting over 900 people to complete the survey is quite an accomplishment.

Donia Slack [00:16:29] And about how long did it take to complete the survey?

Jennifer Rineer [00:16:32] When we tested it, it took about 15 minutes. But to be honest with you, I think people probably spent more time on it than that. We got some emails from people who just kind of provided us with their thoughts and feedback, and as I mentioned, you know, people, some people anyway really did write a lot in that open ended question just because they wanted us to know, you know, what the challenges are, their ideas on what needs to change to make the profession better. So I would guess it took most people probably closer to half an hour because of how thoughtful they were in their responses.

Donia Slack [00:17:03] Wow.

Kelly Keyes [00:17:04] You know, this community is really ready to be heard and glad to have somebody paying attention to them that I'm not at all surprised to hear that, that they took the time.

Donia Slack [00:17:13] Yeah, to get over 900 respondents to take the time and then also answer the qualitative side of your survey, that is really impressive. So clearly there is a need and they are itching to get their voices heard. So that's fantastic. Before we talk a bit about the survey results, can you explain a little bit in depth the second phase? So it sounds like put the survey out so that it can inform how you would like to address the actual experimental phase of this study. So if you could maybe expand a little bit on phase two, I'd love to hear a little bit more.

Jennifer Rineer [00:17:48] Yes, that's exactly right. We wanted to understand more about clearly there are a lot of stressors in this work, but what are the main ones? What are the things that are causing the most stress? And so we heard about, you know, particular aspects of the work and the work environment, and another main finding is just the fatigue aspect. You know, the shift work is really difficult. As Kelly mentioned, this is not a job that stops on holidays. It's not a job that stops in the middle of the night, like some people are working a lot of hours. And part of what we heard too, which was a result that I didn't necessarily expect is just that a lot of people work multiple jobs - like this is not the only thing that they're doing, so sometimes they're getting woken up in the middle of the night to perform duties related to their role as an MDI, and they get back home, they have to get up a couple of hours later to go to work for a different job. So we learn that fatigue and sleep issues are major in this population. So that's something that we're incorporating into the design of this app in order to reduce stress is providing some mindfulness type activities, but also some information and some tools related to sleep and helping people be able to sleep better. I would say at night, but at night or whenever it is that they're able to sleep given the job. And one of the things that I'm excited about about phase two is, you know, we're providing the app and we're having participants, you know, complete use of the app for a certain period of time. But along with that, we're also collecting information about their experience at work on a given day. So every day they'll be entering a short questionnaire in the app about certain things that they may have experienced during the day also informed by the survey, as you mentioned. So we're taking some of these top stressors and the things that people experience on a regular basis, and we want to better understand from day to day what kind of- what are they going through? And then what we're doing along with the app is we're going to have them wear basically an activity tracker, kind of, you know, like an Apple Watch type device that is going to be collecting data on heart rate variability and sleep. And what we're going to be doing is looking at the effects of both using the stress reduction app but also engaging in different activities for work throughout the day, how those work activities and usage of the app actually affect their physiology. So I'm very excited about that phase of the study because I think it's going to give us a lot of nuanced information about how these daily activities really affect people.

Kelly Keyes [00:20:18] Yeah, I'm excited about this because my goal is to make sure that, as Jenn has alluded to, when phase two occurs, it works with the lifestyle of an MDI professional. I had a fitness app at one point. It just wasn't working for me because I was working nights at the time and it reset itself for my day at midnight. Well, my shift went right smack over midnight and it just didn't work for me. I couldn't count my steps in a day because I could count my steps for a half day when it reset. And at one point I had a thermostat that allowed me a setting for Monday through Friday and another setting for Saturday and Sunday. My shift was Sunday through Wednesday, so that again didn't work for me. So I think it's really important to make sure that the app takes into account that these professionals are working on weird days. They're not working a traditional Monday through Friday shift - they're working nights, they're working four hours here, four hours there. They're working another job. And I think that those are really important factors to take into account. I look forward to working with Jenn and her team to tailor the contents of the app, some of the mindfulness things to things that will resonate with the medicolegal death investigation community. You know, helping with videos reminding the community of why we do what we do and then having it come from practitioners, not actors so that it is genuine.

