Transcript

Danny Lennon: I'm excited to talk about much of what we're gonna discuss today because it's never been directly addressed, at least in the detail we might getting to, on the podcast. And I think's something that will be of relevance either to many people listening or certainly to clients or families of clients that they know. So before we get into any of that, maybe let's just start with an introduction to yourself. Can you maybe tell people, listening a bit about the work you do, your kind of background in academia and your kind of focus of work?

Jill Joyce: Right now, I come from a dietitian background. I'm a registered dietitian in the US and I was a clinician to start. My husband was military active duty. So we moved a lot and I've worked, in a very short time, probably faster than most people covered an entire career, I've worked in pretty much every area of dietetics and in doing so, it was great because I learned what I really want to do.

And I've learned that I feel most rewarded by working with large groups of people working with individual patient. I liked it, but it wasn't the most rewarding. I just, I thrive off of having a big impact on a big group of people. And so I I work currently in academia, in public health nutrition.

I'm a professor at Oklahoma State University and I do research in kind of two areas, which seem quite unrelated but they oddly are. I do school lunch

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research, which ironically was started as a department of defense effort to coming out of like the depression and us being a little malnourished from that and world war I, and it was an effort to actually increase the nutrition and like strengthen the US population for if we ever had some type of defense effort again. Strange connection there to the other side of my research, which is tactical nutrition. I work with firefighters, law enforcement officers and military personnel, as well as their families, those that are active and those that are prior service or veterans. And my main goal is to look at how healthy they are and how we can improve that.

There are a lot of people who work more on the like performance side of things, but they're all my family members. I have tons of law enforcement, fire and military, and my family and I married active duty. And it's a great place to work in that I have that public health element. I get to have that dietician element. I get to work with my family and friends, and I know them in a nerdy and a non-nerdy way. So, you know, like where the research hasn't filled in the gaps, I know where the gaps exist and I have like an insider scoop on how to fill.

Danny Lennon: Yeah. And there's so much that I wanna discuss. And I'm sure as we'll talk about much of the time whilst there is, like you said, this kind of performance element, improving the health of these types of populations.

Indeed, it's probably gonna lead to performance improvements, but more so when we think of the nature of much of this, these jobs, there are things that are maybe in conflict with health. So we can definitely dive into those first, maybe at the risk of this being maybe an oversimplified question, but that people may have thought about when you mentioned this tactical nutrition or talking about tactical populations: where did that term originate from? And why is that the terminology we tend to use here?

Jill Joyce: That's a good question. There's not like a super nerdy, nerdy you know, designation behind that or reason that we call it that. It came out of the national strength and conditioning association, as far as I know my counterpart in kinesiology, Dr. Jay Dawes, was part of creating the tactical strength and conditioning certification, the TSAC certification through the NSCA. And I believe they were one of the first to create the, have this terminology connection of tactical with fitness or tactical with nutrition. And that's where it came out of.

Danny Lennon: You mentioned there that there are many gaps within the literature and certainly your experience from your family and from your partner. Gives you an insight into where some of those gaps exist. So right now, how much research is actively being done in this area? So beyond your lab, where

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there's a kind of clear focus on it, how many groups are maybe looking at these questions? What is the kind of state of literature in this area? How would you tend to summarize that for people who are unfamiliar with the area

Jill Joyce: I'd say it's a very niche area there are groups here and there a you know, we work a lot with individuals in like California and Australia working more on the law enforcement side of things.

We work with people in Kansas working with fire a little bit more. I say we're one of the few labs that's really looking at all groups. There are very few kind of looking at all. We're one of the few labs that also combines fitness with nutrition. And we also have a lot of researchers at OSU who also function in the mental health space with tactical groups.

Like we're currently collaborating with researchers in human development and family studies that look at like law enforcement officer and family resilience and how the spouse influences their health. So we're kind, we. We're one of the few really comprehensive labs that can look at a lot of the physical health, but also even add some mental health elements at the same time there are a handful of labs I'd say across the country, on the health side of things. There are a few more on the performance side, but it's a very tiny space. We really tend to know each other pretty well.

