Applicant Institution	Project Title Summary	Award Duration

Parveen Bhatti
BC Cancer

$198,170
2024-2026

Understanding cancer risk in night shift workers

A team led by Dr Parveen Bhatti is aiming to understand how changes in the gut microbiome may cause cancer in night shift workers. Night shift work has been associated with increased risks of cancer, and with 1.8 million people in Canada working hours that include midnight to 5 a.m., it's important to understand why. One theory is that night shifts may disrupt the makeup and function of microbial communities in the gut (gut microbiome), whose normal functioning is critical to maintaining good health. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers compensation boards and labour unions, a team led by Dr Parveen Bhatti is aiming to identify differences in the gut microbiome between night shift and day shift workers that contribute to the development of cancer. Collecting data from a broad range of industries, the research team will identify the specific aspects of night work (e.g., sleep disruption, decreased diet quality, decreased physical activity, etc.) that are the primary drivers of changes in microbes in the gut that may cause cancer. If successful, this project could produce critical insights to develop targeted interventions to reduce the risk of cancer among night shift workers. Given the prevalence of night work in Canada, such interventions would prevent thousands of cancers each year.

Nathan DeBono
Ontario Health

$199,880
2024-2026

Studying exposure to common and potentially carcinogenic chemicals

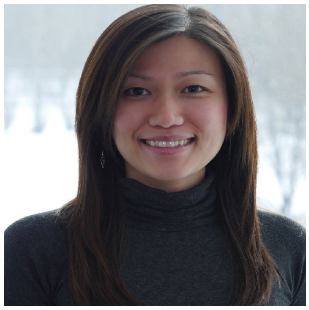
A team led by Dr Nathan DeBono is studying possible risks for people working in industries with high exposure to commonly used chemicals.In some industries, people exposed to certain chemicals (commonly referred to as "PFAS") at work can have very high levels of these compounds in the blood. Studies to understand the cancer-causing potential of these chemicals are needed and have previously concentrated on males working in the chemical industry while neglecting other industries and females. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers' compensation boards and labour unions, a team led by Dr Nathan DeBono is studying exposure to these chemicals and the risk of cancer. Using existing data from across Canada, the researchers will identify which occupations and industries have higher exposure to these chemicals by examining people's blood samples. The team will then estimate the risk of breast, prostate and other cancer types among workers in jobs with high exposure, with a special focus on identifying cancer risks among female workers. If successful, this project will help further understand the relationship between these chemicals and cancer and will support efforts to reduce exposure in the workplace, potentially preventing many cancers in Canada.

Sabrina Gravel **$181,400**
Institut de recherche Robert-Sauvé en santé et en sécurité du travail **2024-2026**

Reducing carcinogen exposure for dental workers

A team led by Dr Sabrina Gravel is creating tools and guidelines for managing carcinogen exposure in the dental workforce in Canada.Some chemicals used in dental materials can be carcinogenic, and dental workers in Canada are constantly exposed to them. Currently, there is no complete record of all the hazardous substances used by dentists, dental hygienists, assistants and others. This may present a considerable risk for over 100,000 people working in this field in the country. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers compensation boards and labour unions, a team led by Dr Sabrina Gravel is providing new information and tools for managing carcinogen exposure in the dental workforce. Starting in Quebec, the team will identify dental workers' occupational health and safety practices and document carcinogenic substances and exposures in dental clinics and laboratories. The researchers will also explore how dental workers perceive and experience their occupational carcinogen exposure.The information gathered will help create practical guides that will include steps, strategies and recommendations for identifying and managing exposure to carcinogens in dental workplaces in Canada. If successful, these guides will reduce the risk of occupational cancers for the tens of thousands of dental workers in the country.

Vikki Ho **$200,000**
Centre de recherche du CHUM **2024-2026**



Understanding preventable factors in the workplace contributing to prostate cancer

A team led by Dr Vikki Ho is working to shed light on preventable factors linked to prostate cancer. Prostate cancer is the most diagnosed cancer among men in more than half of countries worldwide, yet not much is known about what might cause it. Certain chemicals called endocrine disruptors, which can interfere with a person's hormone function, are suspected to contribute to this disease, and some jobs put people at higher risk of exposure to these chemicals. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers compensation boards and labour unions, the team led by Dr Vikki Ho is studying if being exposed to these chemicals at work increases a person's chances of getting prostate cancer. The researchers are also exploring if genetics plays a role in how these chemicals affect cancer risk. Using information from a comprehensive study in Quebec where men shared details about their jobs and exposures, the team has identified 16 specific endocrine disruptors to focus on. By comparing the prevalence of exposure to chemicals that can disrupt the endocrine system and certain genetic factors in men with and without prostate cancer, the team hopes to learn more about how endocrine disruption might contribute to prostate cancer. If successful, this project could help deepen researchers' understanding of how to prevent this common cancer.

