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Proem

My son, eight or nine years old, called me at work. “Dad, everybody’s OK, but you need to come home. There’s been a fire.” I was an Emergency Department nurse in rural West Virginia. The local volunteer firefighters put out a rapidly escalating brush fire around our house.

I became a nurse in 1975 and worked in home care for a few years in Western Massachusetts. When we moved to West Virginia as back-to-the-land hippies in an intentional community, I realized I knew little about responding to a family or community medical emergency. So, I became an EMT (Emergency Medical Technician) and then a paramedic, a volunteer first responder to accidents, heart attacks, fires, sudden births all sorts of medical emergencies. When we left West Virginia after twelve years, I stopped my first responder work and slowly pushed those days out of my mind.

I’m a fan of Jon Stewart. I followed the Daily Show for many years. I still follow the Daily Show. I especially appreciated Jon’s rabid [advocacy for 9/11 first responders’ health care](#). Once again, my eyes opened. Now I’m eyeballs deep in community-centered research. Research that matters to people where they live, work, play, worship, and learn. What questions do first responders ask that research could contribute answers? How do we stay safe, maintain baseline health, deal with sudden and cumulative stress, maintain effective teams, communicate with our partners and the people we serve, and care for people with physical and cognitive disabilities? On and on.

Introducing Will Parente 02:17

When I discussed this with my friend, Laura Marcial, she introduced me to her colleague at [RTI International](#), Will Parente, a firefighter, and a researcher. Will Parente is a father, a husband, and an Air Force Veteran that now works as a Project Manager for RTI International. Will’s passion is to give back



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to the public safety community by supporting research emphasizing solution-based outcomes for fire service professionals. His ultimate mission in life is to provide responders with the tools they need to save lives and protect property.

Health Hats: Hello, Will. Thanks for joining us. How are you?

Will Parente: Thanks, Danny. It's great to talk with you.

Health Hats: We were just chatting for a few minutes. I wanted to speak with you about the bridge between first responders and research. We started talking about that. You said people have a million questions, or maybe you said a thousand, but whatever. Let's continue with that thread.

Research topic #1: Carcinogens in fire retardant 04:22

Will Parente: Okay. So, there are a bunch of different topics within the fire community that are very important to them. A lot of them have to do with health. The fire community has become very aware over the last 40 years about the impact of physical exercise and how that helps with [your heart health](#) and avoids things like cardiac arrest. And they've successfully lowered the number of cardiac arrest deaths on duty, which is great. Unfortunately, we're finding the links between combustible gases and the other by-products of fires, whether just materials burning off or polyurethane in our furniture or even in our houses, can cause carcinogens. Carcinogens, unfortunately, are being absorbed by our firefighters, into their uniforms, being taken back to the station, and impacting them for the rest of their lives. So that would be the first big one. Also, much research needs to be done on the gear itself. How do we make gear that doesn't have [PFAS or PFOA](#), which is a huge forever chemical issue that's been coming up in the news a lot.

Health Hats: Okay. Say that again and tell me what it means.

Will Parente: So PFAS and PFOA are chemicals within our preventative fire gear. If you've heard of [Nomex](#), the usual term we use for everything from fighter pilots to firefighters with the thing they throw over their head, NASCAR drivers also use it. It prevents us from burning to death. Unfortunately, what's within even our turnout gear or the firefighter ensemble that you see people wear there is this chemical called PFAS, and there are multiple versions of it PFOA. I'm going to forget all the different names.

Health Hats: That's okay. I get it. It's a chemical, a fire retardant in gear that can be harmful.

Will Parente: Correct. It's part of the fire retardation. It's used in a bunch of other things. It's used in bottled water, and in manufacturing cars. Unfortunately, it's everywhere. And it gets within our blood. It's within the blood of everybody. They even found it within fetuses, which is horrible. And unfortunately for firefighters, they're just exposed to a much higher level. The risk of this can be anything. It can be testicular, kidney, liver cancer, reproductive problems, and weakened childhood immunity. It can damage your family and your children and lower the quality of life for our first responders. And the [National Fallen Firefighters Foundation](#) has done a good job of bringing awareness of this and trying to push research through the assistance of firefighter grants and other funding mechanisms to get a solution to this problem. How do we find better gear? How do we find better results? How do we even find healthcare, which is something that's just not talked about? And so that's research topic number one.