Danny Lennon: That's interesting given how much of the population is involved in some of these roles and the benefit for getting it right I suppose. One of the things that from the outside, when think about this potential area, that seems like a real challenge, not only for assessing the current status of diet and health in these populations, but also for what interventions may work is the heterogeneity of these populations, right?

Not only between different groups, like first responders versus law enforcement versus military, but even within each of those, the roles people can occupy and therefore their schedule and the, what their actual work looks like can be very different. How do you go about considering that? Like how big of a challenge is it considering this heterogeneity of like, how do we actually give general recommendations to people in these groups. Is that even possible? How do you try and pass through those things?

Jill Joyce: So that's kind of the million dollar question right there actually well being on the public health side of things, I've I feel like that training gives me a bit of a leg up and that I think social determinants of health are fascinating.

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So, you know, all of those factors basically external to you that influence your health, anything from education. Access to health access to food socioeconomic status environments that you live in. All these things in your work your peers, all these things influence you. So fortunately, I I think I come in really appreciating the fact that there are a lot of differences.

You're absolutely right. They are super heterogeneous and I'm pretty quick to ask questions to catch on to all of those things. I think that helps having that background. I know what questions to ask to try and get the full picture fairly quickly. Working with fire and law enforcement. You're still right.

It's it's so heterogeneous, even within fire departments I know here we do two days on four days off, but there are other departments that do completely different shift schedules. Maybe fewer days on or fewer days off or start times differ. Same with law enforcement. The schedules, the shifts are all over the place.

And even within law enforcement, you have general duty, you have special ops or SWAT. You have sheriffs, local troopers. With fire, you've got wild land. You've got structural. You have the hazmat guys EMTs sometimes not. So even just within their job like duties, they're different.

Let alone shifts and, oh my gosh. Yes. I'd say the only semi consistent group is military. That's a, but again, there is heterogeneity there in the jobs that they do and whether they're deployed versus home, they're probably the only group that's a little bit more predictable though.

Danny Lennon: Yeah. Within certain limits for sure. So in, in terms of, and we may need to talk about these groups separately from here on, but I'll start by framing. These tactical populations and where you need to distinguish between them. We can talk about them individually, but from an overview level, as a starting point, what data has been collected this point to give us an idea of, well, how do they typically eat?

Where are the places where we could actually make changes? How have you gone about assessing. Beneficial changes would be made based on where people are currently at.

Jill Joyce: Good question. The military, I'll say there's actually a good bit of research out there. and I can speak more to the army side of things because that's just what I'm more familiar with.

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And I can say that like USARIEM I think it's the US army research Institute on environmental medicine. We have some colleagues there and they do a ton of research on training, injury, feeding. So I'll say the military actually has, they have a pretty good understanding of what their needs are.

They're just coming up with unique ways to meet those needs because they are such difficult needs and you know, so many problems to solve. So the military kinda has their own thing going, and they're doing a great job with it. I tend to function lately more on the fire and law enforcement side of things.

I say with fire, we have a good bit more data. We know more about their heart disease, prevalence, their weight status, their cancer prevalence, and we have a good idea of occupationally, why that's happening. We're just starting to move more into the non-occupational reasons for that happening.

We have more data on the physical activity side of things, much less on the nutrition side of things. There's only a handful of studies I'd say on nutrition among firefighters. So we're doing a good bit there to assess anytime I, I do something with a group we're collecting like 24 hour recalls often and doing nutrient analysis, dietary quality.

But I like to go beyond that. I also look at the readiness of the department that I'm working with, the readiness of the individuals. I'll do assessments there. I'll also ask a lot of questions about. Those things that make them heterogeneous too, because those that all influences their nutrition.

It may not be a direct assessment of nutrition, but I need to know those things in order to intervene. We're also looking at some novel ways to assess the food environment. There's just an focus group. information related to the fire station, food environment being pretty unhealthy. So we're trying to use novel assessment tools like PhotoVoice.

