

ENVIRONMENTAL SCAN OF OCCUPATIONAL HEALTH AND SAFETY

OCCUPATIONAL HEALTH CLINICS FOR ONTARIO WORKERS

REPORT TO THE BOARD OF THE OCCUPATIONAL HEALTH CLINICS FOR
ONTARIO WORKERS, TORONTO

DESRÉ M. KRAMER, Ph.D.

SUBMITTED: APRIL, 2019

Contents

Executive Summary.....	4
Scope of the Environmental Scan on Work and Health.....	5
Key Informant Interviews.....	6
Document review.....	7
1. The Economic Environment	9
1.1. Changes in the Global Market.....	9
1.2. Income Inequity/Disparity	10
1.3. State of the Canadian/Ontario Labour Market.....	12
1.4 Union Membership in Canada	12
1.5. Unemployment Rate, Salaries, Part-Time Jobs.....	13
1.6. Medium-sized Companies are Disappearing	17
1.7. Precarious Work.....	17
1.8 Globalization	18
1.9. Implications and consequences for OHCOW	19
2. The Political and Legal Environments	20
2.1. Changes in the Ontario Government Priorities and Regulations.....	21
2.2. Changes in Ontario’s Occupational Health and Safety System.....	22
2.2.1. Initiating Reviews and Audits.....	23
2.2.2. Amalgamating the four Safe Work Associations (SWAs/HSAs) and the Workers Health & Safety Centre.....	23
2.2.3 Returning Prevention to the WSIB.....	24
2.2.4. Returning Research to the WSIB.....	25
2.2.5. Privatization of the WSIB	26
2.3. Implications and Consequences for OHCOW.....	27
3. Occupational Health and Safety Environment.....	28
3.1. Injuries and Fatalities	28
The Unfunded Liability.....	30
3.2. Occupational Disease.....	31
3.2.1. Occupational Disease Action Plan (ODAP).....	31
3.2.2. The Occupational Disease Clusters	32

3.2.3. Burden of Occupational Cancer	33
3.2.4. Funding Occupational Disease Claims	33
3.2.5. Surveillance of Occupational Diseases.....	34
3.2.6. Hazardous Exposures	35
Asbestos	35
Pesticides	36
Nanotechnology.....	37
Cannabis.....	37
Antineoplastics.....	38
3.3. Mental Health/Illness in the Workplace	38
3.3.1 Responding to the Workplace Mental Health Crisis	40
3.4. Changing Standards in OHS.....	41
3.5. Implications and Consequences for OHCOW.....	41
4. Socio-Cultural Environment	43
4.1 The Millennials and the Gig Economy.....	43
4.2. Low Income/Poverty.....	43
4.3. Gender Inequity	45
4.4. Aging Workforce	46
4.5. Racism in the Workforce.....	47
4.6. Implications and Opportunities for OHCOW	48
5. The Technological Environment.....	49
5.1 Emerging Technology.....	49
5.2. Technological Trends in Occupational Health and Safety	50
5.3. What we have Lost with Disruptive Technology.....	51
5.4. The Impact of Changing Technology on Industrial Hygienists	52
5.5. Implications and Opportunities for OHCOW	53
6. Advice for OHCOW from the Key Informants	54
Report’s Author.....	55
Abbreviations.....	55

Executive Summary

If it were possible to summarize what this report's author has read and heard, the message is that there is no shortage of work for Occupational Health Clinics for Ontario Workers Inc. (OHCOW) to engage in, and certainly no shortage of workers who need OHCOW's expertise. The number of vulnerable workers is increasing with no end in sight. Precarious work is increasing both amongst white-collar and blue-collar workers. Workers who need help identifying the work-relatedness of their occupational diseases and other illnesses, and workplaces that need help identifying and managing their psycho-social problems are increasing.

Within Canada, migrant workers, immigrant workers, Indigenous workers, young and seasonal workers, undocumented migrant workers, international students, and temporary foreign workers are amongst those who are disproportionately affected by precarious employment. These vulnerable workers are predominantly non-unionized. Their knowledge of health and safety or their rights is minimal, they are often given hazardous work to do, and they often have a long string of untraceable employers (or they are working through the gig-economy and hence have no employer to name at all).

Moreover, the number of chemicals and products (combinations of chemicals) and the challenge of new chemicals to which workers are exposed, will continue to increase, as will the impact of old exposures such as asbestos. Any disease/illness/disorders workers may develop will be increasingly difficult to link to particular workplace exposures or workplace hazards.

Due to this job insecurity and the stressors of making ends meet, the mental health of workers is also often at risk. The pace of social change is escalating which is a stressor in itself. Women, racialized minorities, the poor and the disenfranchised all have unique issues within the workplace and are comparatively even more vulnerable to occupational diseases and occupational mental illness. Workers suffering from occupational mental illness will continue to escalate.

The "Open for Business" philosophy of the present provincial government does not bode well for the prevention of, mitigation of, or increase in compensation for either occupational disease or for mental illness. Compensation for occupational disease continues to be dismally insufficient and there is no indication that the situation will improve. Although PTSD and acute mental illnesses are gaining some recognition, mental illness caused by chronic stress will likely not be recognized or compensated for in the foreseeable future.

The advice that OHCOW received from key informants was to continue to focus on its priorities: occupational disease and mental illness in the workplace, and to continue targeting small and medium-sized companies that need OHCOW's expertise on organizational culture change.

Scope of the Environmental Scan on Work and Health

The three areas of focus of the Occupational Health Clinics for Ontario Workers Inc. (OHCOW) are occupational disease, workplace mental health, and occupational health issues. These priorities are viewed through the lenses of vulnerable workers, aging workers, small business, young workers, new workers, First Nations, and migrant farm workers. These priorities fall within the field of the World of Work & Health.

The objective of this environmental scan is to help inform the OHCOW Board in their deliberations in creating their next Strategic Plan. To this end, some boundaries have been placed around this scan. This scan has taken guidance from a standard PESTLE analysis (economic, political, socio-cultural, technological, legal and environmental). This is a framework of macro-environmental factors that is used in the environmental scanning component of strategic management, as part of an external analysis when conducting a strategic analysis. Adapting the PESTLE framework, this scan covers in broad strokes: the economic environment, the political and legal environment, the occupational health and safety environment, the socio-cultural environment, and the technological environment. The focus for this environmental scan will be on work and health in Ontario.

An attempt has been made in this report to not only highlight and synthesize the aspects of the complex and ever-changing milieu that may affect OHCOW's strategic process, but also to make links to their implications. Included in each section are some initial thoughts as to the potential threats and opportunities for OHCOW.

In the **Economic Environment**, the topics on work and health include: the changes in the global market; the increase in income disparity; the state of the Canadian and Ontario labour market; the changes in unionization; the changes in unemployment, salaries and part-time work; medium-sized companies are disappearing; the rise in precarious work and the Gig economy and Uber employment.

In the **Political and Legal Environment**, the topics on work and health include changes in focus of Ontario's government's priorities and regulations, and a number of significant changes that are being proposed in Ontario's Occupational Health and Safety System.

In the **Occupational Health and Safety Environment (OHS)**, the topics on work and health include: the changes in injuries and fatalities; changes in occupational disease; and changes in mental health and illness.

In the **Socio-cultural Environment**, the topics on work and health include: the millennials and the Gig economy; the rise in poverty, homelessness and food insecurity; gender inequity; the aging workforces; and racism in the workplace.

In the **Technological Environment**, the topics on work and health include: the introduction of new (and relatively new) workplace exposures involving robots, artificial intelligence (AI), the adoption of innovative technologies, and the risks of losing jobs due to robots, automation, and artificial intelligence.

Key Informant Interviews

Twenty-four people were interviewed to help inform this report. They were academics, political decision-makers, economists, research communicators, union activists, lawyers, medical practitioners, bureaucrats, leadership consultants, and new-economy entrepreneurs. They are considered experts in the field of work and health, and they are all Ontario-based. One-hour interviews, mostly face-to-face, were conducted. They were tape-recorded and transcribed and analyzed for themes.

Quotes from these interviews have been included throughout the environmental scan. Quotes have been included in italics. However, names have been removed. The decision to have unattributed quotes is to protect people's privacy. Some quotes have been removed if it was thought they could be too easily ascribed to their author.

The key informants were:

1. Jules Arntz-Gray (Director of the Health and Safety Policy Branch in the Policy Division, MOL),
2. Sharone Bar-David (Leadership Consulting),
3. Monica Bienfeld (Institute for Work & Health),
4. Sylvia Boyce (United Steelworkers),
5. Janet Brown (MAP Centre for Urban Health Solutions and Centre for Research Expertise in Occupational Disease, St. Michael's Hospital),
6. David Chezzi (Canadian Union of Public Employees, and President of the Board of OHCOW),
7. Dr. Ray Copes (Public Health Ontario)
8. Dr. Paul Demers (Occupational Cancer Research Centre),
9. Alec Farquhar (Office of the Worker Advisor Retired),
10. Enzo Garritano (Infrastructure Health and Safety Association),
11. Rebecca Last (Natural Resources Canada)
12. Marianne Levitsky (Workplace Health Without Borders)
13. J.P. Mrochek (United Steelworkers, Local 6500)
14. John O'Grady (Prism Economics and Analysis),
15. Bridget Pridham (Canadian Union of Public Employees),
16. Michael Roche (OHCOW),
17. Bill Roy (Director, Training and Awareness Branch and Strategy and Integration Branch, and Manager of the System Priorities Unit, Health and Safety Division, Ministry of Labour),
18. Sari Sairanen (Unifor),
19. Dr. Martin Shain (Workplace Mental Health, The Centre for Addiction and Mental Health),
20. Dr. Peter Strahlendorf (Ryerson University; OHS Law),
21. Dr. Thomas Tenkate (Ryerson University; occupational exposures),
22. Kathleen Therriault (Office of the Worker Advisor)
23. Matt Wilson (Workplace Safety and Insurance Board), and
24. Maryth Yachnin (Industrial Accident Victims' Group of Ontario)

Document review

Multiple documents helped to inform this report. Links and references to them have been embedded throughout the environmental scan.

Five reports have been particularly helpful.