Tracey Kirkham **$199,130**
Ontario Health **2024-2026**

Estimating workplace-related cancer risk due to exposure to multiple hazards

A team led by Dr Tracy Kirkham is studying how exposure to multiple workplace hazards affects cancer risk among workers in Ontario. Work-related exposure to hazards contributes significantly to cancer rates in Canada. While previous research has focused on assessing cancer risk from single workplace hazards, many cancers are caused by multiple exposures occurring together in the same environment. Neglecting these so-called "co-exposures" may underestimate cancer risk. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers' compensation boards and labour unions, a team led by Dr Tracy Kirkham is working to address this gap by examining how co-exposures affect cancer risk among workers in Ontario. Using a large dataset of about 2 million workers, the team will identify at least 1 cancer caused by multiple workplace hazards. By analyzing where and who experiences these co-exposures, the team will pinpoint high-risk groups. This research will provide crucial insights for developing targeted prevention strategies and ensuring workers' safety. If successful, it could help reduce workplace-related cancers and safeguard the well-being of workers.

Marie- Élise Parent **$200,000**
Institut national de la recherche scientifique **2024-2026**

Preventing cancer for people exposed to diesel engine exhaust

A team led by Dr Marie-Élise Parent is studying how exposure to diesel engine exhaust affects prostate cancer risk, aiming to understand its impact and potential genetic interactions for prevention. Breathing in fumes from diesel engine exhaust can affect a person's chances of getting prostate cancer, and yet, there hasn't been much research on this. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers compensation boards and labour unions, a team lead by Dr Marie-Élise Parent is looking at the work histories of more than 8,000 people and their exposure to diesel engine exhaust. The researchers will study how this exposure affects the risk of getting prostate cancer, especially the more aggressive kind. They also want to see how genes and diesel engine exhaust exposure together might affect the risk of prostate cancer. This comprehensive study, the largest of its kind, combines data from 3 large population-based studies conducted in Canada, France and Spain. Findings could help prevent cancer for the nearly 1 million people in Canada who are exposed to diesel engine exhaust at work.

Christopher Thome
Northern Ontario School of Medicine

$200,000
2024-2026

Reducing radon-related lung cancer risk with a dietary supplement

A team led by Dr Christopher Thome is exploring using a dietary supplement to lower radon-related lung cancer risk, potentially enhancing safety for workers and those living in radon-prone areas. Radon gas is a natural, radioactive substance found in the ground and building materials, and it can accumulate in poorly ventilated residential areas and workplaces like uranium mines. Inhaling radon is a significant cause of lung cancer in Canada. With funding from the Canadian Cancer Society, the Canadian Institutes of Health Research as well as workers compensation boards and labour unions, a team led by Dr Christopher Thome is investigating a new way of reducing radon-related lung cancer risk using an antioxidant dietary supplement known to protect against radiation. The researchers will conduct their study in a first-of-its-kind radon chamber to test the supplement's ability to mitigate lung cancer risk. If successful, this study could offer a cost-effective biological approach to complement existing radon-mitigation methods, ensuring the safety of workers and potentially benefiting people living in areas with high radon levels.

Thank You.

Thank you to our valued partners for being a source of hope for people living with cancer and their loved ones. Nothing big gets solved by one person or one organization. To take on cancer, it takes all of us. It takes a society.

Special thank you to:

Canadian Labour Congress

Canadian Federation of Nurses Unions

Canadian Union of Public Employees

International Union of Operating Engineers

Labourers International Union of North America

National Union of Public and General Employees

NL Teachers Association

UNIFOR

Union of Taxation Employees – Public Service Alliance of Canada

United Food and Commercial Workers Union

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WorkSafe BC

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WSIB Ontario

Canadian Institute of Health Research