Jennifer Rineer [00:21:32] We're very lucky to have Kelly involved in the work. She's already given me so many ideas and I mean, it's things that seem simple, right? But it's

like when we're thinking about programming the app or if you think about a typical mindfulness app, sometimes it'll ask you, how was your sleep last night? And she helped me realize, like sometimes people aren't sleeping, you know, in one chunk of time - it's a couple hours here, it's a couple hours there. And it's really important to me that exactly like Kelly said, that our app really works with their lifestyle because otherwise we're just, you know, another source of frustration, right? And that's the last thing we want. So I'm really happy that Kelly is involved and that we have our practitioner organizations so intimately involved because they're going to tell me all the things that I- that I just have no idea about and need to be educated about, and they're in it to do well. So I'm very excited.

Donia Slack [00:22:24] Actually drives home the point of, you know, this is an NIJ funded grant, and the NIJ is always stressing the importance of partnerships with practitioners, right? That research should always be partnering with the practitioner to make sure that it is a robust experimental design that takes into account all aspects of the reality of what it means to be a practitioner in the field. And I love the fact that you were able to bring Kelly into this discussion so that you can adapt it like in real time, where she can look at one of the aspects of the app and say, that's not realistic, that's not how that would work. So that this really will become not only informative, as informative as it can be for the community, but also it's- will actually be a useful resource in the end. So I love the fact that this was a collaboration with research and practitioner because it really does, I believe, it drives home the point that this should always be collaboration. When you're in the applied research area, making these partnerships is key.

Heidi Eldridge [00:23:32] So bringing it back from the phase two part of the study, which sounds really exciting, but coming back home to phase one and getting to know the survey a little better. We'd really like to hear what were the main findings of the survey because that's completed at this point, correct?

Jennifer Rineer [00:23:49] That's right, yeah, data collection ended in the summer. So the findings are really interesting, well, to me, as someone who was not very familiar with the profession before the project, I'll tell you a few different highlights. So what we learned about the job specific stressors is that of the top five things that MDIs reported as the most stressful, three of them were related to interactions with family members of decedents. So these are things like a family member being angry or aggressive, a family member being inconsolable or extremely distressed, and just the general concept of giving death notifications. People said that that's just a really challenging part of the job as one would expect. Some of the things that also emerged were working more than 24 hours in a row to complete work assignments. That's something that a lot of people reported as a top stressor, and that really just kind of blew my mind - like the thought of trying to work, I mean, even 12 hours in a row sounds really demanding, right? And to think that people are somewhat often having to work more than 24 hours in a row to complete work assignments is just really intense. And I think it's no surprise that we're seeing fatigue as one of the top outcomes in terms of how people's mental and physical health is being affected. We also learned a lot about the organizational stressors or aspects of the work that are internal to the work environment. And things that are being reported as really stressful on that front are things like staff shortages, the feeling that different rules apply to different people or favoritism, dealing with supervisors, bureaucratic red tape, and then feeling like you always have to prove yourself to the organization. So some of this is kind of around a work culture and around things that training can help address, and this is a really hopeful aspect of the project to me, right? Because death investigations, I'm sure, will always be difficult. Like, there are some things that you can do in terms of training and different policies and practices to try to improve that, but you know, at the end of the day,

that's always going to be a really hard thing, right? But supervisors don't always have to be difficult, right? And so I think that there are these stressors that are emerging that are more typical of what most people experience at work - it's interpersonal difficulties, things about the culture. And so I'm excited to, as we move the project forward, really develop some concrete recommendations around how some of those things can be addressed because there may not be MDI specific research on that, but there's a lot of research out there on how to improve the work environment, how to improve supervision, you know, through training, resources, different programs. So I'm really excited about that. And then in terms of the operational stressors, some other things that were reported were, you know, just a lack of understanding from political stakeholders or people in the community about the work. People feel like there aren't a lot of resources provided because there aren't a lot of people out there advocating for MDIs. They don't understand the job, what it entails. Other things that emerged, you know, were feeling like people are always on the job, like kind of never getting a mental break from things. So there are a ton of interesting findings, and I could really talk about it all day, but I'll stop there for now.