It's really an effort to have the community that you're assessing engaged and really give them a voice. So we took iPads into the fire stations and we asked them if you were to take pictures of the fire station, food environment, whatever that means to you, let's do it. Like just point us and we'll take some pictures.

And it was fantastic. I've used a few food environment surveys and we did some interventions and I don't think it did a good job of showing the change that I saw. I saw that there was a big change in the environment. So we're using photo voice. We're hoping to get the manuscript out, piloting it for.

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Looking at quality of the food environment. We're hoping to get that out this fall, but it was pretty neat. We actually used the healthy eating index and we tagged the healthy eating index scoring criteria in the photo each time that a food item. Met one of the criteria. So we got at the quality of the food in the environment, and we also looked at behavioral economics.

What's normal, attractive, and convenient is what you'll eat. So we looked at if the less healthy E criteria were being promoted or the healthier H E criteria were being promoted with those three ways. And it was pretty neat. We, I had definitely painted the picture. Much more closely than the paper surveys that we typically use.

Danny Lennon: I definitely wanna dive back into the food environment aspect in a bit, but just to pull back on something you said previous to that, because I'm not sure if everyone listen, is maybe familiar with this. And certainly this is something I only was reading in some of your publications. In relation to cardiovascular disease risk certainly in law enforcement and firefighters.

And as you just mentioned a moment ago, we have some of this aspect related to cardiovascular events or cardiovascular mortality could be explained with occupational hazards directly, but then there's this other piece that relates to non occupational hazards. So therefore that ties in lifestyle, presumably nutrition.

Can you maybe just speak a bit more to that and that distinction. And then also, what do we know about cardiovascular disease, risk cardiovascular mortality in these groups?

Jill Joyce: I'll say I don't dig as much into military. We do see increased risk of cardiovascular disease among them for, because of occupational exposures, but also because of the stress and then the impact that, that has trickling down on lifestyle and such.

I do, I focus a little bit more, especially right now with fire because there just is more data out there. and they tend to be highly engaged with me right now. I have worked a little bit with law enforcement, but it seems like recently we've been on a fire kick. So for fire if we look at occupational versus non-occupational, I would say for them, cardiovascular disease risk on the occupational side is if we can say heat exposure to noxious chemicals, because that will cause inflammation. That's often tied a little more to cancer, but it will impact cardiovascular disease too. The alarms the impact on blood pressure immediately from a fire alarm going off in the station.

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it's pretty crazy. They elevate and go really high really quickly. So there's that you're having to go from zero to 60 in no time. So that kind of rush in all of the, you know, the biomechanic or the biochemical, you know, mechanisms that are going on the body from that, the trickle down you've got oxygen, heavy gear, you're dehydrated for long periods of time.

If you're responding to a fire, there's just physically, there's so many exposures, but then if we look non-occupational, like I said, there's not quite as much research. We're finding that for firefighters. Their physical fitness levels tend to be below what the national fire protection agency in the US recommends.

And they tend to be moderately active to inactive more on the inactive side of things. So that's a risk factor for cardiovascular disease is that inactivity. And then also with nutrition as a non-occupational risk factor you know, we're seeing that the fire station food environment has a lot of unhealthy foods in it.

Often those high salt, high added sugar, high saturated, fat snacking. Not a lot of things with fiber or healthier fat profiles. We're also seeing that, you know, and some of these start to bleed over, you know, it's the occupation that's causing the non-occupational risk sometimes. So there is a connection looking at sleep on and off the job is often impacted too.

I say sleep on the job is more of an occupational risk factor. Looking at family relationships, that can be a risk factor. You know, if the job is impacting the family, that's very, that's gonna add to the stress. Oh, there are so many risk factors. .

Danny Lennon: Yeah. And we can certainly start talking about some of these and I think in particular, some of those aspects you just mentioned actually themselves while being a risk factor, also knock on and impact food choices and overall diet and diet quality. First maybe that's turned to food environment just because you've mentioned it a number of times, and of course this is something that's not isolated just to fire or to law enforcement, this is in many occupational settings. Groups of people come together and there's food provision there. And I suppose we could even think of food environment for all of us in the general population is probably not the way we'd wanna. Are there any other aspects that maybe you've gleaned even anecdotally from people working in these areas as to why the food environment is the way it is?

