



**Ken Rayner:**

If you're an employer, supervisor, or health and safety professional, you already know the frustration. The research exists, the tools exist, but somehow the knowledge still doesn't make it to the jobsite. This episode is about closing that gap.

**Announcer:**

It's time for the *IHSA Safety Podcast*.

**Ken Rayner:**

Welcome to the *IHSA Safety Podcast*. I'm your host, Ken Rayner. Today, we're getting into how workplace health and safety research actually gets converted into practical tools, things you can use starting today to keep workers safer on the ground. Joining me are Rod Cook, Vice President of Workplace Health and Safety Services at the WSIB, and Dr. Amin Yazdani, President of the Canadian Institute for Safety, Wellness, and Performance. Gentlemen, welcome.

**Rod Cook:**

Excited to be here, Ken.

**Dr. Amin Yazdani:**

Great to be here, Ken.

**Ken Rayner:**

Great to have you both. Research is not a topic that we have covered extensively through our 135 episodes of this podcast, but it's quickly becoming a critical part of how we improve health and safety outcomes. And I'm very excited to delve into this topic today with you both. So Rod, maybe we could start with you. Rod, the WSIB has been ramping up its investment in workplace health and safety research. What's driving that shift, and why is this such an important moment for this work?

**Rod Cook:**

Well, Ken, Ontario's injury trends have stalled and that's unacceptable. The status quo isn't good enough when it comes to workplace safety. From 2000 to 2011, we saw Ontario see real progress in reducing lost-time injuries. But in recent years, that progress has stalled. Injury rates have leveled off, and that tells us we need to do more. At the WSIB, this means focusing more on prevention and acting earlier before injuries happen. Well, we are in a unique position when it comes to prevention. Much of our work begins after something goes wrong. So we see firsthand where injuries and illnesses are happening and this gives us a clear responsibility to help stop them before they happen.

. In fact, every day we see the impact of workplace injuries through our system, and these are real people, real families, real consequences. And that's why we're so invested in prevention. We want to use what we see and what we know to help stop claims before they even happen. And that's why we're investing in research on today's risks, including mental health, psychosocial hazards, PPE fit, better data, technology enabled safety, motor vehicle safety. And our position is we play a critical role in Ontario's occupational health and safety system. And we want to be a part of this solution. We're committed to investing in world-class research and other initiatives to help prevent injuries and illnesses from happening. These investments will contribute to making Ontario a safer place to work.

**Ken Rayner:**

And some of those investments that you just touched on are obviously very applicable in 2026. Rod, maybe walk us through some of those research investments that the WSIB has made and what shaped those priorities.

**Rod Cook:**

Yeah, for sure, Ken. So most recently in partnership with the WorkSafe Ontario Fund, we're investing a significant amount of money with North York General Hospital to establish the Institute for Workplace Health. This transformative initiative is dedicated to improving lives through preventing injury, advancing recovery, and sharing knowledge broadly to strengthen the health systems. It will be the GTA's first dedicated research and innovation institute applying AI, real-time predictive modeling, and health data infrastructure to workplace injury prevention and recovery, establishing a new game-changing model for workplace health. At St. Joseph's Healthcare, this research is focused on ways to prevent and treat work-related chronic pain and musculoskeletal injury. We're using state-of-the-art imaging technology to conduct research into how to detect, prevent, and treat mental health injuries. At Workplace Safety North, we've focused on keeping people who work in the natural resource sector safe from on- the-job hazards like noise, diesel exhaust, silica and wood dust that can cause harm to people over time.

And then the Canadian Institute for Safety, Wellness, and Performance, we're using mobile labs to collect Ontario workplace data from construction and paramedics, company worksites to improve PPE. Tools. and equipment fit. Our focus is on creating safer, more inclusive workplaces.

**Ken Rayner:**

Certainly some interesting areas that you're delving into, and the use of AI and obviously different data we have now, hopefully we'll advance those projects even further and bring us the results we need. So it all sounds very promising, Rod. Dr. Yazdani, for listeners who may not be familiar with the Canadian Institute for Safety, Wellness, and Performance, can you share what your organization is all about and how your research ties into the WSIB's mission to make workplaces safer and healthier across Ontario?