1. The Dean Report (December 2010) was a review of Ontario's Occupational Health and Safety (OHS) Prevention and Enforcement System. It was led by Tony Dean and an appointed panel that included three members each from labour, employers and academia with workplace health and safety expertise. It led to the Prevention Department (and responsibility for occupational research and the health and safety associations) moving from the Workplace Safety and Insurance Board (WSIB) to the Ministry of Labour (MOL). <https://news.ontario.ca/mol/en/2010/12/occupational-health-and-safety-panel-recommendations.html>
2. The Arthurs Report: *Funding Fairness: A Report on Ontario's Workplace Safety and Insurance Board* that was conducted by Harry Arthurs with the help of Maureen Farrow, Buzz Hargrove, John O'Grady and John Tory. Launched in September 2010, and published in 2012. In response to the very large WSIB unfunded liability, it examined a new funding model that would help pay down the unfunded liability, including what should be paid for including occupational disease, and by whom. <http://www.wsib.on.ca/cs/groups/public/documents/staticfile/c2li/mdex/~edisp/wsib011358.pdf>
3. The Deloitte Ministry of Labour report (September 2014), *Collaborative Services Feasibility Assessment*. It investigated the feasibility of amalgamating the four safe work associations (Not easily available on the internet).
4. The MOL's *Market Metrics and Service Delivery Research Report* (2015) was conducted for the Ministry of Labour by John O'Grady, Terry Sullivan, and Gordon Vala-Webb. It commented upon developments since the Ministry of Labour's 2010 Dean's Report. <https://www.labour.gov.on.ca/english/hs/prevention/council/minutesdec2014.php>
5. The Line by Line Report. The Ernst and Young report for the Ontario Government. *Managing Transformation: A Modernization Action Plan for Ontario. Line-by-line Review of Ontario Government Expenditures 2002/03 - 2017/18*. (September 21, 2018). It highlighted that 90% of the Ontario budget goes to transfer payments https://files.ontario.ca/ey_report_2018_en.pdf

Although it is not a focus of this environmental scan, all futures-focused reports should note the most radical paradigm change that is facing our planet: Climate Change. The latest dire report from the Intergovernmental Panel on Climate Change says global climate targets could become impossible in just 12 years. The report says global emissions need to be cut in half by 2030, which would require a near-complete overhaul of the global energy system. In December 2018, at the Paris Agreement on Climate Change, nations came together to commit to limiting warming to 1.5 degrees Celsius over pre-Industrial levels. The planet is facing catastrophic climate disruption that will affect our socio-cultural, political, economic, and biological environments. If global carbon emission reduction is not achieved, we face a dystopic near-future.

We're not doing anything at all about climate change. How is that going to affect the world of work and the world of safety and the world of compensation? We can expect people to work in hotter environments, we can expect them to work in colder environments, we can expect them to deal with all kinds of conditions that were never a feature before. I don't know what that's going to mean.

1. The Economic Environment

In the **Economic Environment**, the topics on work and health include: the changes in the global market; the increase in income disparity; the state of the Canadian and Ontario labour market; the changes in unionization; the changes in unemployment, salaries and part-time work; medium-sized companies are disappearing; the rise in precarious work and the Gig economy and Uber employment.

1.1. Changes in the Global Market

As a quick overview with the prism of occupational health and safety, it is possible to say that globally, we are living in a time of change.

The American Industrial Hygiene Association (AIHA). The AIHA Environmental Scan (February 23, 2014) raised a number of changes in the global market they thought might have an impact on industrial hygiene. The reviewers, Forsight Alliance, mention the following:

- At the global level: Increasingly globalized trade will heighten the problem of health and safety threats crossing borders and affecting workers and consumers.
- Workplace threats in any country will also increasingly create issues in corporate social responsibility as supply chain transparency grows.
- Important new global standards on IH issues will roll out in the next few years, and Europe will make influential regulatory decisions as well. Meanwhile, many developing countries will lack even minimally effective systems for monitoring or protecting workers.
- For some time to come, in many emerging markets rapid economic growth will expand workplace health and safety needs faster than capabilities can rise. Like China now, countries will seek to improve working conditions. Decreasing consumer and worker tolerance for risk will be an additional driver.
- Global threats will present ongoing risks to the workforce, while eluding local solutions. Climate change will drive small but continual shifts in work environments, while pandemics present a perpetual, low-probability threat of severe and disruptive harm.

The Organisation for Economic Co-operation and Development 2018 Employment Outlook for Canada is relatively positive: The OECD produces a regular employment report that compares its member countries. Its report on Canada is reasonably encouraging.

“The labour market situation in Canada has gradually improved since the fourth quarter of 2016, and employment rates are projected to remain stable. Employment as a share of those aged 15 to 74 is expected to remain around 66%, slightly below the pre-crisis peak of 66.9% achieved in the fourth quarter of 2007. Despite improvements in the labour market situation in other OECD countries, the employment rate in Canada remains above the OECD average. [However], Canadian real wage growth has been stagnant since the crisis. From the beginning of 2009 to the end of 2017, year-on-year real hourly wage growth has averaged just 0.8%. It has recently shown signs of a recovery, growing by 1.8% year-on-year in the fourth quarter of 2017 above the OECD average.”

<http://www.oecd.org/canada/Employment-Outlook-Canada-EN.pdf>

1.2. Income Inequity/Disparity

Income inequity/disparity is increasing globally, in North America, and in Canada. Income disparity has been shown to be an indicator of vulnerability and poverty of workers. This will have a very negative impact on work and health. It is a head's up to OHCOW of a growing number of workers who will need their help.

The Conference Board of Canada has been tracking income disparity for many years. It says that Canada gets a "C" grade and ranks 12th out of 17 peer countries. Income inequality in Canada has increased over the past 20 years. Since 1990, the richest group of Canadians has increased its share of total national income, while the poorest and middle-income groups has lost share.

<https://www.conferenceboard.ca/hcp/Details/society/income-inequality.aspx?AspxAutoDetectCookieSupport=1>

A long-running study by The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) shows leaders of S&P 500 companies made about 347 times more than their average employees in 2016, up from 41-to-1 in 1983. A 2018 survey by Equilar Inc. found that CEOs earned 140 times more than their median workers.

That differential is just the average. The average CEO in the *Russell 1000* received total compensation of \$11.8 million during the most recent year for which numbers are available, including salary, bonus, stock grants, options and other benefits. The average CEO-to-worker pay ratio was 248-to-1. For the 104 companies whose median employee pay falls below the poverty line, the ratio is a whopping 917-to-1.

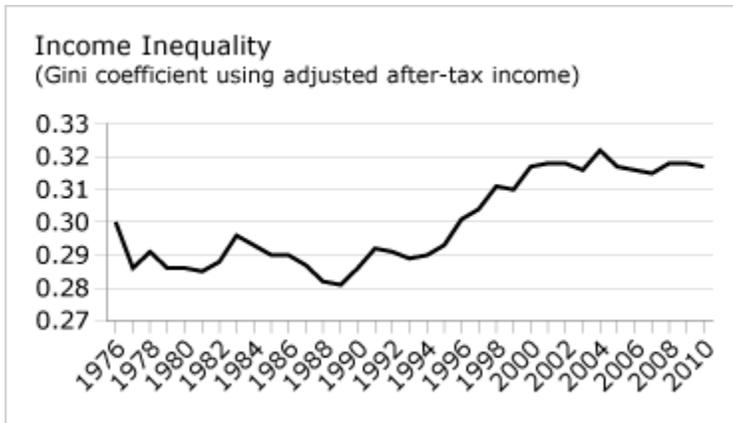
As an example, and of some interest since it employs so many workers (7,300) in the US and Canada, Starbucks Corp. pays its median employee: \$12,754 a year—and 52 pounds of coffee, one for each week. The figure, included in a January 25, 2019 regulatory filing, represents the compensation for an unidentified part-time staff person in California, counting salary and restricted stock. Chief Executive Officer Kevin Johnson, by comparison, received \$13.4 million for 2018, including a \$1.46 million salary, a bonus and equity awards – a 62:1 differential.

<https://www.bloomberg.com/graphics/ceo-pay-ratio/#USG>

Another glaring example is the salary that is paid to the CEO of Hydro One. Under duress, in March 2019, Hydro One agreed to cap their CEO's salary at \$1.5 million. Until recently, they refused to pay anything less than \$2.8 million a year.

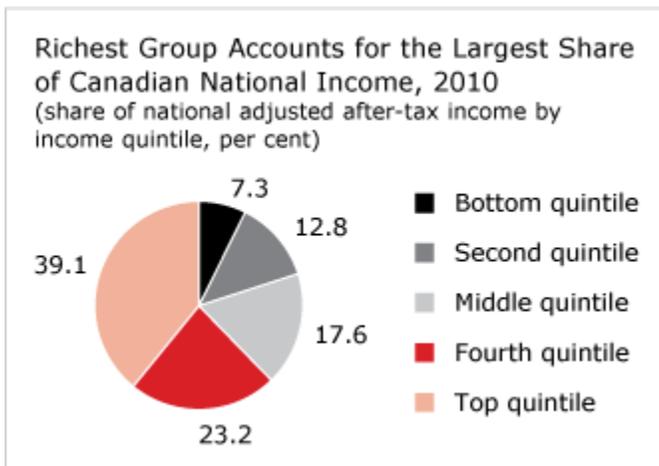
<https://www.cbc.ca/news/canada/toronto/hydro-one-executive-pay-pc-ontario-1.5048235>

The Conference Board of Canada has been tracking income inequity since 1976. As you can see, it has rapidly increased in Canada. (The most commonly used measure of income inequality is the Gini coefficient, which is measured on a scale of 0 to 1.)



Also from the Conference Board of Canada, the pie chart below shows the share of national income going to each quintile in 2010 in Canada. The richest income group (top quintile) has by far the largest share of Canada’s economic pie—with 39.1 per cent of total national income. And this richest group is the only quintile to have increased its share of national income over the past 20 years—from 36.5 per cent in 1990 to 39.1 per cent in 2010. All other quintile groups have lost share, including middle-income groups.