Is it simply just, these are foods that we like, or there are other elements, anecdotally people are reporting that might give us an indication as to why?

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Jill Joyce: There are a lot of reasons if we look first at like food systems how individuals, let's say working at a fire station as an example, and it's often similar for law enforcement but switches ever so slightly in ways.

So with fire, how do they obtain food while on shift? I've found that a lot of individuals don't bring food from home. So it's not like meal planning and prepping and bringing from home. And it's typically because when they're at the station, they eat as a family, oftentimes, which is a protective factor.

It makes them a high functioning, tight knit team. It reduces some of that stress. It's a great thing. As long as they're eating healthy food , but unfortunately we have a lot of evidence from focus groups and surveys. The food being purchased and cooked is a traditional firehouse culture.

You see that with the food environment and with the food being cooked is there's this sense of like traditional firehouse food culture or food environment and it's comfort food. My stressed out college students are going home and, you know, a parent or grand grandparents gonna make that, that, "oh, come home, honey, I'll make you that meal that makes you feel better". It's that kind of food. And they even have like old recipes taped on the inside of like food locker doors. And it's just what you would expect to be getting from grandma, honestly; biscuits and gravy, stuff like that. So they're cooking a lot at the stations and, or they're eating out.

And they're getting their food from fast food restaurants typically. Although with a lot more to go options at sit down restaurants, they're doing that as well. They're typically not eating at the restaurants though. So. It depends on what's around them. Honestly, I can even say from in town we have one station that's really not by any fast food.

So they tend to cook a good bit more and they're closer to a grocery store. The station on campus, those poor guys are surrounded by every college campus. Favorite food and I don't know how they eat healthy. yeah.

Danny Lennon: It's interesting. And again, this is completely anecdotal just from a conversation I had with someone privately before, but they were working in a situation like this saying that had talked about not only is it this availability of these foods around, and as you mentioned that everyone eats the same thing that's there, that if you, as an individual, maybe try and break that. Either outwardly or at least maybe personally you feel a bit of stigma for healthy eating, right? If everyone is enjoying the same meal and you are the guy

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that walks in with their Homem. Salad from home, then people can feel a bit different about that and that's in itself a barrier.

And I'm sure there are many other examples of things like that, that people might report.

Jill Joyce: Yes, we, and that kind of goes along those lines of that traditional firehouse food culture and tactical groups tend to be they really cherish tradition and the history of what they do a lot. So breaking that is quite difficult.

There's a lot more behind it then. There's just a little bit more behind it than like civilian food culture. There's like this deeper emotional attachment to it, this deeper camaraderie attached to it. So you're right. If, and that's part of the reason why I often assess the readiness of the department to change because that culture, if the culture's not there to support you, that, you know, there're all these cards that need to be stacked in the right way for you to make a change.

And that's one giant element that could be against you. I could get you to change. I can educate, pardon my French, the crap out of you. But if the culture, the environment, the people around you, aren't gonna support you. I'm you're gonna drop it tomorrow. So you're right. That something that we assess and some of the interventions I've been working on are my goal is to try and see a shift in that without I don't wanna come in with a wrecking ball, I need to gain.

I need to gain support of the whole group. They need to respect me. They need to see me as one of them almost, or at least an extension of them. And then I can shift that culture a little bit. Right.

Danny Lennon: Yeah. And it, it's interesting. You bring that up because that is something that. You hear about in, in other contexts?

I think most notably in things like team sport I've talked to a number of sports, dieticians, and nutritionists that they go into a new team sport setting. And number one, you're not gonna make change by going at an individual level and just telling one player. Make these changes. And then secondly, you have to gain the trust of the overall group.

But then with the changes you do go, like you said, you don't go in the wrecking ball, you gradually build things through and in like change the culture over maybe a number of even seasons so that player's coming through can change. So it's interesting to see parallel like that.