Donia Slack [00:27:10] So, it's interesting. You know, the fact that you said that the top three job specific stressors reported were related to interactions with family, and I know, Kelly, you touched upon this earlier, but given these results, can you maybe give a little bit of context to some of the difficult interactions with family members, what that looks like as a practitioner?

Kelly Keyes [00:27:31] Well, the first is the coroner in many jurisdictions is the one that has to knock on the door and tell someone that their child or their spouse has died. And that's something that even after 24 years of doing the job, I never got over having a racing heartbeat as that happened. Every single time, I just- I got the flutters, whether it was knocking on the door, you know, picking up the phone. You just never, never get over that, I don't think. And then you never know what their reaction is going to be. I've seen the gamut of emotions, from grief to laughter to violence. I had colleagues that were assaulted at that point. So you have to be prepared for everything knowing that your own safety is an issue. Then there's continued liaison between the family and the investigation to tell someone, like I said, you're going to be taking the relative away now to take them back to the coroner's office or the medical examiner's office. To tell the family that maybe you're going to need to do an autopsy sometimes, which might even be in opposition to their desires. But it's just something that would be necessary, maybe in a criminal case or in your jurisdiction. I'll never, never forget the family that placed their child, she was about six months old into my arms to allow me to be the last one to care for her as we took her back to the office. And then all of this with ongoing calls for weeks to months of the investigation, where they're calling to check on the status of things. They're thinking about their loved one and they want to call and share their stories, all while you've got another call that you're trying to get out to but trying to also give this family the time to talk and to help with the grief. There's the rare cases where you can't give a family an answer with a final cause of death or where they don't like your final decision. Something that was highlighted even more with COVID, and many families were in denial about that. Before I left work, I had a family who called me repeatedly yelling at me that dad couldn't have died of an overdose. The forensic pathologist determined that was the cause of death, but the family just didn't believe it, and would call and yell at me regularly about that. I've been cursed at more times than I can count, but the good thing is, fortunately for each of these experiences, there are absolutely amazing families out there that we get to interact with. These are the families that take the time in this day and age to send a handwritten thank you note. I still have my collection of those, as those really were what made it worthwhile, and I still have my collection of handwritten thank you notes that I got over the years.

Heidi Eldridge [00:29:50] It sounds like you're having a lot of really meaningful and intense human interactions with people. I'm wondering, aside from support after the fact in dealing with the ramifications you might emotionally feel from these interactions, is there any sort of support that's given before the fact? I mean, it sounds like you're practically a counselor in some respects. Is there any sort of training provided or support on like, how do you do these interactions? How do you approach these difficult conversations or are you just kind of out there winging it?

Kelly Keyes [00:30:22] There certainly was in our office training, and the- a lot of the organizations provide training and things, and there's not necessarily a good way to do a death notification because it's always going to be terrible news. But there certainly is a bad way. And I guess the key is to try to do it as best as possible. So I mean, there are guidelines and things like that, but since no two situations are the same, I've actually had families laugh when I've made a death notification. Say thank you to, again, to assault. So it's kind of all over the place, but you try and just be prepared for as much as possible.

Donia Slack [00:31:00] So Jenn, you mentioned that you also were able to shift some of the questions as soon as the COVID-19 pandemic hit to try to determine some of the impact on work-related stress. Can you describe some of your thought process on that and the results that you obtained from those questions?

Jennifer Rineer [00:31:19] We knew we had to address this in our survey. I mean, it was just, I mean, it was impacting the lives of MDIs to the extent that I actually thought, are we going to have to put the project on hold because, in a way, I felt a little bit guilty, right? Because we needed input from the community for this survey. And it's like, okay, your whole work world is like torn apart, you're dealing with more demands than ever. Oh, and by the way, can you sit down and participate in a focus group about a survey? But again, it just speaks, I think, to the need and the desire from the community to engage in this work because basically they said we'll make time for this - like it was, it was really wild to me because, I mean, among all the different workforces that were really impacted by this work, I mean, MDIs are right up there. They were out, you know, interacting with decedents who may have been affected themselves by the disease, so they were experiencing personal health risks while, you know, the nature of their work had to change considerably. It was, it was really intense. So we developed a scale to measure aspects of work that were most affected by COVID, and again, this was totally informed by the practitioners. And then we also asked questions about the other stressors, sort of the quote-unquote "normal" stressors and asked to what extent those were also being affected. Because, you know, we wanted to be able to say at the end of this study, we hadn't expected COVID, but there it was. We want to understand the impact of that, but we also wanted to be able to say what stress is like kind of outside of that. So we want, to the extent that we could, we wanted to be able to tease out what of this stress is related to COVID and what of it is kind of stressors that existed before the emergence of COVID and that are sort of separate. What we found in terms of the aspects of work that were most stressful directly related to COVID is really higher caseload - the work really just grew exponentially and so quickly and related to that more staffing shortages. Other stressors were that similar to what had happened before the pandemic, MDIs received just less accommodations and support than other first responders in terms of in comparison to police, fire, EMS, just sort of receiving less support for dealing with this. There was the stress related to direct exposure to COVID and then also just unclear guidance on new procedures. Something that I thought was interesting that came up in the focus groups when we were developing these items was also with more MDIs working from home when

