

Centre
for Research
Expertise in
Occupational
Disease

2019

CREOD

15-Year
Anniversary
Report

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Work shouldn't make us sick.

Yet thousands of people across Canada are living with serious lung disease, skin disease and/or neurological and vascular problems that can be traced back to their working conditions.

Thousands more have died. Deaths from work-related lung disease outnumbered work-related trauma deaths in each of the past ten years.

We are the Centre for Research Expertise in Occupational Disease (CREOD).

Our vision is an occupational health and safety system that:

- Demands and enables evidence-informed changes in the workplace to prevent occupational disease
- Quickly recognizes and diagnoses work-related health problems, and is effective at treating them
- Facilitates safe and appropriate return to work as soon as possible
- Constantly adapts and improves as risks emerge and best practices evolve

CREOD is:

Research

Our important body of academic, system-partnered research has changed – and continues to change – how work-related health problems are understood in Canada.

Academic education

Our trainees comprise an ever-growing, multi-disciplinary network of occupational health experts. We are proud to be affiliated with the University of Toronto in both public health and medicine.

Clinical care

Our clinic at St. Michael's Hospital has diagnosed and treated thousands of Ontario workers with occupational disease. This direct link to workers at risk keeps our physician-researchers connected to the issues and contextual factors that can help as well as hinder recognition.

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Letter from the director



Looking back over the past 15 years, our legacy is clear:

CREOD research has been instrumental in defining the link between work and health.

Together, our researchers and partners have worked to bring occupational disease out of the shadows.

But we didn't stop there.

CREOD stands apart because our research tells a larger story: describing not just which of Ontario's workers are affected, but how they are affected, why they lose time from work, what happens in their workplaces and how to get them safely back to work.

This is solutions-focused research.

This is research for prevention.

This is evidence-based change.

Seeing the energy and momentum that are now focused on coordinated prevention efforts, I feel optimistic. I also feel proud.

Thank you to our visionary researchers, funders, our truly excellent advisory committee and our incredible system partners.

Together, we will continue to support and protect Ontario's workers.

Dr. Linn Holness,
CREOD Director

Years
1-5

Establishing research programs

Aligning focus

Fifteen years ago, a group of researchers came together to tackle a problem: occupational disease research in Canada was sparse, scattered and slow to change the system for the better.

The links between work and health were poorly understood, and people with occupational disease were suffering. Without recognition and support, many workers at risk were forced to choose between their health and their livelihoods.

We strongly believed that together, we would have a stronger voice for change. And so, the Centre for Research Expertise in Occupational Disease (CREOD) was born.

With funding from the Workplace Safety and Insurance Board and support from the University of Toronto and St. Michael's Hospital, we were transformed from a group of passionate single investigators to a coordinated program of research.

Years
5-10

Relationships for partnered research

Ensuring relevance

As CREOD's body of research grew, it behooved us to step out of the "ivory tower" and move our knowledge into action, in the context of real Ontario workplaces.

We reached out to occupational health and safety organizations. We built relationships and above all, we listened. We struck an advisory committee of committed health-and-safety leaders.

CREOD research became more collaborative, more responsive and as a result, more relevant. More than ever, our research truly reflected the realities of workers in Ontario workplaces.

Years
10-15

Evidence- based tools for prevention

Creating solutions

When our primary funder changed from the Workplace Safety and Insurance Board to the Ontario Ministry of Labour, it marked an expansion in our focus. We were ready to leverage our knowledge and partnerships to make change in Canadian workplaces.

With our system partners, we created and rigorously evaluated evidence-based tools to recognize and prevent occupational disease.

We focused on strategies to help workers get back to work safely.

We shifted from purely delivering research and knowledge to creating evidence-based solutions.

Years
15-20

Ontario- wide system collaboration for change

Delivering impact

In 2017, CREOD's work and the work of many other researchers, health-care providers and advocacy groups came to fruition in an exciting provincial action plan. The Occupational Disease Action Plan is tasked with aligning the occupational health and safety system and partners toward occupational disease prevention.

CREOD research was central to the plan's development. We demonstrated that a key priority for action must include allergens and irritants of concern for lung and skin health.