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Jill Joyce: Absolutely. Dr. Dawes and I often call them tactical athletes. Definitely not to be confused with traditional athletes, because there are many differences, but we do often call them tactical athletes because of that. At times they have to be athletes, but there are some really fascinating parallels between, especially that I've seen with veterans exiting military service and D one professional athletes exiting the sport, the psychological and physical transition is almost identical.

So it's, it is fascinating. They do mirror sports a lot.

Danny Lennon: Yeah. That makes complete sense. Now that you say it of like that the, how someone's identity is built within a group. And you identify with that.

Jill Joyce: That's exactly it. Yep. They have that identity. They have this routine and it's tied to others and you know, some, oftentimes they're being told how to eat and how to work out and then you pull everything out.

There's no identity, there's no family, there's no routine of eating healthy and working out it. All on your own now.

Danny Lennon: That could be a whole fascinating topic to to dive into. .But it is fascinating to consider to see those parallels. And I think it probably explains a lot and certainly for dieticians or nutritionists listening, that they can probably see that if they've tried to work with such populations.

So, so when it comes to this change in the culture, and if we focus in, on, on diet, there's a number of barriers here. One is of course, just on a general population level. Again, these are just, again, human beings. Like all of us who are exposed to the same things and there are challenges, but interestingly, there's almost a number of layers of, because of the type of work it makes it maybe even more challenging.

One you mentioned is obviously the culture, but then beyond that, if we just think of the nature of this work, where you have shift work going on, you may have sleep deprivation. You may. Stress, et cetera. What do we see in of some of these aspects of either fire or law enforcement type work that then bleeds over to impact diet and just how big of a role could they play?

Jill Joyce: There are some studies that as, especially on the fire side, I'll admit on the law enforcement side, we really don't have a lot on. On their health status. There's just some, a few studies on like obesity and cardiovascular

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disease deaths in the line of duty and a little bit on their eating habits, but very little there's more on the fire side.

So with fire we do see that , you know, we have, oftentimes if there's not evidence in fire or law enforcement or military, I have to go to the parallel in the civilian world. And you're right. We see all of those things, stress shift, work, sleep deprivation, all of those things lead to unhealthy eating habits, lack of physical activity, and we're starting to connect the dots.

Part of the reason for less healthy nutrition habits and physical inactivity among these groups is for the same reasons. They're just typically a little bit they're more extreme in terms of the stress, the sleep deprivation, the shift work and it, so we tend to see them eating a little less healthy than the general population and physical inactivity is more than you would expect.

Danny Lennon: One thing that I did want to ask about is, and because I know you've published or at least discussed some of this in your publications is how, when we're considering nutrition and diet within the, these types of populations, it extends out other course to their families as well.

And this is something that I've talked to a friend of mine, who's looked at things like nurses and the surveys on not only their food, but how that ends up impacting whether they have kids or spouse at home. And this probably happens in other types of work like that. What do we tend to see in firefighters and others in relation to how that extends to the family home and how the nature of the job, I suppose, influences the family dynamic when it comes to food.

Jill Joyce: Good question. And as far as I can tell an unanswered question, which , we're actually working on. Right now, earlier this morning, I had a student researcher in here. And so we are, we're looking at spouses. And when I say spouse I think of it a little bit more in, in the way it's used often in the military is that means anyone you're in a serious relationship with.

So that could be, you know, dating, living with you or not engaged, married separated, you know, spouse to me means you're just in a serious relationship with someone. So if I say spouse, that's just a quick catch off for anyone in a serious relationship. So that's something where there's a gap in the research.

We do see that happening with other occupational groups and with the general population, that habits of one person in the family, especially someone who's more like a head figure in the family will absolutely trickle to the other family

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members. And you have to go through that gatekeeper to impact the whole family or the rest of the family.