<https://www.conferenceboard.ca/hcp/Details/society/income-inequality.aspx?AspxAutoDetectCookieSupport=1>



The Chartered Professional Accountants have identified the increasing income inequality/disparity in Ontario as a troubling reality. From a CPA Ontario, 2019, report:

According to the latest census, the number of Ontarians living on a low income is rising, while almost every metropolitan area in Ontario saw income growth below the national average. The manufacturing sector – a significant industry in Ontario – lost 30 percent of its jobs between 2005 and 2015. This monumental shift in our labour force – alongside the dawn of automation and an increasing number of Ontarians moving into the ‘gig economy’ – has seen many people struggling to make ends meet, let alone save for their futures and the futures of their families.

40% of Canadians are already living on a precarious income month-to-month. Over half of Canadians could not absorb the shock of an emergency \$2000 payout.

In the face of a changing work environment and rising prices for goods, services and housing, low-income Canadians are increasingly vulnerable. Recruitment has slowed, with 45,000 fewer jobs being created than expected to-date in 2018. These are some of the poorest job numbers in decades. Five million people make less than \$15.00/hour in Ontario.

<https://www.cpaontario.ca/stewardship-of-the-profession/insight-research/thought-leadership/tackling-poverty-in-an-age-of-technological-disruption>

1.3. State of the Canadian/Ontario Labour Market

The Market Metrics and Service Delivery Research Report (2015), authored by John O’Grady et al. noted a number of trends in the labour market and in the structure of the Ontario economy that are re-shaping the context in which occupational health and safety services must be designed and provided. They concluded that the structure of the Ontario economy and its labour force has changed significantly and is continuing to change. Their data were based on Statistics Canada and the Ontario Ministry of Finance’s demographic projections. The *Market Metrics Report (2013)* reported on a number of Canadian economic trends. Some of their numbers have stayed the same, but where possible, the data have been updated from 2013 to 2018 for this environmental scan.

The Ernst and Young report on behalf of the Ontario Treasury Board Secretariat for the Ontario Government. *Managing Transformation: A Modernization Action Plan for Ontario. Line-by-line Review of Ontario Government Expenditures 2002/03 - 2017/18*. (September 21, 2018) has highlighted that:

A striking finding is shown by the breakdown of expenditures that reveals real operating expenditure in the Ontario Public Service has remained flat (growth at just 0.0% CAGR [Compound Annual Growth Rate]), while operating expenditure through Transfer Payments (TP) including to the Broader Public Service (BPS) has grown \$46.3B or 99.8% of total real growth in operating expenditures. This means that for every one dollar spent in the OPS, nine dollars are spent through the 35,000 separate TP arrangements that the Ontario Government manages.

The implication of this finding is that the “real” budget of the government is very small and 99.8% of the money is going out of the government via transfer payments to organizations and agencies that the government does not necessarily have a strong control over. The Ontario government now has all government activities under the microscope looking for ways to improve efficiencies and reduce duplication. Concentrating the efforts of agencies and organizations with similar activities is a strong theme of their initiatives.

1.4 Union Membership in Canada

- Total number of employed workers in Canada (in millions) in 1997 was 4.438; in 2012 it was 5.659; and in 2018 it was 6.117.
- Total number of employed workers in Construction in 1997 was .177 (in millions); in 2007 it was .303; and in 2018 it was .379.

- The largest union in Canada is CUPE (680,000 members working in 11 different public sectors, including healthcare and education), followed by the National Union of Public and General Employees (NUPGE) with 390,000 members working in the provincial public service sector, and Unifor with 310,000 members in the private sector. (From CUPE’s website).
<https://nupge.ca/content/about-nupge>
<https://cupe.ca/about-us>
- Figures from Statistics Canada indicate that from 1981 to 2012, to 2018, Canada’s unionization rate declined from 38% to 30% to 26.3% of the Canadian labour force. Most of the decline took place during the 1980s and 1990s. Union membership in Canada, in real numbers (millions), has grown in the last two decades from 1.325 in 2013, to 1.608 in 2018. But this does not reflect that union membership, as a percentage, is steadily decreasing: 29.9% in 1997; to 28.2% in 2007; to 26.3% in 2018.

“Well I think part of the power [of the Unions] is being deflated by the legislation that is coming out and with these omnibus bills, sweeping changes happens with no more than a blink of an eye. Right? The power of the unions is still there when they unite together and appeal en masse to whatever changes the government’s looking at doing. Do I think the Unions are becoming ineffective? Absolutely not. I think the unions are what’s holding this province together.”

- The decline in numbers is due primarily to the decline in manufacturing. Unionized workers in the private sector, as a percentage of unionized workers, has decreased from 19.2% in 1997, to 16.6% in 2007, to 13.6% in 2018. However, this trend is reversed in the public sector, where unionization has increased from 651.9 workers in 1997, to 842.8 workers in 2007, and it has now (2018) grown to 965.6 members – a reasonably steady increase from 69.7% in 1997, to 70.5% in 2007, to 70.1% in 2018.

Statistics Canada. Table 14-10-0070-01 Union coverage by industry, annual (x 1,000):

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410007001>

An informal analysis of the construction industry conducted in 2018 showed that:

“The rate of unionization is very different across sectors in construction. Non-residential construction has a fairly high rate of unionization. High-rise residential is predominantly unionized, and low-rise residential is significantly unionized in the GTA, but not so much anyplace else. In residential renovation and repair, unionization is virtually zero. The majority of mining is non-unionized. In the private sector as a whole, including manufacturing, construction and services, unionization rates are down to maybe 10-12%.”

The change in union percentage, structure, and sectors has implications for the power of the unions, and hence the union support that OHCOW can expect in the future.

1.5. Unemployment Rate, Salaries, Part-Time Jobs

Any economic report is limited to the time that figures are obtained; it is an ever-changing picture. The following is based upon figures obtained in the first quarter of 2019. Unemployment is at its lowest rate

in 43 years, reports Andy Blatchford at the *Huffington Post* on January 8, 2019. Statistics Canada reported on March 15, 2019, that Ontario unemployment is down to 5.8%. Strong February figures report an increase of 56,000 full-time jobs; this comes on the heels of an even bigger gain of 66,800 jobs in January. That's the best two-month stretch for the job market since 2012.

Canadians are being paid more per hour; this was not predicted. Toronto hourly wages have also increased by 3.5%. The major job gains are in the service sector. This is despite the fact that poverty activists have been advocating for an increase in minimum wage to \$15.00/hour. The minimum wage will remain at \$14/hour for the immediate future.

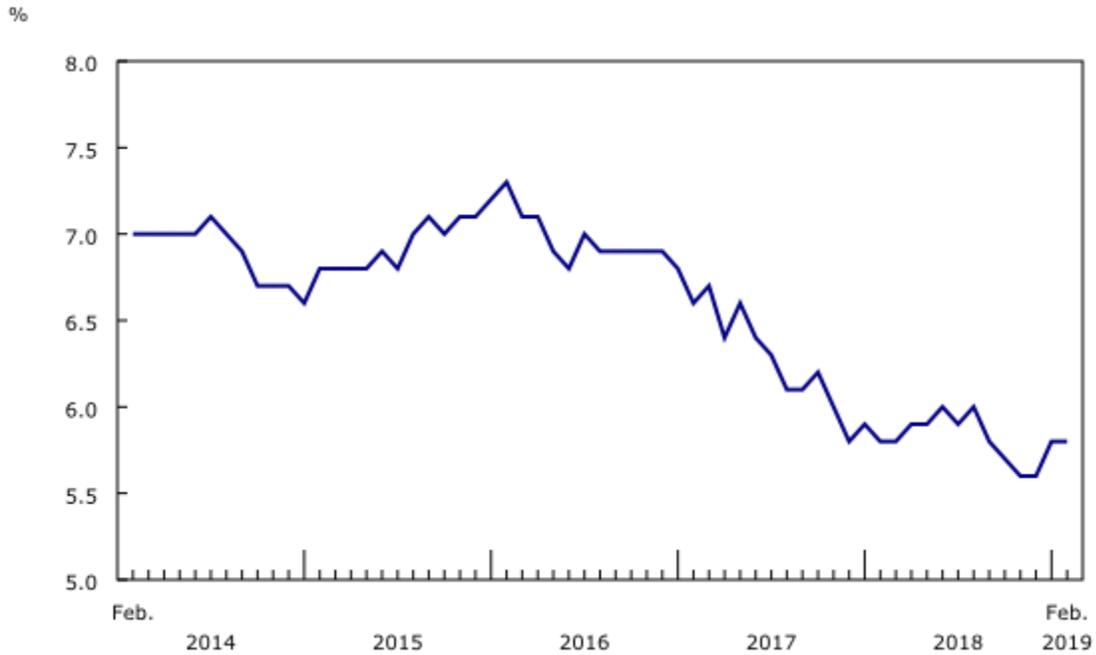
It is interesting to note that despite these very positive economic numbers, CBC and other media are constantly reporting that people continue to feel broke; their sense of their personal economic security is very fragile. They no longer feel that government support and social security will be there if it is needed. A survey of workers aged 22-45 (the Millennials) has found that most believe that having a permanent, full-time job, or ever owning a home will not be feasible.

Some of the reasons for this economic ennui, may be that despite the full employment, the Canadian economy had shrunk by 0.1% in December 2018. Salaries are staying static relative to inflation, the decline in manufacturing jobs continues, and there is a rise in non-traditional, non-unionized, work arrangements.

- Statistics Canada reported on February 8, 2019, that Canadian employment grew for a second consecutive month, up 56,000 driven by gains in full-time work. The unemployment rate was unchanged at 5.8% as the number of people searching for work held steady. In the 12 months to February 2019, total employment grew by 369,000 or 2.0%, reflecting increases in both full- (+266,000) and part-time (+103,000) work. Over the same period, total hours worked were virtually unchanged. The Canadian economy added 55.9 thousand jobs, entirely driven by full-time positions (+67.4 thousand) while part-time employment fell (-11.6 thousand). The unemployment Rate in Canada averaged 7.64 percent from 1966 until 2019, reaching an all time high of 13.10 percent in December of 1982 and a record low of 2.90 percent in June of 1966. <https://tradingeconomics.com/canada/unemployment-rate>
<https://www150.statcan.gc.ca/n1/daily-quotidien/190308/dq190308a-eng.htm>
- Statistics Canada reported that the Canadian unemployment rate (reported January 2019) stayed at its 43-year low of 5.6 % as the economy closed out 2018 with the addition of 9,300 net new jobs. Canada's job vacancy rate hit 3.1 per cent in the April-to-June quarter 2018, the highest rate since the Canadian Federation of Independent Business (CFIB) started tracking this data in 2004.
- Ontario was the sole province with a notable employment gain in February. Employment declined in Manitoba, and was little changed in the remaining provinces. Employment in Ontario rose for the second consecutive month, up 37,000 in February, boosted by gains in full-time work (+59,000). The unemployment rate was unchanged at 5.7% as more people participated in the labour market. On a year-over-year basis, employment in the province increased by 2.7% or 192,000.