The action plan signals a new level of recognition and visibility in Ontario for occupational disease. Years in the making, it has made it undeniable that occupational disease is debilitating and costly, yet under-reported.

Building the evidence: 2004-2018

Grants awarded:

↓

\$49.5M

\$13.5M

CREOD-led and co-led projects

Total

\$36M

Team projects based at other organizations

Publications:

↓

397

162

Publications 2004-2011

Total

235

Publications 2012-2018

Pilots:

↓

66

This number includes the creation and ongoing support of two clinical databases at St. Michael's Hospital.

Total

Building system capacity: 2004-2018

Students:
↓

57

Total

26

Graduate (PhD & Masters)

17

Undergraduate

8

Medical

6

Fellows

Presentations:

CREOD researchers have made countless presentations to both the academic community and system partners. Sharing research results and discussing implications in person is a long-standing CREOD strength and priority.

Evidence-based solutions to protect skin at work

“When CREOD launched in 2004, a key priority was to highlight the hidden crisis of occupational skin disease. Over 15 years we’ve developed an important body of research that clearly describes ‘what works’ to facilitate prevention in the workplace, early recognition, correct diagnosis, appropriate treatment and return-to-work. Today, our main foci are prevention and early detection: solutions to make work-related skin disease a thing of the past.”

– Dr. Linn Holness,
CREOD director and
researcher

Occupational skin disease – a painful, itchy rash, typically on the hands – can end a career. It’s a common occupational disease in Canada, yet it’s often misdiagnosed and most cases go unreported. Early medical intervention is critical to improve outcomes, yet most doctors don’t ask patients with skin disease about work and work exposures.

CREOD tools and resources put evidence-based, workplace-tested solutions in the hands of workers, health-care providers and occupational health and safety professionals. Together they have the potential to disrupt the trajectory of this debilitating disease.

A two-minute tool can help workers assess their skin health – before symptoms get out of control.

A suite of sector-specific awareness posters can alert workers of the risks around them, and what’s needed to protect their own skin.

A surveillance database of clinical diagnostic information shines a light on the risks associated with work in different sectors, and highlights where screening and prevention efforts are most urgently needed.

A plain-language e-learning module walks learners through the foundations of occupational skin disease prevention, early detection and return-to-work support.

As new risks surface, our researchers will continue to respond. For example, people involved in wet work are at the highest risk of occupational skin disease, including health-care workers, dishwashers, cleaners, mechanics and hairdressers. Vulnerable workers in these groups, such as “under-the-table” and migrant workers are emerging as an important CREOD research priority. These workers are often at high risk of occupational disease, yet hidden from the traditional occupational health and safety system. The system – and CREOD research – must evolve to better serve these hard-to-reach groups and protect their rights to safe and healthy work.

Visit www.creod.on.ca to learn more and access our tools and resources.





Shining a light on a poorly-understood condition

“We have a long way to go before HAVS is widely recognized and understood, but CREOD has blazed the trail that will get us there. Today, CREOD research is informing workplace training programs, education for health-care providers and compensation policies for workers with HAVS. We put HAVS on the map; our job now is to help erase it.”

– Dr. Ron House,
CREOD researcher

When CREOD launched a program of research to better understand and prevent hand-arm vibration syndrome (HAVS), strategies to protect workers at risk were barely visible in the scientific literature – let alone the workplace.

Yet the problem was clear. At the St. Michael’s Hospital Occupational Health Clinic, CREOD clinicians see firsthand how workers are affected.

Preventable but also irreversible, HAVS is a complex occupational disease that can result in numb fingers, decreased hand dexterity and loss of grip strength. HAVS-affected fingers can turn white in the cold. Simple actions such as dressing oneself become very difficult; HAVS can lead to significant lost time from work. Construction and mining workers who use vibrating tools such as jackhammers or drills are at highest risk.

The typical HAVS patient in our Occupational Health Clinic had never received training to protect themselves from HAVS. They lived with worsening symptoms for years, assuming that the symptoms were a natural consequence of work or aging.

CREOD researchers responded to this lack of awareness by developing an evidence-based HAVS education tool for construction workers to share with their peers and supervisors. It was successful in sparking subsequent improvements in workplace practices including the purchase of new, lower-vibration tools, altered work processes to reduce workers’ vibration exposure and an increase in education about HAVS provided by employers.