**Dr. Amin Yazdani:**

Sure. Thanks, Ken. Yes. The Canadian Institute for Safety, Wellness, and Performance is an independent and not-for-profit research institute founded in 2019. And our mission is straightforward. We want to make workplaces safer, healthier, more inclusive, and more sustainable, especially in the high-risk

sectors where the stakes are the highest, like construction and the skilled trades. And these sectors are the ones that we have a significant labour shortage as well, and the ones that drive the economy. So we are the only research institution in Canada with a clear focus on applied field research in occupational health and safety.

So you might ask why this is important and what gaps we're trying to address. For decades, we have made decisions about worker health and safety using the data that's incomplete, outdated, or borrowed from settings that do not really reflect the real jobs in Ontario and Canada. We looked at risk factors in isolation and that's important. Given the multifactorial natures of injuries, looking at factors in isolation is not going to help us understand the injuries and illnesses better. And the research has been disjointed and ad hoc. So we have relied on averages and assumptions about what is happening on our website rather than relying on accurate, ecologically valid data. So the gap between what we know and what is actually happening to workers is the gap that we were built to close.

You might ask how our approach is different. So to give you an example, you cannot make a worksite safer just from a desk. You cannot resolve all the problems just with training. So our research mobile labs, funded by WorkSafe Ontario Fund and the WSIB, travel across Ontario. North to south, east to west. They go to rural communities, remote communities, and they're equipped with variable sensors. The advanced technologies and field instruments that are valuable to help us better understand and better capture real data on how jobs are actually done, what workers are actually exposed to, and where risk builds up before an injury happens. And again, not looking at factors in isolation. So, we'll look at factors and how they interact with each other, having fully understand the cumulative exposure of different factors as they impact the health and wellbeing of the workers. So we're turning that data into first overscolling databases on real occupational exposure and detailed data sets that help inform tools, equipment and personal protective equipment design through our Mosaic initiative.

So this data infrastructure, they unlock unprecedented opportunities for Ontario and to take data-driven strategies for prevention and policy development. We are very proud of this partnership with WSIB because this is a historical opportunity that will help really address some of the challenges that we've had for decades in Ontario and Canada. And the mobile labs are really tied back very closely to what the WSIB mission is, which is reducing the impact of workplace injuries and illnesses on people and businesses across Ontario. CISWP Science is at the centre of this mission, and one of the engines making it real, alongside other investments that WSIB has made. And our researchers are out on the worksite doing the evidence gathering that turns into prevention and reliable data. But gathering the evidence is not enough on its own. And again, partners such as IHSA and others within the health and safety systems in Ontario, they're the ones that they're going to be helping, and the same needing that knowledge very effectively.

And then that way we can keep up with the pace of the change within the worksites, and that's important. And if we want to keep up with the pace, we have to innovate faster and we have to co-create solutions hand in hand with workers, employees, and partners like WSIB to develop solutions that help Ontario workers and help Ontario businesses thrive and stay healthy and safe.

**Ken Rayner:**

And Dr. Yazdani, if I can ask a follow-up question to that? So, in my role at IHSA, I in the past, say, six months have been utilizing artificial intelligence to help me be more productive, to help me be more

effective. I can only imagine in the work that you do at the Canadian Institute of Safety, Wellness, and Performance, that artificial intelligence is assisting you bring these findings to worksites even quicker than you were able to do five to 10 years ago. Would that be fair?

**Dr. Amin Yazdani:**

Absolutely. And it's not that we kind of utilize the data intelligence to really help us look at factors again, not in isolation, in conjunction. And that is going to help us to have a paradigm shift to transform how we approach health and safety in Ontario, because we cannot keep doing safety the old way, and we cannot keep doing the research the old way either. So we are here to do that. We're here to utilize the advanced technologies, the technology, the wearable sensors, the mobile labs deployed across the province to kind of gain and collect this data infrastructure. Then we can utilize machine learning AI and be able to create predictive models faster and be able to innovate faster using advanced technologies.