Look at children, you have to go through the parent. If they're of a certain age. So I can say anecdotally from having been an active duty military spouse, if you wanted to change my husband's eating habits, you had to go through me. He controlled nothing. I love him, but he controlled nothing with his food, unless he bought lunch out and didn't tell me about it. But I, so I see that there, but I don't know to what extent that happens with fire or law enforcement, because just the shifts are a little bit different and the control in your life is a little bit different. So that's actually, what we're digging into this year is we're doing some surveys and some focus groups with spouses and their tactical athlete to see, to what extent does the.

Influence or control the eating habits of that tactical athlete on the job, off the job. How, you know, does a coworker have more influence? We actually, there are some focus groups that show that coworkers may actually influence eating habits, especially on the job more than a spouse does. So we're definitely digging into that because I maybe that's who I should be creating programs for to have a bigger, faster impact.

Of course I need to do some programming for fire and law enforcement themselves, but if I wanna have a faster impact, it may be through the spouse, honestly. And personally, I know that spouses are all also health wise affected often by the job, through the stress. I'd love to be able to serve them as well, because.

They silently served with honestly, very little benefit oftentimes to them. Aside from the person that they love, obviously .

Danny Lennon: So when we start thinking about potential interventions that could bring about some change and I'm sure you've spent a lot of time thinking about this, what is your initial kind of thought process of: "okay, not only what interventions might we want to look at, but what ones are actually likely to work?" And what is your decision making of what do you think is likely to work versus ones that are unlikely to work, to create the type of change you're talking about? Can you maybe talk to me a bit about that?

Jill Joyce: I I take very much like a public health or a clinician approach because you're right. They're so heterogeneous that honestly, what will work for a department or for any firefighter depends on their depart. In many ways that

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it's the team, the family I'm walking into. So, I do a lot of assessment on readiness of that department, the food environment, things like that.

And once I understand where they're at, then I can direct them towards an intervention that would be more appropriate for them. And that's what we're, I've been in this space for. About three years now on the research side of things, and that's the space we're at is I'm trying to create those initial interventions that could get a department to a better place where we can then go in with a little bit stronger interventions.

So for example we tested a policy systems and environment approach. Intervention locally where we came in and we tried to tackle that food environment because I felt like that was a safe way to start. I'm not coming in and trying to change all of you. I'm just trying to set the food environment up to be more supportive.

And that's really how we talked about it with them. So we had a policy actually learned that I can't Institute a formal policy or the entire city has to take it on. And that was not okay. . So I had an unofficial, strongly worded rule from the OSU food lady that you had to keep your countertops clear, looking at that whole normal, attractive and convenient, unhealthy food is very normal, attractive, and convenient.

So I had to decrease that and again, respecting them, I didn't want to say you can't have it because what happens if I tell you that. you're immediately gonna go get a ton of it. So I, I didn't say you can't have it. I attacked the attractive and convenient part. I made it less attractive, less convenient by telling them they had to put it in the cupboards. It had to be outta sight outta mind. So that's all I did on the unhealthy side. That was my policy. The systems we provided them with these little trifold pamphlets that have all the fast food restaurants and Stillwater in alphabetical order with three entree, three side and beverage options that they could quickly make that were healthier.

We used the dietary guidelines and that's how we pick those options out. So they, that attacked the, if they're eating out, we also created a cookbook and it was scaled the recipes in, it were scaled to the number of people on shift. And then it had what the meal entailed one recipe and then the grocery list.

So they could take a picture of it and go. So we now have, if they're eating restaurant food, or if they're doing grocery shopping and cooking tackled, we did breakfast, lunch and dinner, several recipe. So that was my systems part. And then we did environment where I brought in these really. Like, you know,

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your better home and gardens your, you see 'em on, HTTV the pretty kitchen displays.

It was a wire bowl with apples and cuties, eight pounds of apples and cuties, total. Bananas. I had a nice Mason jar of nuts, light roasted almonds, and a basket of whole grain nature valley bars. And then in the fridge they'd carrots, broccoli, hummus, and Greek yogurt, ranch dip. So that was me increasing healthy food, being normal, attractive, and convenient in the environment. And that's all we did. Every the start of every shifts, every two days, we went around to all the stations and refilled the little, the displays and it was fascinating because it totally changed the food environment. We're still analyzing the data on this one, but just from seeing what I saw, I can tell you that.