they weren't working directly out at a scene was just also the issue of now a lack of separation between workspace and home space. And people were saying, you know, now I'm sitting at my kitchen table looking at photographs related to these cases. And now that's kind of invaded my private space. And I mean, we know how difficult working from home has been for just the general public. But, you know, to think about now you have these really difficult and sort of sometimes traumatic materials that you're now bringing into your home, that has all sorts of effects on, you know, just your mental health and then also related to sleep as well because now all of this challenging work is happening in the same place where you live your non-work life and you're trying to get rest. And so it provided a lot of challenges in that way, COVID did.

Heidi Eldridge [00:34:44] Kelly, I'd like to hear from you from a perspective of a practitioner, you know, when that transition to terrible work conditions as an MDI to terrible work conditions as an MDI with COVID. How did that look for you?

Kelly Keyes [00:34:58] I'm just nodding my head as Jenn is talking. And it was busy. It was just so, so busy. And it continues to be for many of my colleagues in the profession. They're still incredibly busy. You know, we've been increasingly busy for several years as overdose deaths have been on the rise. But when you add the excess deaths from COVID or potential from COVID, I believe my office was up 125 percent of cases in just one month from COVID and the associated cases, and there was just, there was a never-ending workload. This is all while you're trying to stay healthy yourself, trying not to get COVID to bring home to your family, and then changing how you do things like interacting with families. You do develop a bond with your families, and it's not uncommon to maybe hug a family or to pat a family on the back. But now you're having to social distance and you can't interact with the families like you're used to which is sort of feels good for yourself. So you're doing this and then you're wearing extra PPE as you go into the scene. So you look like something from Ghostbusters or an alien and you've lost that humanity. There was having to make arrangements to aid county partners like our hospitals and our mortuaries with storage for excess decedents. They didn't have anywhere else to store these bodies, so we had to come up with a plan to serve our community in that way as well. And that's just one more stressor. They're not necessarily cases in your jurisdiction, but they're cases that you have to help out your communities with. There's families in denial at the cause of death, like I said, and then other families were calling, insisting that their loved one did die of COVID when the test results didn't come back and the pathologists felt that it was something else. Even more so, I think now as we're into this current wave following vaccinations, these are potentially preventable deaths and preventable deaths are always even a little bit harder to- harder to stomach and harder to investigate. It's just been, it's been busy.

Heidi Eldridge [00:36:55] So earlier when we were discussing the results of the survey, you mentioned that you had these sort of validated sort of quantitative questions that you asked. But you also mentioned qualitative, open-ended question that was a sort of catchall to let people tell you about things that were important to them that hadn't been hit yet. And I don't think we really dove too deeply into the results of that extra qualitative question. Is there anything there that was of interest that you'd like to share with our listeners?