**Ken Rayner:**

And Rod, as I mentioned in the opener, research is really, truly valuable if it changes what happens on worksites. So how does the WSIB make sure that these findings that in the research that you're doing with the different organizations, including the Canadian Institute for Safety, Wellness, and Performance, how do you ensure that the findings reach businesses and people in Ontario in ways that they can practically apply within the workplace?

**Rod Cook:**

Yeah, Ken, I could not agree with you more and that's why the research we're investing in is practical and focused on delivering results. Every partnership we fund is designed to answer one question. How will this make workplaces safer? And I'd say we're also spreading the word through multiple channels like social media ad campaigns, conferences, live demos, and our customer facing employees connecting directly with businesses. And talking about the Canadian Institute for Safety, Wellness, and Performance, we're also giving back. The studies that they do, each volunteer receives personalized reports as soon as they complete their assessments. So they see the value immediately. These reports give people useful insights into their needs and how they work, tools and equipment to be designed to help fit them better. Last I'd say, Ken, we're also building a methodology to share this work more broadly. We're developing a way to bring research findings through our partnership with the Canadian Centre for Occupational Health and Safety and their Business Safety Portal, which every Ontario business who pays WSIB premiums has access to. We're bringing that directly to the Business Safety Portal where businesses can then access these free tools, resources, information, and our research. So more to come on that piece of it, but we want research to get into the hands of our customers to help make workplaces safer.

**Ken Rayner:**

And we'll make sure that we've got a link on the podcast channel to the business safety portal that Rod just mentioned so that anybody that's interested in taking a look at how that can effectively improve health and safety at your workplace can delve into that. And as Rod said, that's free to any business that's registered with the WSIB, right, Rod?

**Rod Cook:**

That's correct. And if you were to go and buy it, it'd be approximately, I think it's around \$1,700. So we're giving that free to every business that's registered with WSID.

**Ken Rayner:**

Dr. Yazdani, from your research, what are the biggest health and safety challenges facing Ontario's construction workers today in 2026, and how is your work helping to address them?

**Dr. Amin Yazdani:**

Sure. It's a really good question, Ken. I think we all know the challenges. We still have a high fatalities. It's one of the sectors with the highest fatalities, specifically in the small businesses. We have falls from heights still being an issue. Stuck-bys. The mental health and substance use, as well as the MSDs, the musculoskeletal disorders. But I like to answer it with really thinking how we're doing this and what we are doing right now. We rely heavily on lagging indicators, meaning we're often reactive. And for the most part focused on managing a culture of risk. As applied researchers, our research at WSIB is tackling the challenge by using advanced research to predict and prevent injuries and incidents, shifting the industry from being more reactive, and from that reactive culture to a more proactive one. And utilizing data, real data, Ontario-based data to achieve that.

Let's give you an example of one of the most basic yet critical challenges that's impact is beyond health and safety and is impacting the productivity of the entire sector. The industry needs a more diverse workforce. It needs more workforce that includes more women, but the equipment, environment, and culture are largely built around a narrow demographic. PPE that doesn't fit and the current set up with accommodation for aging workforce, for injured workers, workers that they want to come back to work for a diverse workforce, these are not working well, and we need to disrupt the current status quo. Rod alluded to that early on today. And our breakthrough research is redefining health and safety on the jobsite. The mobile labs are dedicated, specialized labs in construction or are the examples of how we're disrupting safety and construction and fundamentally shifting how the construction sector approaches health and safety by utilizing reliable, ecological, valid data from actual workers, actual worksites, and actual work conditions.

**Ken Rayner:**

So, Dr. Yazdani, I was on your website just doing some prep for this podcast and noticed that one of the differentiators with the institute is that you go on site to conduct a lot of this research. You're right in the mix of the work and I take it that's what's happening with these mobile labs. Can you maybe just expand upon that a little bit?