Unemployment rate in Canada from April 2014 to February 2019

<https://www150.statcan.gc.ca/n1/daily-quotidien/190308/dq190308a-eng.htm>



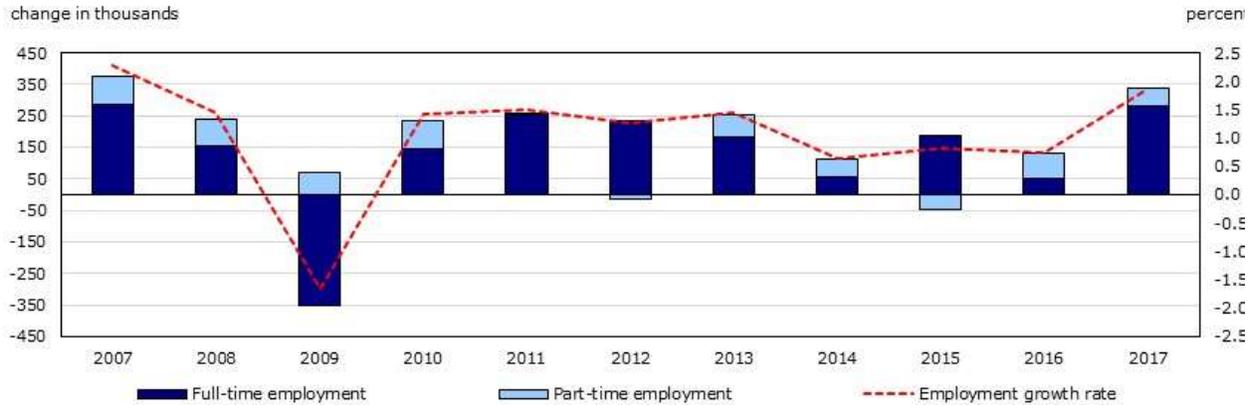
- Ontario added 20,000 jobs in 2017, and its jobless rate held steady at 5.6 per cent. The Ontario Labour Force figures for February 2018, as reported by the Ontario Ministry of Finance, are the following:

Labour force	7,579,800
Employment	7,128,000
Job creation	128,400
Unemployment rate	6.0%
Participation rate	64.9%

<https://www.fin.gov.on.ca/en/economy/ecupdates/factsheet.html>

Canadian figures for Employment changes by type of work from 2007-2017 are found below.

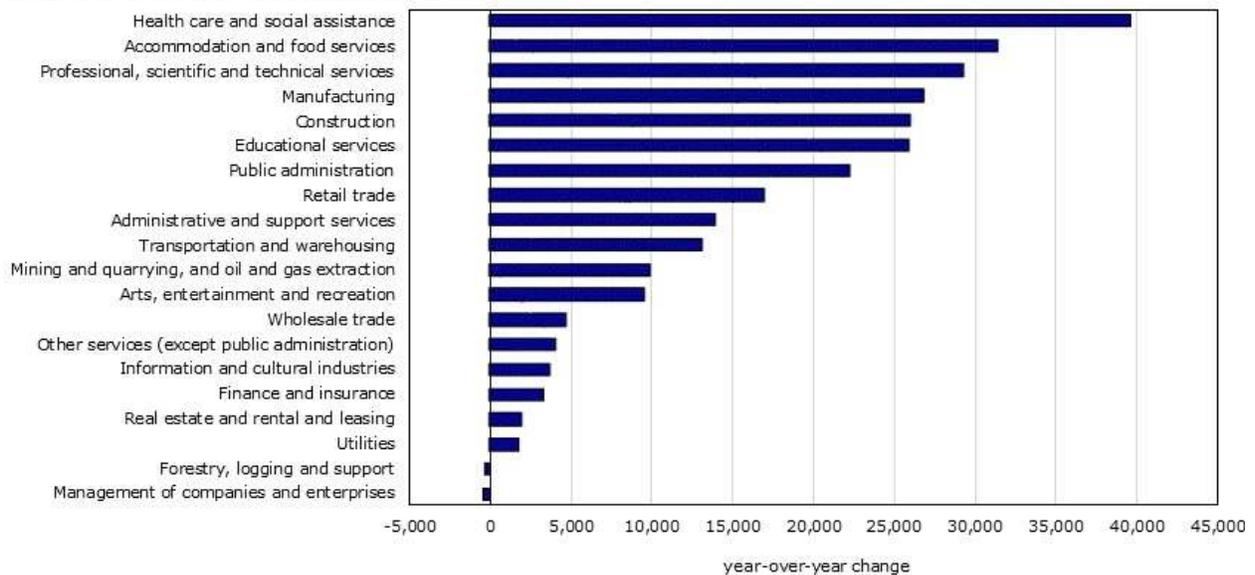
Employment change by type of work, and growth rate, 2007 to 2017



Source: Statistics Canada, Labour Force Survey, CANSIM table 282-0002.

- Between 2000 and 2018, the manufacturing sector's share of employment fell from 1,040.40 to 741.30. Unionization in manufacturing fell from 31.1% in 2000, to 18.7% in 2018.
- The largest employment increases, in millions, have been in the public sector (991.00 in 2000, to 1,376.70 in 2018), construction (203.70 in 2000, to 379.90 in 2018), and healthcare (470.30 in 2000, to 739.10 in 2018). Statistics Canada says the majority of payroll employment growth in 2017 (219,000) took place in services-producing sectors. The health care and social assistance sector led the way with an increase of 39,600 over 2016, the fourth year in a row that this sector has led payroll employment growth. The largest increase in this sector was posted in Ontario, with 14,600, followed by Quebec with 8,400.

Payroll employment change by sector, 2017



Source: Statistics Canada, Survey of Employment, Payrolls and Hours, CANSIM table 281-0024.

1.6. Medium-sized Companies are Disappearing

Ontario is a province that is dominated by small employers. Around 30% of workers are employed in establishments with fewer than 20 employees. A further 34% are employed in mid-sized workplaces with 20 to 100 workers, these companies used to have more workers but have automated and reduced their need for workers. Only 36% of workers are employed in establishments with more than 100 workers. The shift of employment to small establishments is especially evident in the manufacturing sector.

There have been corresponding changes in the occupational composition of the labour force (2000 to 2013). Traditional 'blue collar' occupations have declined from 25.5% to 20.8% of employment. Correspondingly, there has been an increase in occupations associated with the broader public sector (e.g., teachers, health care workers, etc.) from 16.1% to 19.9% .

In most of the sectors, there is a kind of a bifurcation. Over on one side, you see the emergence of fairly large sophisticated companies that have quite advanced human resources management practices. They certainly have the capacity to deal with accident prevention and occupational disease. And then over on the other side, you've got a large block of many smaller companies. You have many, many much smaller, much less sophisticated companies. They are not in a position to pay the premium wages. Their HR functions are often very rudimentary; they may not be beyond the clerical in terms of HR. And what you have in the last couple of decades is a shrinking of the middle.

So, if you look at the bifurcation, what's increasing is the number of workers who are not likely to be unionized. The cost of getting a union into small workplace (anything smaller than 30 workers) is very high and it is difficult to organize. So there is this emergence of a block of blue collar workers who are more at risk today than they would have been a generation ago when more of them would have been employed in that middle segment -- Which was more likely to be unionized, more likely to have more capable HR management, and be more likely to be inclined to compliance rather than inclined to evasion.

1.7. Precarious Work

In 1995, Jeremy Rifkin wrote a book called, ***The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era***. Two decades ago, he predicted that worldwide unemployment would increase as information technology eliminated tens of millions of jobs in the manufacturing, agricultural and service sectors. He predicted a devastating impact of automation on blue-collar, retail and wholesale employees. While a small elite of corporate managers and knowledge workers would reap the benefits of the high-tech world economy, the American middle class would continue to shrink and the workplace become ever more stressful.

Rifkin mostly got it right. Roughly one worker in ten is now an 'independent operator' – a phenomenon that is no longer confined primarily to the construction industry. [As mentioned by a number of key informants for this Report, the 10% is predicted to grow to 30-50% in the next few years]. The implication for OHCOW is a growth in a new kind of worker, possibly even more vulnerable to workplace exposures, is emerging as a new client group.

The American Industrial Hygiene Association's *State of Research Report 2018-19* has predicted that precarious work as part of the Gig economy will increase from a third of the workforce to about 40% of the workforce by 2020.

Increasingly, employees are engaging in non-traditional work arrangements such as gig work, contract work, telecommuting and working for multiple employers. In 2012, the AIHA Envisioned Futures environmental scan report found that the multi-job, multi-career workforce will compose an estimated one-third of U.S. workers, or approximately 42 million people, and that by 2020 their ranks could swell to include 40 percent of all U.S. workers.

1.8 Globalization

Globalization has now dominated our economy for decades. It can be seen from a number of perspectives: the number of companies in Canada with foreign ownership, or the amount of goods imported into Canada from other countries, or Canadian goods that are exported, or Canadian companies with their business in other countries, or the movement of labour around the world. Innovation, Science and Economic Development has some statistics that can help to flesh out just how extensive globalization is.

However, when it comes to health and safety, particular issues emerge. Mining and manufacturing are now mostly owned by non-Canadian companies, or have moved off shore to other jurisdictions. Companies are going where they can produce their goods at lower costs, cheaper labour, and lower standards of health and safety. There are disturbing reports of the plight of workers gold mining in Africa, of Indians exposed to electronics and asbestos, or people earning their living from recycling waste. Many of these issues, and the lack of occupational hygienists, are being highlighted by the organization, Workplace Health Without Borders, founded in Canada by Marianne Levitsky. Kevin Hedges from OHCOW is now the President of the organization.