Jennifer Rineer [00:37:23] Yeah. One of the things that I want to share is that, you know, there were a few themes that emerged, including some of the things we discussed before in terms of lack of resources, support from leadership in terms of kind of internal work environment type issues. But one of the major themes in addition to that was this idea that the mental health aspects related to this work really is a challenge and for multiple

reasons, and we've looked at some of the quotes that came out of that qualitative analysis. And one person said, I think everyone in this profession suffers some level of PTSD, but most don't seek help or acknowledge it because of workplace stigmas and repercussions. So some people, you know, are afraid to seek help. But that's one issue. You know, another thing that emerged that I wanted to mention that really, really stuck with me from when we were developing the survey and the focus groups is multiple practitioners and MDIs in the field said, I've seen a counselor. I've seen a therapist. They were not prepared to hear what I had to talk about related to my work. And I felt like by the end of the session, I was consoling them, and I was the therapist because they are not trained to hear this stuff. And they were saying, it's just so hard. There's nobody to talk to, right? Like, you don't want to necessarily tell your spouse over dinner, you know, the horrifying things that you may have seen on a particular case. But then when you go to therapy, for the most part, the folks that people had sought help from were not specialized in this area and they were just not prepared. So I think between there being stigma, you know, in the profession about seeking help in general, but then when people do seek help feeling like there aren't people who really understand this work or are prepared to help me with this, it's really an issue. So that was one of the things that really stood out to me.

Kelly Keyes [00:39:15] Yeah, there's always kind of been a "you signed up for this job" mentality, and I think we've gotten a lot better as a profession in recognizing that it isn't "you signed up for this job," but it can be difficult to find somebody who you can share with. The things that you see are, are horrific, and just telling somebody about that is traumatic, and it's hard to find somebody that can help you with that. You hopefully have a connection with colleagues at work or colleagues that you've met through one of the associations that maybe you can reach out to. But it's not as easy as maybe finding a local counselor for routine problems, if there's such a thing.

Donia Slack [00:39:55] So, Jenn, what is one thing that you think you would like to have listeners know about work-related stress among MDIs?

Jennifer Rineer [00:40:04] To me, the main takeaway is this is an incredible group of people working in this profession. They are resilient, they are doing incredibly important work and meaningful work in the criminal legal system, and they're supporting people. As Kelly mentioned, they're providing support to families. They're answering important questions. And also, frankly, they're just a really fun group of people and really interesting people to talk to for such a serious topic. It's been an amazingly fun project to work on. I would say the importance of this work cannot be overstated, and it is so needed in this field. And it's frankly, you know, Kelly and I, we're talking about some of the findings - it's sad in many ways that people are dealing with really difficult things in this profession and the lack of recognition of the hard work that they're doing, the value that they bring, the lack of resources that so many of them face, whether it's because of budgetary issues, you know, a lack of advocacy - it's really challenging. And I think what's important is just thinking about the positive next steps that can come out of this work, like this research was sorely needed. I think we're learning a ton from the survey and we'll learn even more from the impact study. And I'm just excited to work with Kelly and our other practitioner partners to really bring these issues to light and develop concrete recommendations for how the profession can be improved.

Kelly Keyes [00:41:33] I have to say I felt incredibly validated by the findings of the survey - that I wasn't alone in many of these feelings. Almost everything Jenn has described is something I felt, with the exception of being in a larger office, we weren't necessarily on call. We were staffed 24/7. But everything else that Jenn found in the survey was

something that I had probably felt over my 24 years and to feel that I wasn't alone, I really did feel validated. Like I mentioned, years ago, there was an attitude that you signed up for this job, but that- that's just not the case anymore. And there used to be the expectation you could be pushed and pushed and were ignored. But I want listeners to know that this is being recognized and it's okay to be human and to have feelings and to need a little bit of help here and there. In fact, I think we can actually do a better job when we are human and when we humanize what we do. There's a whole community of folks that people can reach out to who feel the same that these death investigators do. And in the meantime, the survey proves that you're being heard, and you're not being ignored and your needs are being tended to. I've unfortunately had several colleagues in my career who died by suicide or attempted suicide and that needs to stop. We need to do better for our nation's last responders who support the rest of us and the rest of the world in the time of crisis and then do it again and again. So that's why I'm so excited about this.