**Dr. Amin Yazdani:**

Our researchers are deployed across Ontario using the mobile labs. The mobile labs are equipped with the most advanced technologies, ranging from wearable sensors that measure posture and muscle

activity, to eye tracking devices to measure situational awareness, to heart rate monitoring, to core body temperature, to environmental assessment equipment. Any factors that you might imagine, we will be able to measure using these mobile labs. And our researchers, they get up early, like a construction worker, they go to a jobsite at 5 a.m. They arrive, they work very closely with supervisors and workers, recruit participants, everything is voluntary and they get them to the mobile lab. They deploy the sensors on workers that they're willing and provide the consent to participate in the research and then the workers go and perform the jobs, the duties, the way that they normally do. And we are able with the advanced technologies to collect eight to 10 hours of data and the equipment has that level of data logging capability that would allow us to do that.

And again, Ken, one of the most important aspect of this is that we are collecting the data at the same time from all of these devices that will give us the full picture, the 360 degree picture of what a worker is exposed to, either a physical demand or a cognitive demand or work environmental demand. And it's at the task level, because our researchers observe how workers perform their jobs, and then they kind of record the task being performed, and then later on they go and assign that exposure to the task level, and they will be able to do the analysis. And I have to tell you, Ken, it has been very fulfilling for the researchers because they're learning a lot from the jobsites, and they have been an asset for those partnering organizations because they provide a lot of feedback, provide a lot of resources to businesses that participate and to workers to educate them about the different types of hazards that might exist in the wor sites.

So again, we want to change the way we do health and safety research, and the mobile labs are enabling us to do that. And imagine the data that we collect how valuable that is into understanding the actual exposures of workers and not only one factor in isolation, but all of them together.

**Ken Rayner:**

So you use terminology, I think, like “fulfilling” for the researchers. And from what Rod has been saying throughout this episode and yourself, I'm getting the sense that we as Ontarians should be as optimistic as we've ever been in regards to the opportunities for research to positively impact workplace health and safety in a very positive way. It sounds like in the worlds we're in right now, Dr. Yazdani, in your expert opinion, are we today in the best, in the most optimistic position to be able to take data, analyze it, process it, and then apply it to be able to create safer and healthier workplaces?

**Dr. Amin Yazdani:**

So Ken, this is an excellent question. I've been attending several international conferences and we have been now asked by a lot of our international colleagues to see how they can actually work with us and have access to the data that we are collecting. I think Ontario is becoming the capital of prevention, I would say, workplace health and safety and injury prevention in the world, because the approach we're taking is really unique. The investment has been helping us to really move the field to an era that I think we're going to have. We're going to train more applied researchers. That's what we really need in Ontario and Canada and then be able to again have the next generation of health and safety researchers that they become an asset, I think, for the province and for the country to apply the applied research in the jobsites, to be able to work with workers and employers, then we're taking that in as an approach to

solve problems. The data and the approach in having to provide that level of support to businesses, I think is going to make a difference and we uniquely position to do that.

**Ken Rayner:**

Fantastic. Well, as everybody knows, Ontario is already the centre of the universe for hockey. And now we've heard first on this podcast from Dr. Yazdani that Ontario is now the centre of the universe for occupational health and safety prevention.

**Dr. Amin Yazdani:**

Absolutely.

**Ken Rayner:**

We can start stating that now as fact. I love it. Dr. Yazdani said it. I mean, come on, let's go. We're going to now take that forward as fact. So fantastic.

**Dr. Amin Yazdani:**

Ken, we just started and I think as Rod suggested, the other investments, I think at some point all these investments together can provide an opportunity that data could potentially be utilized by all of the researchers to kind of advance the area. Again, the data is going to be available for researchers, for practitioners, for health and safety professionals to be innovative and create solutions that will help Ontario and workers in Ontario businesses and beyond.

**Dr. Amin Yazdani:**

Okay. So as we wrap up, I'm going to challenge you both to really tailor your message to our industry and to our listeners. So for employers listening right now, whether they're running a small operation with less than five workers or managing, let's say a mid-size crew with 25 workers, what would be the message to them in regards to the excitement they should be feeling? How can they tap into this research and put it to work for them in their workplace to keep their workers healthy and safe? Dr. Yazdani, let's start with you.