Based on their own difficulties assessing the severity of their patients’ conditions, CREOD researchers also tackled HAVS diagnosis – the starting point for treatment and return-to-work strategies. Diagnostic tools existed, but without formal evaluation it wasn’t clear how effective they were. Based on our evaluation of these tools, CREOD researchers developed a gold-standard method of clinical assessment for the various components of HAVS, which is now used at the Occupational Health Clinic at St Michael’s Hospital.

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Changing the landscape through collaboration and knowledge exchange

“In addition to research excellence, we are contributing to the future through collaboration, education and knowledge exchange. Our workshops and meetings bring together world-leading researchers and organizations to tackle the big questions related to occupational disease, and to coordinate our responses.”

– Dr. Susan Tarlo,
CREOD researcher

A series of international workshops co-chaired by CREOD researcher Dr. Susan Tarlo brought together dozens of experts, organizations and trainees dedicated to better understanding and preventing occupational asthma. Participants worked together to highlight common knowledge gaps, co-develop research priorities and co-author a proceedings document for peer-review publication.

CREOD has been a leader in defining the interaction between skin and lung disease. For example, some agents can cause allergic responses in both the skin and respiratory systems, or the same chemical may cause occupational skin disease in one worker, and occupational asthma in another. CREOD’s lung-skin workshop in fall of 2006 was groundbreaking in furthering our understanding of the complex relationships and interactions between these two systems.





Helping patients advocate for healthier workplaces

“Our evidence-based tools for prevention are CREOD’s true strength. The solutions themselves can be simple, but the implementation – changing the way people do their jobs – is complex. We work with end users at every stage of development and implementation. A CREOD tool isn’t finished until we know it works well in the real-world context.”

– Irena Kudla,
CREOD researcher

CREOD has developed a new kind of prescription: one that workers can give to their bosses.

When someone gets sick as a result of an exposure to something at work, two issues need to be addressed: providing the most appropriate treatment for the illness and preventing further exposure. Treatment can be dealt with by the patient and health-care team. However prevention is a more complex process – the employer often needs to be involved.

To support this important conversation, CREOD developed the “Workplace Prescription,” a personalized form, signed by a physician, that workers can give to their employers. The form clearly describes what’s needed to help the worker recover and stay healthy at work.

For example, some health-care workers develop allergies to compounds in the gloves they are required to use at work. The Workplace Prescription tells the employer what kinds of gloves are safe for the worker, and can even suggest the right brand to order. The Workplace Prescription may also describe the types of cleaners and moisturizers the worker requires to prevent further reactions.

CREOD researchers developed the tool in consultation with workers as well as employers, to make sure that it makes sense to everyone involved.

Visit www.creod.on.ca to learn more and access our tools and resources.

Stronger joint health and safety committees mean safer workplaces

“Research alone can’t prevent occupational disease. We need engagement and change across the occupational health and safety system including workplaces, health-care providers and policy makers. Joint Health and Safety Committees have the potential to influence every piece of that puzzle. By increasing their impacts, our research can strengthen the system as a whole.”

– Dr. Kathryn Nichol,
CREOD researcher

In 2007, the final report of the SARS Commission described the failure of joint health and safety committees (JHSCs) to protect workers from infection. The result was an epidemic that hit health-care workers harder than any other occupational group in Ontario.

In response, the CREOD Advisory Committee encouraged CREOD researchers to further investigate how JHSCs work in Ontario, and to find out what would make them more effective.

Over 10 years and several studies, our researchers surveyed JHSC co-chairs from acute care hospitals across Ontario. They interviewed hospital workers, hospital management and health-care sector stakeholders. They struck agreements and gained the support of system partners across Ontario. A detailed picture of the gaps in the JHSC system emerged. It was becoming clear what a “gold standard,” high-functioning JHSC might look like.

Based on these recommendations and feedback, CREOD created and tested an assessment tool that JHSC members can use to collectively “diagnose” various aspects of their own JHSC. The assessment takes about one hour to complete. Most JHSC members rate it as very easy to use.

CREOD partnerships with the Elementary Teachers’ Federation of Ontario as well as the Infrastructure Health and Safety Association brought the tool to new sectors and audiences. As our researchers tested the tool in new organizations, they enhanced it to automatically generate reports, develop action plans and connect users to resources.