"There's a huge gap in available expertise and resources for controlling occupational health hazards. It's a profession that has a very relatively small number of members, compared to other professions. There are sixteen countries that have some kind of certification program for industrial hygienists, and there's only 7,600 with that kind of certification in the world. If you could have the level of service in those sixteen countries available to everybody in the world, you would need about 45,000 more industrial hygienists or occupational hygienists. People just don't know about preventing health hazards, and they don't know about prevention generally."

From the WHWB website: <http://www.whwb.org/>

World-wide an estimated 20 million people earn their living from recycling waste (ILO Green Jobs Report, 2013). Waste picking often involves the collection, sorting, and processing of materials with little or no health and safety protections. Waste pickers may work in the streets, open dumps, sanitary landfills, and sorting warehouses, where each workplace presents different degrees of risks and vulnerabilities to waste pickers. Workers are exposed to infectious diseases from medical waste, heavy metals, dusts and chemical vapors, heat and cold stress, falls and other injuries. These precarious work conditions, along with socio-economic and psychological stress, and exposure to different forms of violence, are also factors that impact workers' health and overall well-being. Most of these workers are under informal employment without access to social protection where on average, earnings are low and risks are high. Thus, there is no organization to train and protect workers from injuries and disease.

1.9. Implications and consequences for OHCOW

- The decline in the number of unionized members implies a decline in union power. Since OHCOW is very dependent upon union support, this is an impending threat.
- On the opportunities side, OHCOW's balanced Board, with multiple unions represented, means that it now can take advantage of the support from the growing public-sector unions.
- OHCOW has a growing potential client group of non-unionized, precarious workers who work in small non-unionized companies who are exposed to toxins without protection. OHCOW's experience with migrant farm workers will be invaluable for contacting these isolated, vulnerable workers.
- There's no obvious way to reach workers in small companies. The workers are very often hired on the basis of ethnic affinities. One of the key informant suggesting that hiring channels could be the ethnic press, word of mouth, community institutions, churches, and other informal networks.
- There will be a change in workplace exposures seen by OHCOW, from the manufacturing and mining industrial hazards, to biohazards from healthcare, mental health/illness experienced by white-collar workers (and miners), and exposures experienced by construction workers (from exposure to the multiple chemicals used in new building products, asbestos, and musculoskeletal disorders).

I think the migrant worker program is really terrific. I think that's a super important initiative because it allows a pretty significant access to a community that otherwise is pretty underserved. I think it's really valuable for them to triage, and do work with the most precarious. [They should focus on] the most underserved workers with the most under-recognized health and safety risks."

2. The Political and Legal Environments

An important point to make is that this environmental scan is being written while a number of reviews are taking place of the Ministry of Labour, the larger Ontario OHS System, of the WSIB, and of the occupational research centres and occupational research grants. The results from the different reviews will be released sometime this fiscal year (predicted now for Jan or Feb 2020). The recommendations from these reviews will have an unpredictable, but significant impact on the OHCOW strategic plan.

The topics on work and health covered under the Political environment include: changes in focus of Ontario's government's priorities and regulations, and a number of significant changes that are being proposed for Ontario's Occupational Health and Safety System.

There are some major changes happening in the OHS Environment that will have implications and consequences for OHCOW. OHCOW is embedded within the larger Ontario Occupational Health and Safety System that includes:

- The Ministry of Labour (MOL);
- The Workplace Safety and Insurance Board (WSIB);
- The four safe work associations (SWAs) that are also called Health and Safety Associations (HSAs). They include Workplace Safety North (WSN), Public Services Health & Safety Association (PSHSA), Infrastructure Health and Safety Association (IHSA), and the Workplace Safety & Prevention Services (WSPS);
- The Workers Health & Safety Centre (WHSC);
- The Office of the Worker Advisor (OWA); and the Office of the Employer Advisor (OEA).

Some of the changes that are on the horizon of the health and safety System have been explored under the Political Environment, but some details specifically of changes within the WSIB, the four Safe Work Associations, OHCOW and the Workers Health & Safety Centre are included in this section. This section, like all else, is limited by the timeframe; only what is known can be reported.

At the federal and at the provincial level, the political environment is in a state of flux with new policies, regulations and legislation being proposed, made, and then some cancelled when the government leadership swings from Liberal to Conservative parties. The changes that are taking place, and which may be in the planning stage, may all affect the future of OHCOW, or the way it defines its core mandate.

"Nobody knows how politics will evolve. I think it's a very fluid period. There are big forces in motion. There are right wing forces and anti-climate change/anti-science forces. If you look at the federal scene, there is a lot of volatility - Greens are on the rise, the Liberals are having a rough time, and the NDP as well. The Tories have a new right-wing new party nipping at their coattails, Maxime Bernier's party, and the Tories have a not particularly popular leader although they're polling pretty well as a party. So, federally, you start thinking we have a situation which could easily produce a minority."

2.1. Changes in the Ontario Government Priorities and Regulations

The 2018 Ontario general election was held on June 7, 2018. The Progressive Conservative Party of Ontario, led by Doug Ford, won a majority government with 76 of the 124 seats in the legislature. The Ontario New Democratic Party, led by Andrea Horwath, formed the Official Opposition. The Ontario Liberal Party, led by incumbent Premier Kathleen Wynne, lost official party status. This was the worst result in the party's 161-year history and the worst result for any incumbent governing party in Ontario.

The “Government for the People”, as Doug Ford calls his PC Party, has made numerous changes in its less than a year of being in power. However, the one thing it has not done is announce its budget. The Ontario provincial government will announce its first budget on 11 April 2019.

“In Ontario, we are in a very challenging time. The last election brought dramatically different ideas into government. Trump-type thinking. But there are more mainstream political people in their government as well. So Doug Ford does not just have a Tea Party type group that he’s accountable to. He’s also got mainstream Tories, he’s got Bay Street people, he’s got ministers in his cabinet, and he has of course MPPS who have to get re-elected. So what we’ve seen is that they have retreated already on several big issues when issues blow up or get publicized. For example, they were ready to repeal the Toxic Reduction Act. They were going to develop the green belt. So what you’re seeing in the first six months of their government, is that they’re susceptible to public pressure. And that’s really interesting. I frankly hadn’t expected it to go that way.”

Many of the changes will affect the Ministry of Labour, the Workplace Safety and Insurance Board, and the rest of the Occupational Health and Safety System in Ontario. However, the full impact cannot be projected without the information that will be revealed in the budget. But in the meanwhile, a number of themes can be noted.

The Ford government has announced that it only has three priorities:

- 1) Open for Business in order to create good jobs;
- 2) Reduced wait times in hospitals; and
- 3) Balancing the budget in a responsible manner.

To this date (March, 2019), the government has declared that it will:

- Cut the deficit. In November 2018, Ontario’s Progressive Conservatives announced that it had cut the province’s deficit by \$500 million, bringing the figure down to \$14.5 billion in its first few months in office. In March 2019, Ontario’s 2018-19 Third Quarter Finances forecasted an improvement of \$1.5 billion in the Province's deficit to \$13.5 billion. This represents an improvement of \$1.0 billion from the 2018 Ontario Economic Outlook and Fiscal Review, and a \$1.5 billion improvement from the \$15.0 billion inherited deficit identified by the Independent Financial Commission of Inquiry.
<https://news.ontario.ca/mof/en/2019/03/ontario-to-release-2019-budget-on-april-11.html>
- Reduce the amount of legislation that affects businesses by 25% -- including Labour legislation. This can be “gamed” by clever editing that reduces the number of words in the legislation by 25% says insiders in the Ministry of Labour.

- Create a mega-healthcare agency, the Ontario Health Agency, that will amalgamate the 14 Local Health Integrated Networks (LHINs), and six other agencies including Cancer Care Ontario, eHealth Ontario, the Trillium Gift of Life Network, Health Quality Ontario, Health Shared Services Ontario, and HealthForceOntario Marketing and Recruitment Agency.
- Make changes in education that include: increases in class sizes, relaunch of the sex-education curriculum, make it obligatory for high-school children to take four e-learning courses, and make multiple changes in how the funding for autistic children will be distributed (without any increase in funding).
- End the cap and trade carbon tax. (A move that is very relevant in terms of Climate Change)
- Expand the permissible hours of beverage alcohol sales for authorized retail outlets in Ontario from 9 a.m. to 11 p.m. seven days a week; announce “buck-a-beer” for sale. Conduct a Beverage Alcohol Review.
- Launch a new web-based service that allows Ontarians to apply online for conciliation and arbitration help during their collective bargaining. On July 1, 2019, grievance arbitration awards will be published online.
- No replacement of Ontario Public Service retirees.
- Establish online health and safety training programs -- 50,000 Ontario workplaces no longer send workers for a five-day classroom course.
- Bill 66 will repeal the Toxics Reduction Act, 2009 by 2021, and will remove the toxics reduction plan in 2019.
- Pass labour legislation, effective January 1, 2019 that:
 - Cut company’s WSIB average premium rate by almost 30%. The Ministry of Labour says this will save employers \$1.45 billion in premiums paid to the Workplace Safety & Insurance Board (WSIB);
 - Keeps the minimum wage at \$14 on January 1, 2019. Annual minimum wage increases, tied to inflation, will resume in 2020;
 - Delays the coming-into-force-date of the Pay Transparency Act, 2018;
 - Preserves employers’ right to decide workplace schedules.

2.2. Changes in Ontario’s Occupational Health and Safety System

From the very focused priorities of the government, and from the changes that are listed above, it is possible to project forward that the government is working from a theory that: efficiency, saving money, reducing taxes, and creating smaller government with less red-tape that is “Open for Business”, can be gained through centralization and downsizing. This lens is determining much of their changes.

A number of reviews have been announced (formally and informally) that also offer some hints as to the government’s plans for the Occupational Health and Safety System. More information may become available from an analysis of the first budget of this government slated for April 11, 2019.