**Dr. Amin Yazdani:**

Sure. I have three points to make. If you are a small and midsize employer, I want you to know that this research is for you. So if you're thinking safety research is for big firms with safety departments, it is actually the opposite. The double-sided investment has been able to help us to build this for them and having them in mind. And we are there to support you. So when you think about safety, think beyond the hard hat. The mental health, the physical health of your crew are connected. Building a workforce where people feel safe to speak up about the hazards or about how they're doing is one of the highest returns within investment things a small employer can do. Another point I'd like to highlight is the old mindset that treats safety as a cost or something you do because you have to, because the Ministry of Labour inspector is going to come knock on the doors.

We have to flip that. A safer worksite means you keep your experienced people, your valuable assets, the most valuable asset that the organization has, you lose a few days to injury, your crew is more productive.

And yes, prevention pays back directly, and there's strong evidence to support that and protecting your people and running a healthy and productive business are the same thing, and that's important. We have to again start thinking that way. My last point is that this research isn't research that sits on the shelf or an academic journal and detached from reality. This is the research that is there with you, working with you to make a difference. We translate into practical evidence-informed tools that you can use and you're not guessing about what's worth the investment. Our mobile labs can come to your worksites and gather real data and your real work conditions, and you partner directly with us to turn fundings into resources that you can put to work right away. So door is open. Reach out, partner with us, host the lab, use the tools.

**Ken Rayner:**

All right, door is open. You heard it here. Rod, how about yourself? What about your message to that small employer in construction in Ontario with less than five workers? How are they going to be able to tap into this research and put it to work?

**Rod Cook:**

Yeah. Well, I want to build on your message, Ken, of optimism and Dr. Yazdani's comments about the broad investments WSIB are making. These are creating practical ways for businesses to get involved. And I also think it's important to remember that health and safety isn't just about compliance. So there's good reasons for businesses to be involved. Health and safety matters. It's part of running a strong business. Safer workplaces, Dr. Yazdani spoke to this a bit, have less disruption, lower absenteeism, better retention, stronger productivity. So when businesses invest in prevention, they're protecting people and supporting better business outcomes. So to your question, how do they get involved? There's many ways for businesses to get involved. What matters most is taking action, taking that first step, whether that's logging on to look at the business safety portal and the free tools that we're giving businesses. Ken, you're well aware of our Health and Safety Excellence program and the IHSA is a great provider of the Health and Safety Excellence program where health and safety is already an investment and we're also giving rebates to help businesses get involved in health and safety.

They can also get involved, as Dr. Yazdani just stated, through the Canadian Institute for Safety, Wellness, and Performance. WSIB is a major investor in this work because we know what's going to drive change. And you can receive an expert assessment through the Institute. Businesses can get involved through Workplace Safety North to help identify hazards early in strength and prevention in the natural resources sector. So all of these investments that WSIB is making is opening up more opportunities for businesses to realize the benefits of investing in occupational health and safety. And Ken, I do want to give you kudos for having us on here because prevention works best when we're all working together. So when researchers, businesses, workers can learn from each other and turn evidence into action, that is what is going to make workplaces safer.

**Ken Rayner:**

And I agree, this is a great opportunity to raise a lot of awareness, particularly for workplaces that haven't considered research and how it can be applied and how with partners such as WSIB, they can turn and get some real assistance to create a safer and healthier workplace. I'm very optimistic about everything that we've discussed today. It sounds like there are some phenomenal opportunities to advance occupational health and safety in the province of Ontario and for us to be the centre of the universe, just like we are in hockey. So I'm looking forward to that and Dr. Yazdani and Rod, I'd love to have you back on the podcast again in the future where we can discuss the results of all of this amazing research that's happening and really get a better sense as how we've made strides through the implementation of the research. So thank you to you both for being guests on our podcast and for sharing this information.

**Dr. Amin Yazdani:**

We appreciate it very much.

**Rod Cook:**

Thank you, Ken.

**Ken Rayner:**

And thank you to the listeners for listening to our episode on Health and Safety Research in Action: Practical Insights for Safer Workplaces in Ontario. If you have any questions about our podcast or suggestions for topics you'd like us to cover, please email us at [podcast@ihsa.ca](mailto:podcast@ihsa.ca). Be sure to subscribe and like us on your podcast channel and visit us at [ihsa.ca](http://ihsa.ca) for a wealth of health and safety resources and information.

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