The tool is now available in French as well as English, and has been used by JHSCs across Ontario, in BC and in Nova Scotia. Access it at www.creod.on.ca.





Advisory Committee members, 2004-2018

CURRENT MEMBERS

Linn Holness, CREOD Director, 2004-
Ray Copes, Public Health Ontario, 2009-
Paul Demers, Occupational Cancer Research
Centre, 2011-
Leon Genesove, Ministry of Labour, 2009-
Kim Salde, Public Services Health and Safety
Association, 2018-
Gerry LeBlanc, United Steelworkers, 2004-
Kathryn Nichol, VHA, 2012-
Terri Aymanski, Ontario Public Service
Employees Union, 2016-
Sandra Miller, Workplace Safety and Prevention
Services, 2011-

PAST MEMBERS

Tom Beegen, WSIB, 2007-2008
Patti Bouchard, Public Services Health and Safety
Association, 2011-2013
Tony Culyer, WSIB RAC Chair, 2006-2010
Hal Delair, Bramalea Community Health Centre,
2004-2008
Mark Dreschel, WSIB, 2010-2010
Alex Farquhar, Occupational Health Clinics for
Ontario Workers & Office of the Worker Advisor,
2009-2018
Steve Jackson, WSIB, 2009-2009
Margaret Keatings, WSIB, 2009-2011
Fergus Kerr, WSIB, 2004-2006
Lisa McCaskell, Ontario Public Service
Employees Union, 2004-2016
Marjorie Mercer, WSIB, 2008-2016
Bob Norman, WSIB RAC Chair, 2004-2005
Alice Peter, WSIB, 2004-2009
Otto Peter, GM, 2004-2009
Jean-Yves Savoie, WSIB RAC Chair, 2005-2006
Maureen Shaw, Industrial Accident Prevention
Association, 2004-2009
Joseline Sikorski, Ontario Safety Association for
Community and Healthcare, 2004-2010
Terry Sullivan, WSIB RAC Chair, 2012-2012
Monica Szabo, Public Services Health and Safety
Association, 2013-2018

Thank you to our funders and supporters

CREOD was founded in 2004 with the active support and funding of the **Workplace Safety and Insurance Board**.

Since 2012 funding for CREOD has been provided by the **Ontario Ministry of Labour**. We are a collaborative program of the **University of Toronto** and **St. Michael's Hospital**.

CREOD is affiliated with **MAP Centre for Urban Health Solutions**, part of the **Li Ka Shing Knowledge Institute** of St. Michael's Hospital.

Each of these organizations has been foundational to our success and growth over the past 15 years.

Without their generous support, CREOD's work would not be possible.

Thank you to our researchers

- **Dr. Linn Holness (director)**
- Dr. Victoria Arrandale
- Dr. Ray Copes
- **Dr. Paul Corey**
- Dr. Joel DeKoven
- Dr. Joan Eakin
- Dr. Chun-Yip Hon
- **Dr. Ron House**
- Ms. Irena Kudla
- **Dr. Gary Liss**
- Dr. Diane Lougheed
- Dr. Samira Mubareka
- Dr. Kathryn Nichol
- **Dr. James Purdham**
- **Dr. Andrea Sass-Kortsak**
- **Dr. James Scott**
- **Dr. Fran Silverman**
- Dr. Sandy Skotnicki
- Dr. Sharon Switzer-McIntyre
- **Dr. Susan Tarlo**
- Dr. Aaron Thompson
- **Dr. Dave Verma**

Names highlighted in bold are founding members of CREOD.

The Centre for Research Expertise in Occupational Disease is dedicated to improving understanding and prevention of occupational disease. Our research addresses the full spectrum of the health and safety continuum: from prevention, through exposure assessment, early recognition, diagnosis, treatment, return-to work and outcomes. We work across disciplines and methodological paradigms to contribute to policy, knowledge and practice in both the workplace and clinical settings. Our programs include Occupational Lung Disease, Occupational Skin Disease, Hand-Arm Vibration Syndrome (HAVS) and Biological Hazards.

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St. Michael's
Inspired Care. Inspiring Science.



Centre for
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Research that makes a Difference

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