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#2 The cost of healthcare for first responders 07:02

Health Hats: So, when you say healthcare does that, you're saying those like clinicians who have familiarity with these issues? If somebody has specific cancer, you're looking for a specialist who knows about that. There's a constellation of firefighters' challenges and finding clinicians familiar with those issues?

Will Parente: Yeah. That's certainly a part of it. And then the other part of it is just simply the cost of the healthcare. And then who holds the burden for this cost? We have these people within our communities working to save our lives. We're going to keep our families safe. And then when they get something like cancer, there isn't necessarily healthcare from them that either comes from the community, the federal government, or whoever. And it's a sad thing that happens.

Health Hats: So is some of that just like any other worker, some workers have health insurance, and some firefighters have health insurance, and some don't, and whether it's they're a volunteer, and they get it from their day job, or they're employed, and they may or may not have employer insurance?

Will Parente: I think it's a little bit of all those things. Certainly, they say the paid firefighters on a city, or a county level have access to city and county benefits, typically healthcare. But what you may have in a rural community, usually a volunteer fire department, comprises like 80% of firefighters everywhere. Because they're not paid staff, they may not have access to healthcare through the city or state. And what that requires them then to do is find their own, which can hit or miss across America. And the different levels of care can be that as well. But unfortunately, we have these people serving the communities, and then no mechanism allows the community to get back. And I'm sure the communities would love to just that mechanism isn't there.

Burn pit PACT bill for veterans 08:58

Health Hats: This is what's been in the news lately. This PACT bill for veterans having benefits because they serve.

Will Parente: Absolutely. And ironically, Jon Stewart of the Daily Show fame is all over that. And he also worked on a bill after 9/11 for firefighters on the ground at ground zero, who got the same thing. They had cancer. They had. The ALS was something that popped up. There were a lot of different diseases. And health affects it. Unfortunately, we lost more firefighters after 9/11 than we did on the day of 9/11, which is 343, and then many more after. So, Jon Stewart fought for ten years to get the Victims' Compensation Act which gave them healthcare from the federal government. And now he's working on the PACT Act, which is working for veterans of which a community I'm involved in and getting them healthcare for their burn pit exposure. So, all these things are linked, and it's unfortunate that, as a country, we don't have the mechanisms in place. Even though we have the public will we want to help? It's just not something we've been aware of long enough to get the legislation through, but I'm optimistic that the future will improve.

First responder and researcher hats 10:09

Health Hats: Yeah. How do your dual roles work here? I'm Health Hats. I have a lot of hats. You wear your day job hat and your firefighter hat. And how do you find that they overlap?



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Will Parente: I work in a research Institute, and part of what we do, a lot of what we do is on healthcare. But ultimately, our goal is to improve the human condition. And so, one of the things that I focus on is finding opportunities to bring our amazing researchers, our amazing, passionate people that want to help to a funding source that can allow them to find a way to help firefighters. And there are a lot of different mechanisms out there, including the [US Fire Academy](#), and the [NFPA Research Foundation](#). I'm sorry. NFPA is the [National Fire Protection Association](#). And they're the international standard bearer. They're an American-based firm making all the codes and regulations for firefighters if you've ever had a fire inspection in your house. The code that they came from was NFPA. Okay. If you've ever seen the lights put up in movie theaters, it's an NFPA code. Okay. It touches everything in life, but it's like jazz music, but you'll appreciate it's in the background.

Research to inform policy 11:28

Health Hats: We have such a perverse set of incentives to find funding. I don't know what you would say, but if I had an order of things, I would think that the community would be children then first responders because these are basic community fibers - strength, longevity, and risk mitigation. It's so perverse. So where have you succeeded in finding funding for, or I guess it would be funding and coalitions, right? So, say more about that about your experience with that.