The following section highlights some of the changes that the key informants think are possibilities: moving the Prevention department from the MOL back to the WSIB; creating an independent Prevention agency; creating one research centre that encompasses all occupational health and safety research; amalgamating the four safe work associations and/or collapsing the whole of the OHS System

(the SWAs, OHCOW, Workers Centre, OWA, OEA) into one agency; and privatizing the WSIB. The following pages flesh out these ideas (2.2.1 – 2.2.5).

2.2.1. Initiating Reviews and Audits

A number of audits will affect the Ministry of Labour and the WSIB and the Occupational Health and Safety System:

- In 2019, a 5-year-in-scope review will be conducted by the Office of the Auditor General Review of the entire Ontario OHS System. It is being said that this will be a “No Holds Bar” examination of the System. They will examine the system through an efficiency and effectiveness and value for money lens. The results of the review could potentially include any combination of changes: moving the Prevention Department from the Ministry of Labour (MOL) back to the WSIB; amalgamation of the HSAs; or creating one central mega-agency (similar to the Ontario Health) that includes the whole OHS System. The instruction once received by the SWAs/HSAs to focus on income earning potential especially from training, has begun to change to focus on small businesses. The HSAs may be obliged to offer their services to companies at no charge (in exchange for employer premiums that go to the WSIB).
- A full audit of the operations and functions of Workplace Safety and Insurance Board (WSIB). This may include a cross-jurisdictional comparison, refining the case management process, examining what to do now that the unfunded liability has been paid off, launching more Prevention social media; and privatizing all or some aspects of the WSIB.

“I’ve never really heard employers say, ‘I don’t want injured workers to receive the benefits and services to which they are entitled.’ But they want the body that is administering workplace insurance to be using the premiums they pay effectively. The government wants to ensure that the WSIB continues to be sustainable on a go-forward basis, and that the WSIB is operating efficiently.”

- Grants Ontario is conducting a Cross Ministry of Government Grants review and audit. This will include the Ministry of Labour’s two research grants: ROP and OSHPIP. These grants have now been on hold for two years. This review could lead to the recommendation of creating one research centre that focuses on occupational health and safety. This new entity could include OHCOW.

2.2.2. Amalgamating the four Safe Work Associations (SWAs/HSAs) and the Workers Health & Safety Centre

The amalgamation of the four SWAs, OHCOW and the Workers’ Centre has been discussed over the years. This idea may stay at the theoretical level.

In 2014, the consulting firm, Deloitte, was commissioned by the Ministry of Labour to examine a potential amalgamation of the 6 HSAs across a number of functional domains. Deloitte was engaged to define the appropriate collaborative delivery model, governance structure and implementation path that would help the HSAs and the MoL to successfully achieve greater integration among the HSAs and to streamline and clarify service delivery as part of the overall implementation of the new Health and

Safety service delivery model in Ontario. They examined HR & Training, Finance, Procurement, Marketing & CRM, IT and Product Development. Their report was called: *Ministry of Labour – Collaborative Services Feasibility Assessment* and it was published in September 2014.

They analyzed the financial advantage of amalgamating the four safe work associations (SWAs) and the Workers Health & Safety Centre. They did not think there was a business case for amalgamating the back office of the SWAs, especially so soon after the reduction of 12 organizations into the four SWAs that had taken place only a couple of years previously. However, they did see a significant opportunity to amalgamating the training, services and developing mutual materials. This they said would offer both financial and efficiency advantages as well as offered the opportunity to extend the HSA's reach to small and medium-sized companies who are under-served. They wrote: *"With the exception of OHCOW, the HSAs operate in similar businesses, delivering similar products and services."*

Deloitte made the point that OHCOW operates a distinctly different business, focusing on clinical health and safety rather than on the delivery of health and safety education and

[Amalgamating the HSAs] was actually not one of our recommendation. Frankly the results of our stakeholder consultation indicated that there was still a fair degree of resentment among many stakeholders in the sectors about the previous merger that had taken place." says John O'Grady, whose MOL report came out in 2015, after the Deloitte report.

training. The report notes: *"While opportunities for collaboration exist on the basis of similarity of business models, the distinction of OHCOW from the other HSAs suggests that not all HSAs will benefit from collaboration in all identified opportunities."*

An attempt was made to fulfill the Deloitte recommendation that the SWAs collaborate on the production of their resources. There is now a central website that links the four SWAs, called Health and Safety Ontario. However, it does not include either information from OHCOW or the Workers Health & Safety Centre (or the OWA or OEA). It is very dominated by information from WSPS. There is no pooling of resources; the only resources that are available are those produced by WSPS. The website includes a small amount of information on occupational disease and mental illness.

<http://www.healthandsafetyontario.ca/>.

One of the results of an amalgamation of the SWAs may be a change in their mandate so that they service small business, provide free services, and focus on identifying the most significant high hazards.

I would argue that all of the health and safety associations and the OHS research centres are probably also facing their own burning platform [crisis]. All may be at risk of losing their core funding. We need to work together to find the right path to effective collaboration given this highly competitive (resource limited) environment.

2.2.3 Returning Prevention to the WSIB

A possibility that was discussed in the first quarter of 2019 was the return of the Department of Prevention to the WSIB, from the MOL. The MOL's Deputy Minister (who retired in the summer of 2019) stated at a recent staff meeting that having Prevention at the MOL has been an obvious failure.

Moving Prevention out of the WSIB and to the MOL was a major recommendation of the Dean Report of 2010. The death of four construction workers on Christmas Eve 2009 was the reason why the Dean review was initiated. Funding for the four safe work associations, OHCOW and the Workers Health & Safety Centre also moved from the WSIB to the MOL, although these entities and their functions continue to be funded by employer premiums through the WSIB.

2.2.4. Returning Research to the WSIB

At the end of 2018, the MOL put their research grants program on hold, leaving many researchers without vital funding. The last call for proposals was in September 2016.

Closing down the research program also surprised non-researchers, especially since the Ernst and Young report for the Ontario Government, *Managing Transformation: A Modernization Action Plan for Ontario. Line-by-line Review of Ontario Government Expenditures 2002/03 - 2017/18*. (September 21, 2018), had strongly recommended that decisions should be evidence-based. They wrote:

“A key recommendation going forward is for a relentless focus on data and analysis to strengthen the government’s ability to drive greater efficiencies and better outcomes.”

The WSIB funded workplace-based research for many years, but this funding moved from the WSIB to the MOL in 2011 (a recommendation of the Dean Report). The WSIB has recently initiated a number of activities that indicate that it is once again interested in taking back the Prevention leadership and occupational health and safety research. This year and last, the WSIB initiated a new grant’s program.

The WSIB’s 2019 grants program (deadline February 15, 2019) has identified “topics of interest”. Some of these are potentially of interest to OHCOW, since these topics fall within OHCOW’s existing mandate, or the OHCOW mandate could be extended to encompass them. They include:

- Identify strategies to increase primary care provider knowledge of occupational medicine in support of the occupational health and safety system
- Examine best practices in early detection and reporting of occupational diseases
- Identify strategies to effectively engage small businesses for the implementation of occupational health and safety best practices
- Identify strategies and / or resources to increase general awareness about compensation policies and rights among people who are vulnerable
- Evaluate the effectiveness of peer-support groups and/or resiliency training for people who experience post-traumatic stress disorder (PTSD), chronic mental stress, and/or mental health disorders
- Evaluate the impact of workplace culture on mental stress injuries.

“The decision makers thought that by taking Prevention out of WSIB and putting it under the MOL where there are inspectors that can go out and issue orders and fines on certain issues, that enforcement would change the culture of prevention and safety. But it hasn’t.”

2.2.5. Privatization of the WSIB

Conjecture that there may be privatization of the WSIB comes from looking at other indications that the Ford government is open to privatization, as well as the informal announcement that the WSIB will be going through three reviews in 2019.

The potential privatization of the WSIB could be total or partial. It is possible that one sector, such as construction, could be obliged to be privatized with private insurers; or that companies could choose to be insured with private insurers. Another alternative is that the Prevention department could be syphoned off to stand alone and hence not be an expense; or that the SWAs/HSAs and/or the research centres could be amalgamated, or syphoned off which would again reduce expenses.

Another way to make the WSIB more attractive to privatization would be to ensure that Schedule 2 employers pay some sort of reimbursement. At the moment, the WSIB receives premiums from only Schedule 1 companies. Schedule 1 makes up 60% of the number of workplaces. But it could be argued that the Schedule 2 employers (40% of the workforce) are equally benefiting and hence should be paying up. This suggestion was tentatively advocated by the Arthurs Report with acknowledgement that not enough is known about Schedule 2 employers:

One way to resolve both issues [whether Schedule 2 employers are bearing their fair share of the WSIB's benefit and non-benefit costs, and whether those employers have spread the burden equitably among themselves] would be for all Schedule 2 employers to pay a small annual fee to cover their fair share of all of the WSIB's non-benefit costs, as well as reimbursing the WSIB for specific benefit costs paid to their injured workers. (p.43)

<http://www.wsib.on.ca/cs/groups/public/documents/staticfile/c2li/mdex/~edisp/wsib011358.pdf>

A few other indicators of the potential for privatization include:

- The unfunded liability has been paid off. The WSIB has cut employers' average premium rates by almost 30%. The absence of this liability may make WSIB an attractive purchase to private insurance companies;
- There is labour unrest at the WSIB. In July 2018, the WSIB unrolled a new service delivery model that removed dedicated case managers from injured workers' files. Under the new model, claimants now go into a general pool and are triaged based on the complexity of the case. As reported by the Toronto Star, a 2018 poll conducted by the union found that 90 per cent of 263 employees surveyed said work-related stress was impacting their personal lives and 92 per cent attributed workload issues to understaffing at the WSIB. On March 21st, 2019, The Toronto Star reported around 100 WSIB employees had gathered on their lunch break to rally outside the building — the first of 13 protests organized for the coming weeks at WSIB offices around Ontario. Although a chaotic labour situation is not usually attractive for a new buyer, it may be regarded as politically advantageous since it could be seen as an indicator of the failure of the WSIB as a public agency, and hence the need for privatization.
- The WSIB has also announced that a new Rate Framework will be implemented on January 1, 2020. The Framework will be based on a rewriting of the North American Industry Classification System (NAICS Codes). There will be a reduction of rate groups from 135 to 54. As stated on their website, businesses will be assigned to a risk band that best represents their risk in relation to other businesses in a similar class. This change will potentially have an impact on the premiums that companies will pay. It will also impact which industries are served by which

health and safety association, and may have an impact on the SWA's budgets and size of activities.

http://www.wsib.on.ca/WSIBPortal/faces/WSIBDetailPage?cGUID=WSIB071259&rDef=WSIB_RD_ARTICLE&_afLoop=239136471118000&_afrWindowMode=0&_afrWindowId=10gryw3qgh_1#%40%3FcGUID%3DWSIB071259%26_afrWindowId%3D10gryw3qgh_1%26_afrLoop%3D239136471118000%26rDef%3DWSIB_RD_ARTICLE%26_afrWindowMode%3D0%26_adf.ctrl-state%3D10gryw3qgh_29

- An initiative from the Ministry of Labour is worth noting. The MOL is coming out with a new Accreditation System. The MOL has approved private providers to offer companies accreditation. There will be a potential for companies to receive a premium reduction/incentive depending upon where along the journey it is. The Infrastructure Health and Safety Association has become the distributor of COR: A Certificate of Recognition. This certification is focused on the construction industry. It is an auditing protocol and system that originates in Alberta. Having companies progress along a path of improved safety will reduce claims for the WSIB.