We followed up for three months after it ended. We didn't, weren't taking food in just going and looking. They kept the countertops clear. It's shifted. They're buying healthier foods now. They say WWJD when they go to the grocery store, "what would Jill do?" They're thinking. Like, all we did was drop off food and have a rule and the culture has totally shifted.

When I go in the things they talk about the way they joke with me, I'm like, I can tell you're thinking, like you guys have shifted, completely shifted. So those are the kind of interventions that if a department's not. maybe I have some people who really don't want me there. Some of them do some of them don't to get everybody on board, like that could be a great starter intervention.

And then we're also, we have a, like a 12 week online wellness challenge. That's a little bit more, a little bit more of a push. So after that food environment, we could then maybe try this. So as we shift the kind of readiness of the department, we can do different interventions. And that's what I'm working to create is ways to assess where the department is at and what specific interventions are needed.

And then we're trying to create as you mentioned, like each department's very different, but they have. They have an agent within the departments. That could be very helpful to me in figuring out where they are and implementing in the US most fire and law enforcement departments have a peer fitness educator or a peer fitness leader.

So they, they can be my go-tos in the department. If I train them to work with me, they can be my delivery agents within the department. So we're trying to create. Almost like manuals of programs, where if we work with them, we can

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consult on figuring out where they are through the peer fitness leader and then giving them the programs they need in allowing them to deliver.

Danny Lennon: So to pull back on the work you're doing there the food environment shift first on the side of the actual formal data collection, what specifically were the measures that you are, that you took and that you're currently analyzing.

Jill Joyce: So we looked, we did the PhotoVoice. So it was a three month intervention. We did pre-intervention, post three months and then we did follow up three months later. So on the food environment, we did photo voice three times. And we're currently analyzing all the data. So I don't have formal results, but just from seeing the food environment I think there's been a change.

And it stuck a good bit. It really did. And then on the more individual side of things, we had a Qualtric survey that we did, they are, we've struggled a little bit on trying to get individual level data. I love working with them, but they don't like my surveys. So, you know, and Jay and I talk all the time in our lab about in public health; there's the battle between rigor and reality and sometimes reality wins. And it's winning a little bit on me right now. So I ideally with fire law enforcement military, I would do, I do a four day food record. I do two days on shift, two days off shift, and that would give me a pretty good idea of how they're.

We've tried that and it didn't go over very well. So we've come to, we've also tried 24 hour recalls that didn't work very well either. I've taken the healthy eating index and turned it into kind of a mini food frequency questionnaire. And that's where we're at right now in terms of individual changes.

Seeing if the things we want to increase in frequency and the ones we wanna see decrease, but we also look at individual readiness. I'm trying to think a lot. We look at physical activity oftentimes just to see if there's a trickle down. All those, we do look at height, weight also self-reported so that's on the individual side of things. And then we also in public health for me, at least it's very important to also look at fidelity to the program. so we, we would go in every week and we would note if they actually followed the policy. We were recording the three months after the intervention, that kind of three month follow up period.

I went in every week and looked to see again, you know, are is the countertop staying clear? Are they filling the bowls now that I'm gone? Or have they taken over? So we, we did look. You know, are we sticking to this program? How's

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that going? And then finally, we also looked at the, on the system level, like a department level.

If you were to do this, how much would it cost? So we tracked how much food they ate, how much food we dropped off. So we could see how much they ate too. In addition to those surveys, we can see how much on average per person, how much produce did we go through a lot? I can tell you. And then what was the cost of that?

Because my end goal is honestly, if it weren't for my job, I really wouldn't care about publishing . I just wanna create effective programs that departments can use and so I have to, I, we looked at the cost and we're gonna create like a pricing scale for if you only do this, or this, how much would it cost?

Danny Lennon: Yeah. That's gonna be super interesting once all that data is crunched and there's a publication out of it. And it's interesting that you note that there seems to be at least from what you observed. From outside of the data, some degree of uptake even afterwards, which kind of speaks to probably one of the core aspects of how do we have something that is.