Will Parente: Yeah. As I said, the public will to help our first responders is there. It's a matter of budgetary items and Congress and the Senate everywhere else. So, many times, we find that there are smaller institutes. So, the NFPA Research Foundation, for example, has a budget that isn't. It's not a billion dollars by any means. It's not even a million. I. But they push out different funding sources to find information that can drive further research. You have places like NIST, the [National Institute Standards and Technology](#) they're funding things better equipment. They're trying to find better ways to fight a fire. They're trying to find better ways to measure these impacts. You've got FEMA to grant funding every year through the Department of Homeland Security. And then the US Fire Academy will put some stuff out, but what's maybe more feasible is even state-level funding. I live in North Carolina, and the [North Carolina Department of Insurance](#) hosts fire marshals, which is standard for most states. They put out some requisitions now and again to try and help on topics they're interested in. And while that could be cancer, when it comes to health, it's also mental health, which is a huge issue, and everything else within a fire. How do we get better tactics? How do we get better gear? How do we get better X, Y, or Z?

Community firefighter, wildland firefighter 13:36

Health Hats: So, you're a community firefighter. How does this? I don't know what to call it. This epidemic of massive fires. How does that affect you?

Will Parente: I've never been a wildland firefighter. I assume that's what you're referencing. There are massive issues worldwide, but California's always in the news. But out in the Midwest and even down in Florida, where I grew up, wildland fires have been an issue for a long time. And the biggest concern is what they call the [wildland-urban interface](#). And that's where the trees meet the houses in layman's terms. And unfortunately, due to a menagerie of reasons, the number of wildfires and the financial impact of that damage, as well as the loss of someone's home, which to me is more important. Like we can talk about the billions of dollars lost, but Danny, if your house burns down, you don't care that a billion dollars were lost. You care that you no longer have a place to live. And unfortunately, we're



seeing this more, and so their credit, all the institutions I've already talked about are focusing on this. But it's risking lives for the firefighter. This is very dangerous. If the wind switches on you, it can take you from a safe area right into the belly of the beast. These fires can get larger if the climate's warmer and the trees aren't as hydrated. And we've got people out in the middle of the woods on top of a mountain carrying 40 or 60 pounds a year with maybe just enough water and food to get by. They are trying to help people. And it's scary. And I have a lot of respect for those people because it's a lot of hard work. It's a lot of ditch-digging, and I don't want that job. I'm not strong enough mentally or physically. So, these people are genuine heroes. They're out there doing work for us.

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Funding for firefighting research 16:10

Health Hats: Switch gears just a little bit. So RTI is supportive of you looking for funding, and then do they participate? If you're successful and can build a coalition and have funding, then do you take. Like my role with RTI is I work with Laura Marcial. We work on clinical decision support, pain management, and cand planning, like that kind of thing. Is it similar, like she's always looking for funding in her specialty area? Is RTI open to its employees? It probably hires people who want to build that kind of stuff?

Will Parente: RTI's mission is to improve the human condition. They're always open to living through that mission. It's a business. It's a nonprofit, but there is a financial incentive at the end of the day. Oh yeah. However, if you can make a business case that I can, save one firefighter and make \$10, it doesn't matter how much it's a nonprofit. We don't need \$10,000 for everything, but if I can make \$10 and help people, that's true to RTI's mission. And it's something that we're willing to at least investigate. And fortunately, they also really value individual contributions. It's a great company to work for. I'm not just saying that because it's a public thing. I'm saying that because I genuinely believe it. They allow us to look for these topics. And we've done things from looking at 9/11 victims' blood types and trying to figure out how we can better identify those victims. We've done things such as surveys of volunteer departments and what kind of training are they involved in? We're currently investigating how we can better data help data management across the country. Firefighting is not a new topic to RTI. It's just something that maybe myself and a few other people are exploring more.