2.3. Implications and Consequences for OHCOW

This section identified a number of areas where OHCOW could extend its work, however, each foray into a new area, or even extending existing work, demands more resources.

Opportunities:

- OHCOW is uniquely placed to withstand the exigencies of these waves of political change because of its focus on occupational disease, its focus on workplace primary stress prevention, its wide and deep collaborations with all the HSAs and CCOHS, and its partnerships with the research centres;
- OHCOW's work with migrant workers is very important and should continue;
- The informal network that OHCOW has developed with the non-unionized farm workers could act as a model to help access other small workplaces;
- OHCOW may wish to develop a program similar to the one it has for migrant workers, for other communities of vulnerable workers;
- OHCOW may wish to develop programs for the 5 specific industries that have been identified as particularly vulnerable;
- OHCOW may choose to try and obtain funding outside of the Ministry of Labour.

Risks:

- The uncertainty in the political environment will have consequences and implications for OHCOW's ability to project a strategic plan any further than two or three years at the most;
- A strong possibility was that OHCOW could build a relationship and gain funding through the Ministry of Health and Long-term Care. Unfortunately, the Ministry of Health is probably not an alternative source of income. The MOHLTC seems reluctant to take on funding of anything that does not directly fall directly within their mandate. The new amalgamation of 20 medical agencies into one mega-agency also does not bode well for the MOHLTC taking on any extra responsibilities. The MOL is not "putting up its hand" to take on any extra projects – especially ones that have been funded by the Ministry of Labour for so long. Also, if the Ministry of Labour sees that OHCOW is getting funding from other sources, it may make MOL's decision to cut funding, easier.

3. Occupational Health and Safety Environment

In this section on the Occupational Health and Safety environment, topics include a global, Canadian and provincial view of the changes in injuries and fatalities, changes in occupational disease, and changes in mental health and illness.

3.1. Injuries and Fatalities

The International Labour Organization (ILO) 2019 report, *The ILO Global Commission on the Future of Work*, estimates that there are more than two million deaths worldwide resulting from a work-related disease or accidents.

“Every day, people die as a result of occupational accidents or work-related diseases – more than 2.78 million deaths per year. Additionally, there are some 374 million non-fatal work-related injuries and illnesses each year, many of these resulting in extended absences from work. The human cost of this daily adversity is vast and the economic burden of poor occupational safety and health practices is estimated at 3.94 per cent of global Gross Domestic Product each year.”

<https://www.ilo.org/global/topics/safety-and-health-at-work/lang--en/index.htm>

A second ILO report, *Work for a Brighter Future*, published in January 2019, calls for:

“Fundamental changes in the way we work in the new wave of globalization, rapid technological development, demographic transition and climate change.

The World Health Organization Director-General, Dr Tedros Adhanom Ghebreyesus, opened the Seventy-first World Health Assembly in May 2018 in Geneva with an ambitious agenda for change that aims to save 29 million lives by 2023. In preparation for the meeting, the WHO published its 5-year strategic plan to help countries meet the health targets of the Sustainable Development Goals. One of the major targets is to reduce exposures that lead to illness and death:

Target 3.9: *By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination • In 2016, outdoor air pollution in both cities and rural areas caused an estimated 4.2 million deaths worldwide. • In the same year, indoor and outdoor air pollution caused an estimated 7 million deaths, or - one in eight deaths globally. • Unsafe water, sanitation and lack of hygiene were responsible for an estimated 870 000 deaths in 2016.*

<https://www.who.int/news-room/detail/18-05-2018-director-general-brings-ambitious-agenda-for-change-to-world-health-assembly>

The National Safety Council’s most recent report on 2017 statistics for what they call “preventable work deaths” for the United States highlights that although deaths have been declining as a percentage, the number of workers dying has increased. They also say that these injuries cost the US \$161.5 billion.

The number of preventable work deaths stabilized in 2017, totaling 4,414, after three consecutive years of increases. In addition to preventable fatal work injuries, 733 homicides and suicides occurred in the workplace in 2017. Preventable work deaths increased less than 0.5% from 2016 to 2017, following a 5% increase in 2016, a 1% increase in 2015, and a 6% increase in

2014. The preventable death rate of 3.1 per 100,000 workers was unchanged from 2016 to 2017. In spite of the current increase, preventable work-related deaths are still 11.4% lower than they were in 1992, while the number of workers has increased 28.1%.

Work-related medically consulted injuries totaled 4.5 million in 2017, and total work injury costs were estimated at \$161.5 billion. Costs include wage and productivity losses, medical expenses, administrative expenses, motor vehicle property damage, and employer costs.

<https://www.nsc.org/membership/member-resources/injury-facts>

The Association of Workers' Compensation Boards of Canada (AWCBC) publishes an annual report: *National Work Injury, Disease and Fatality Statistics*. Their 2014-2016 report (the most recent) provides national Canadian statistics on work-related Fatalities and Lost Time Claim compensation for injuries and diseases. (Although having economic data would be interesting, this database does not contain statistics on injury, disease and fatality costs). The AWCBC reports:

The number of fatalities has stayed reasonably constant says the AWCBC. The total number of fatalities for Canada in 2016 was 904. The number of fatalities in Ontario in 1993 were 292; in 2003 there were 378; in 2007 there were 439 fatalities (an exceptionally bad year); and in 2016 there were 289 fatalities. The numbers from Quebec are consistently worse.

In Ontario, the number of accepted lost-time claims are going down. Three points in time, show that L/T claims in 1982 were 141,917 claims; in 1992 there were 136,936 claims; in 2002 there were 95,568 claims; in 2012 there were 55,525 claims; and in 2016 there were 57,368 claims.

However, the AWCBC numbers are even by its own account underestimations. It is like counting the number of homicides based only on those cases where the murderer is both found and convicted. As a beginning point, the AWCBC figures show that in Ontario, 24 per cent of the approximate 7.1 million working Ontarians are not covered by the public workers' compensation regime.

A report written by Steven Bittle, Ashley Chen, Jasmine Hébert, "Work-Related Deaths in Canada", in the *Journal of Canadian Labour Studies*, 2018 (vol 82), concludes that the statistics published by the AWCBC are a gross under-estimation of the number of deaths from occupational exposure. They suggest a more accurate picture of worker deaths would number between 9,800 and 13,200 Canadians killed annually by work-related injuries and illness—or between 10 and 13 times higher than fatalities reported by the Association of Workers' Compensation Boards of Canada (AWCBC).

Referencing a 2013 report written by Ann Del Bianco and Paul Demers, based on 1997-2010 data, the Bittle et al (2018) study writes:

Six times more workers die each year from occupational diseases than from traumatic incidents in the workplace. In Ontario alone, estimates are as high as 6,000 occupational-disease deaths annually.

In their recalculation, Bittle et al. (2018) add to the number of fatalities: deaths from commuting to and from work; non-reporting, under-reporting and reporting errors; deaths in the agricultural sector; non-workers who die from workplace exposures (e.g. the wives of workers who worked with asbestos; non-workers who die from air, rail or marine accidents); occupational diseases and illnesses (including

suicides, occupational cancers; and occupational disease, with a particular focus on chronic obstructive pulmonary disease (COPD).

The Unfunded Liability

In 2012, in Ontario, the WSIB had an unfunded liability of \$14.2 billion. By 2018, the unfunded liability was paid off. This was because of improvements in the economy. A number of the key informants for this study also said they thought that it was possible to clear the unfunded liability because claims from injured workers and from workers dying from occupational disease were not accepted, and because of a reduction in payments to workers whose claims had been accepted. Moreover, to celebrate paying off the liability a decade before projected, a decision was made by the Conservative government to cut WSIB average premium rate of almost 30% – and not increase either payments to injured workers, or increase the number of claims that are accepted.

<https://www.thestar.com/news/gta/2018/09/26/workers-groups-cry-foul-as-wsib-celebrates-financial-milestone.html>

The WSIB right now is painted with a bad-coloured brush because they are not allowing as many claims that we believe they should. This is even when they have the empirical evidence that says they should, and the claim meets the criteria, they meet the policy. Even then, the decisions are still [negative]. So people are looking less and less to WSIB. They are availing themselves to the other, more appealing, immediate monetary plans that are available, whether its short-term or long-term disability plans. This way, they can get the immediate satisfaction of money going into their bank account. They won't have to wait to fight a claim through the quagmire of the WSIB system that can take maybe a month, two months, three months, six months, a year, or even two years down the road. And by then, well yes, they may be at the point where they say, 'I've lost my home, my marriage, my children, my life!'"

"The entire driving motivation of the system right now, is reduction of benefits. They would say the driving motivation is actually return to work. They like put a spin on it. There's nothing wrong with return to work, but in our view, they prioritize paying few benefits over substantively meaningful return to work and recovery outcomes. They're driving workers for example without any time off, even if their doctor says you should take a couple of days. They will deny benefits. They will tell people they need to be ignoring their doctors and just go back to work. And then throughout the return to work process, they are pressuring workers to prioritize return to work over any other goal, including recovery, including the need to consider other injuries or disabilities they might have. That is also anti-therapeutic. That's not good for their recovery, and so while return to work is a goal that everyone can get behind, it's the way that they're doing it that's problematic."