Not too difficult or that people make change without even really noticing it, which is, I suppose, much of the thrust of changing the food environment, that from the wider food environment research it's at least some of my understanding of some of these changes are so profound because much of the choice we make are subconscious and so if we shift that we can have a benefit without someone feeling like it's difficult. So it's interesting that you maybe have seen glimmers of this is what might be happening here.

Jill Joyce: We did absolutely it. It's the tagline for policy systems and environment and for behavioral economics is to make the healthy choice, the easy choice.

And I joked with them all the time. And it's fun because I like I grew up in a. And I married sarcasm and dark humor were just like they have. So I fit right in very quickly. I speak their love language but I would joke with them as we went along, they caught on, they were. I've eaten so much fruit, like I've never eaten this much fruit.

Like what are you doing to us? and I just joke that I'm a witch and I'm tricking them into doing it.

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Danny Lennon: Yeah, it's interesting. It's like, that's not too far off what the food industry does them in the normal everyday life. So from this point forward, I know you've already alluded this a number of times already, but maybe as a nice recap, what are some of the future directions? For your lab, first of all. And then also what you would ideal like to see in terms of filling those gaps through evidence.

Jill Joyce: It's a hard space to work in terms of following kind of the normal flow of research. And that ideally we would, you know, we'd start with assessment and we would figure out what are the food habits?

What's the state of nutrition, what are the barriers? We would have all that data before we move forward with interventions. But unfortunately I've had to do a bit of a mix of both. Because these departments know that they have, that the cards are stacked against them in terms of health. They know that and they want help so badly.

And it's hard to say no . So we I'll say that. I think in this space, we have to find a way to mix using our assessments, to establish where we're at while also giving them some of those interventions that we know work in the civilian space. As we see that they're appropriate. so I think it's continuing with both continuing to assess what are the eating habits, what are the barriers to eating healthy and then based on where we're at, figuring out what interventions work, especially considering not just individual barriers, but the department level barriers as well.

Danny Lennon: Yeah. That makes all sense. Given the pressing nature of this finding interventions that work is the number one thing, and then it's a nice luxury afterwards to find out, well, why exactly do they work? But yeah, that makes. Complete sense. This been fascinating Dr. Joyce. So before I get to my final question for people who are interested in maybe reading a bit more about this area of research or for finding you anywhere on the internet, where are some places that you could send them?

Jill Joyce: At Oklahoma state we have what's called the experts directory. So if you Google "Jill Joyce OK State" it'll pop up pretty quickly. And that has a lot of the research that I've done or presentations that I've done. It's nice because it catches those and lists them in there.

So you can definitely find some starters there. That's one place to go all. We also have a social media page on Facebook, OSU Tactical Fitness and Nutrition.

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We, that's where we try to really take what we know and translate it into usable products for fire law enforcement, military followers.

We have a lot of family followers, too, like spouses. We also have our own podcast. We're not doing as well as you are not by a long shot. But we are trying to get some information out that way. Jay's and I's end goal is to really get the information to the people. So. We're trying to be out there in as many ways as we can, that we know that they like.

Danny Lennon: With that, we get to the final question that always end the podcast on, and this can be to do with anything even outside of what we've discussed today. And it's simply, if you could advise people to do one thing each day, that would have a positive impact on any area of their life. What might that one thing be?

Jill Joyce: I'm gonna go with what personally works for me because I'm heavily influenced by. Things external to me like people and environments. So I'd say make sure... like really observe the people and places around you and see how they're influencing you and then take control of those. Start stacking the deck in your favor. And it could be as little as get a fruit bowl and put it on your counter today. You'd be surprised how much more fruit you eat.

Danny Lennon: Dr. Jill Joyce, thank you so much for taking the time to come and talk to me. It's been an absolute pleasure.

Jill Joyce: Thank you, Danny. It's been fantastic. And I too appreciate the exposure. These are my family members. So the more that gets out there and the more efforts in place, it makes my heart very happy. So thanks.

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