The bridge again, between research and first responders 17:57

Health Hats: Yeah. I'm thinking back. I had a period of my life. So, I'm a nurse, an ER nurse, and I became a paramedic. And I lived in a rural community in West Virginia, and I was a volunteer paramedic. I had the benefit of being an ER nurse and a paramedic. And my wife was my driver. And I think about what I think about how ignorant I was, mostly, I feel like I had a lot of hutzpah, and I was a good team leader in terms of drills and prepping because it was all volunteer. And didn't know crap.



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Will Parente: I think we all get into a job with these high idealist morals.

Health Hats: If I had known what I know now about that bridge, but still that bridge, wow, this is great. So, what do you think we haven't discussed that would be necessary for people to know about this bridge between community service and research? I don't even know if I'm putting it that well. It is community service.

Will Parente: I think one thing that's nascent to the fire community. And one something that chiefs across the country have said. It's twofold. Number one. Fire chiefs have a lot on their plate and a very small budget. And so, finding funding for them, they need help with grant writing. They need help. I wish there were a third-party Institute to funnel these things to the right places. But more so than that, when research comes out, it needs to do two. It needs to start with the firefighters and figure out what they need. You don't need to have a solution looking for a problem. You need to find a problem and out a solution. Yes. And then the second thing we need is solutions that kind of get into the firehouse. A lot of times in research, we get into these very academic looks at maybe what can we do in the future and what are considerations for future research, then that's wonderful. And we need that, and it's valuable. Still, the firefighters have people right now that are sick, getting injured, and absorbing these chemicals. They don't necessarily want to wait for 10 or 15 years while absorbing all those things and taking that risk for their families, for researchers help them find the money to figure out what they need right now. And that will vary across the country cause of different needs and give them what they need. That's the number one priority I would say for researchers.

Reach out to legislators and decision-makers 20:20

Will Parente: The other big thing, I would urge people, and I know it's cliché, to reach out to your representatives and state legislators. Okay. Make them aware that this is something you care about and that you're willing to let your tax dollars go into, which is a hard sell. But I know the best way to get more light on this issue is to let your senators, your members of Congress, whoever knows that you do care as a constituent.

Health Hats: So if this is a local issue, then you're saying that if you're going to put energy out, it should go to the state.

Will Parente: You can even go mayors have discretionary budgets. Some town managers, whoever is, is necessary, but whoever has the key to the purse strings within your community because your community may be a thousand people in the middle of Iowa or Nebraska or Florida or wherever. And then again, your community may be New York City. If there are 10 million people, maybe look at the state level. If there's a thousand, get a mayor, get a governor, whoever, just somebody that can focus on this need.

Health Hats: I'm embarrassed to say I don't know the funding for my local first responders. I don't know if the town employs the fire. I understand that some of the ambulances are also part of the fire department, but what their funding is and all of that, I'm ignorant. So, I guess I have some learning to do.

Will Parente: It's an interesting puzzle because sometimes you deal with politicians, and sometimes it's just appealing to the community. And I have a lot of respect for those fire chiefs that must go out and



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lobby for funding within their government. And these fire chiefs must advocate, do their best, and do a great job. But the more public support they get, obviously, the better.

Health Hats Yeah. Thanks.

Will Parente: Yeah. Thanks for having me.

Reflection 22:17

How can communities capture a larger share of research funds that tackle questions about their people's safety and well-being? Questions about first responders' health, prevention of abuse, maternal and newborn health, traffic safety, physical access, diversity and inclusion, child and elder care – all public health? So, research questions asked on the front line and more rapid results. Will Parente provided a glimpse into bridging the worlds of first responders and researchers. I'm fascinated by those bridges. Those bridges take time and resources to build. Perhaps they form for one project and sunset. Perhaps from one small project to another more extensive project, and then another. I'm seeking examples of partnerships and coalitions forming that lead to mature, sustained relationships between communities and researchers. Care to share? Let me know through the comments on my website. Thanks.



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