Jennifer Rineer [00:42:55] One of the things that really struck a chord with me when we were doing the focus groups is we were talking about this idea of stigma about talking about mental health issues. I know that this is starting to shift in the profession. I know that, you know, leaders like John Fudenberg and like Kelly Keyes right here, are part of this movement to make it more acceptable and more common to talk about mental health. But one of the things that was discussed in our focus groups was that for so long there was this issue and this sort of mindset of if you don't talk about the issues, that's better, right? Because if you ask people to talk about these experiences and these traumatic events and, you know, these mental health challenges, you're going to make it worse because then you're dredging up all of these feelings and you're kind of bringing it all to the surface. And it's better for day-to-day functioning if you just kind of accept, you know, as Kelly was saying, this is what the job is, like we don't need to talk about all that quote-unquote "touchy feely" stuff like let's just not go there and then everything will be fine. But as we know, that's not how it works. Right. And Kelly mentioned earlier, unfortunately, being familiar with people who died by suicide and that was one of the stressors that emerged as a key component of work-related stress is actually experiencing or hearing about death by suicide of a colleague or being concerned that it's going to happen among the people that you know. And so I think we just need more of this work to normalize this is worth talking about. It needs to be talked about and needs to be addressed because it's going to manifest in really terrible ways if we are not talking about it. And so I think that's one of the things that the profession needs to continue to acknowledge and that we, as researchers, can help with. And our survey shows levels of burnout are really through the roof among this population. And we know that if burnout kind of goes untreated or there's no steps taken to alleviate that burnout, that leads to things like anxiety and depression and ultimately can lead to even worse outcomes like PTSD and suicide, unfortunately. So I think one of the things that I just want people to walk away with is just the understanding of, you know, not talking about it doesn't make these issues go away.

Donia Slack [00:45:07] This leads us to a discussion on what you think the future research in this field should be. When I've done literature reviews in this area, I know that when it was specific to medical examiners and coroners, before this research study, there was a meta-analysis done by Flannery and Greenhalgh. And from 1990 to 2017, only I think it was like three or five papers or research study, small ones, had ever been performed and combined it surveyed 900 or so coroners combined with multiple different methods. And so I think it's fantastic that you were able, in one survey with one research study, to get an audience of more than 900 medical examiners and coroners with one instrument so that you can really make some statistical significance across what they're experiencing. So I'd love to be able to hear your thoughts on now that you're analyzing

your data and you know that you're going into phase two, what do you think the future research landscape should look like?

Jennifer Rineer [00:46:13] We definitely need more interventional research and specifically more interventional research that helps to actually reduce the sources and the causes of the stress, not just to help people cope with the stress once it happens. To me, that's really where the focus needs to be, because I'm very excited about the app that we're developing and I think, you know, something like that is needed, right? Some aspects of the work are inherently stressful, and we want people to have tools to be able to cope with those stressors. But really, the goal of the work ultimately needs to be on, to the extent that it's possible, removing sources of work-related stress. So as we mentioned earlier, of course, death notifications are always going to be difficult. But for these aspects of work that have been identified as stressful that are about the work culture, about supervision, I think we need to dig into what specifically is needed to better train supervisors to change the culture of an organization and to do interventional research that's focused on that so that we're actually starting to remove and alleviate some of that stress as opposed to just kind of trying to put a Band-Aid on it afterwards. And I think, you know, this study is really going a long way to helping understand what the different pain points are, and so I'm just excited to do more work in this space, work with others at RTI and our collaborators to really test out some promising practices in terms of reducing the stress for the workforce.

Donia Slack [00:47:43] Kelly, do you have any last thoughts?

Kelly Keyes [00:47:46] I think it's really important that we now have some, some direction that offices can use to inform policy and change practices and really to make the profession more sustainable so that when we put all this energy and effort into training investigators and training people to do the job that we can keep them for a long time, that we can keep them for 24 years.

Donia Slack [00:48:06] I agree. And with that, I think that's all we have time for today. So I'd like to thank my co-host Heidi Eldridge and also our guests, Jenn and Kelly, for joining us today.

Jennifer Rineer [00:48:17] Thank you so much for the opportunity to talk about the project.

Kelly Keyes [00:48:20] Thanks, Donia. Thanks, Heidi.

Donia Slack [00:48:21] And if you've enjoyed today's conversation, be sure to like and follow Just Science on your podcast platform of choice. For more information on today's topic and resources in the forensic field, visit ForensicCOE.org. I'm Donia Slack, and this has been another episode of Just Science.

Voiceover [00:48:38] Next week, Just Science will sit down with Dr. Cara Berg-Raunick to discuss workforce resiliency from a sexual assault nurse examiner perspective. Opinions or points of views expressed in this podcast represent a consensus of the authors and do not necessarily represent the official position or policies of its funding.