The Occupational Disease Gap

Although the four HSAs, of course, assign importance to occupational disease, I think the harsh reality is that they actually do comparatively little about it. They are mainly focused on training for accident prevention. Occupational disease is what is below the visible part of the iceberg. I think it is by far the more serious problem, and the one that doesn't get the attention. It is also politically far more contentious.

. . . . So that's the gap. In a sense it falls to the [OHCOW] Clinics to focus much more on the occupational disease dimension. Certainly, in our consultations with employers, the one organization that attracted their concern was the Clinics because the Clinics were identifying occupational disease and that's a huge liability. The only HSA that they wanted to put under more control was the Clinics. Well, you know, I bloody well hope somebody has a worker bias

Many workers are being forced onto welfare and Ontario Disability Support. WSIB is well aware of that, [and deny claims]. So you have workers forced to do appeals for like 5 or 10 years, to try and get that reversed, but by the time you do the appeal, even if you win at the tribunal, you can't rectify the problem that's been created. It's too late. Their career is over. You can provide the compensation backwards but it's not really going to rectify the harm that was done by the initial termination and the exclusion from the workplace."

3.2. Occupational Disease

For every injury death, there are at least 6 deaths from occupational disease, estimates the International Labour Organization (ILO). This may be much higher in industrial countries, says Dr. Paul Demers, Director of the Occupational Cancer Research Centre (OCRC).

A report on the burden of occupational cancer in Ontario was made available in September 2019:

<https://www.cancercareontario.ca/sites/ccocancercare/files/assets/OCRCBurdenofOccupationalCancerReport.pdf>

Every five years, the International Agency for Research on Cancer (IARC) publishes a list of the cancers/exposures/occupations that they will focus on. Although the list of experts for 2020-2024 has been published (and Paul Demers is on the list), they have yet to announce the new list of Monographs on the Evaluation of Carcinogenic Hazards to Humans they will be investigating and publishing.

https://monographs.iarc.fr/wp-content/uploads/2019/02/AGP-ListofParticipants.pdf?fbclid=IwAR3YRuWq90w3OLLC-Qz1fX2o4kVJgGBhTkpyBCNFeaBl6XcAm8LaYZ_XtjM

3.2.1. Occupational Disease Action Plan (ODAP)

OHCOW has been leading the investigation of occupational disease in Ontario since the 1981 when the first Clinic was opened. Recently, OHCOW (Val Wolfe) has led the Occupational Disease Action Plan. The group has the input from the WSIB, Ministry of Labour, the four SWAs/HSAs, the Workers Health & Safety Centre and OHCOW, Public Health Ontario, three research centres (Institute for Work & Health, The Centre of Research Expertise for Occupational Disease, and the Occupational Cancer Research Centre), and the Lung Association. OHCOW now has a website – together with the CCOHS – on occupational disease:

<https://preventoccdisease.ca/en/>
https://www.ohcow.on.ca/edit/files/odap/odap-carwh_18oct2018_final.pdf

Noise, allergens and irritants, and diesel have been prioritized by the ODAP group. Two other priorities include intelligence and decision support and the electronic medical records (EMRs). The latter remains problematic. The goal is to have clinicians complete an occupational history and enter this information into their Electronic Medical Records (EMRs). Research conducted by Rivka Kushner and Drs. Linn Holness and Desré Kramer has found that space already exists in EMRs to enter work information but it is not being used, and that clinicians are very reluctant to ask patients about their work. This research has been published.

https://www.researchgate.net/publication/322280759_Asking_Clients_at_a_Community_Health_Center_About_Their_Occupational_Exposures_A_Knowledge_Transfer_Feasibility_Case_Study

3.2.2. The Occupational Disease Clusters

There are now a number of “clusters” of workers in Ontario that have been identified as potentially problematic. They have had similar exposures, and as they grow older, are inflicted with a multiplicity of chronic neurological diseases and cancers. Of those already known, a new cluster may be emerging amongst the DuPont workers in Kingston.

The first of the cluster that become widely known was the uranium workers in Elliot Lake in the 1970s. OHCOW was very involved in helping these miners. Then in the 1990s, OHCOW was again involved in helping the chemical workers in Sarnia who had been exposed to asbestos and were dying from mesothelioma. In 2002, OHCOW held an intake clinic for the Rubber Workers in Hamilton. In 2004, OHCOW and Unifor hosted the largest ever occupational disease intake clinic held in Ontario with some 750 active and retired workers or their survivors from two Peterborough plants — General Electric and Ventra Plastics. Algoma Steel is also a cluster that people often overlook.

“The unions are going to have to stay strong. You look at what’s happening at the plant in Oshawa, the GM workers, with the elimination of the plant. Well that’s going to have a dramatic effect. Right off the bat, I was asking, ‘Oh my lord! Are we going to have another cluster?’ Because as people are getting laid off, they may be already diagnosed and have never come forward but are going to now try to get WSIB benefits because of the fact that they’re going to no longer have a job. They’re occupationally ill, and that was caused by the plant.”

In 2012, IARC published a monogram on the occupational exposures in the rubber-manufacturing industry. Workers in the rubber-manufacturing industry are exposed to dusts and fumes from the rubber-making and vulcanization processes. Potential exposures include N-nitrosamines, polycyclic aromatic hydrocarbons, solvents, and phthalates. Inhalation is the main route of exposure, although workers may have dermal exposure as well (e.g. to cyclohexane-soluble compounds).

<https://monographs.iarc.fr/wp-content/uploads/2018/06/mono100F-36.pdf>

A recent report (February 20, 2019) from the *Kitchener Record*, noted that rubber workers were identified by the WSIB as one of five specialty cases — along with firefighters, herbicide sprayers, miners exposed to McIntyre Powder, and General Electric workers. The Ministry of Labour recently announced that it is reviewing more than 300 claims from rubber workers in Waterloo Region.

https://www.therecord.com/news-story/9183500-wsib-had-flagged-rubber-cases-as-disease-cluster/?fbclid=iwar2m-du_oed1raqdi4rebkmc2ua7dmxdh4bcbrap_qgajvcjqak_megobo0

“The McIntyre Powder project has specific funding to put specific resources to that specific cluster. We have hundreds and hundreds of cases, and we are providing the hygiene reports and we’ve got Janice Martel compiling all of the data in Sudbury. So if the Ministry of Labour were to pull our funding on that, there’s going to be a lot of upset workers. However, we can’t do much without the proper resources. If the money were to evaporate, well, then we will have to go back to basics. All those files, do they get forgotten? I’m gonna say, ‘No’, because we can’t abandon workers who’ve come to OHCOW to assist them. But it means that these workers will have to go back into our regular queue of workers vs. the cluster. And then they’ll get attention whenever we can get to them, with whatever resources we have, with our full-time staff that are in our Clinics. Will we do it as quickly? No. Will we be able to get to all of them in a timely fashion? I would have to say, No. Reluctantly.”

On March 29, 2019, there was an announcement of layoffs at the Fiat Chrysler assembly plant in Windsor which will put some 1,500 people out of work, starting Sept. 30. Each time there is a major layoff, the question of an occupational cluster emerges.

3.2.3. Burden of Occupational Cancer

In November 2018, Dr. Paul Demers from the Occupational Cancer Research Centre at Cancer Care Ontario gave a lecture on the Burden of Occupational Disease. Annually in Ontario, a very conservative estimate says there are 5,000-8,000 people suffering from noise-induced hearing loss; about 1,000 people suffering from asthma and other diseases related to allergens and irritants; and 170 lung cancers and 45 bladder cancers caused by exposure to diesel exhaust.

An economic analysis of the financial burden of asbestos conducted by Dr. Emile Tompa in 2017 gives some financial figures: One year's newly diagnosed cases of mesothelioma and lung cancer due to work-related asbestos exposures cost Canadians \$2.35 billion—up from an earlier estimate of \$1.9 billion. It costs \$980,000 per lung cancer case and \$1.1 million per case of mesothelioma in Canada for the medical care, loss in productivity, and the care giving needed for workers exposed to asbestos.

<https://www.iwh.on.ca/newsletters/at-work/90/study-update-new-cases-of-mesothelioma-and-asbestos-related-lung-cancer-from-one-year>

In January 2019, Dr. Demers received \$20,000 from the Ministry of Labour to extend his research into the Burden of Occupational Cancer to reviewing the compensation for occupational disease. The review will address and provide advice on three basic questions:

- 1) How can scientific evidence best be used in determining whether a cancer is work related, particularly in cases of multiple exposures?
- 2) Are there any best practices in other jurisdictions that Ontario should consider adopting?
- 3) What scientific principles can be identified that should inform the development of occupational disease policy?

3.2.4. Funding Occupational Disease Claims

Funding Fairness: A report on Ontario's Workplace Safety and Insurance Board that was conducted by Harry Arthurs with the help of Maureen Farrow, Buzz Hargrove, John O'Grady and John Tory. Launched in September 2010, and published in 2012. In response to the very large WSIB unfunded liability, this panel examined a new funding model that would help pay down the unfunded liability, including what should be paid for including occupational disease, and by whom.

<http://www.wsib.on.ca/cs/groups/public/documents/staticfile/c2li/mdex/~edisp/wsib011358.pdf>

On the subject of funding occupational disease, the Arthurs Report was informative:

The WSIB has allowed \$600 million for occupational disease claims in its estimate of future costs — a sum intended to provide for “future occupational disease claims that have not yet been incurred” (i.e., known diseases whose symptoms have not yet been manifested by claimants). However, it has made no provision for claims attributable to diseases so far unidentified by medical science. While this set-aside strategy is hardly a secret, all workers’ and most employer advocates resisted the notion that the WSIB should create a special fund for occupational diseases — the former because they feared that a fund would become a ceiling on the WSIB’s

expenditure for occupational disease claims, the latter because they feared it would become a floor.” (p. 94)

In regards to occupational disease, the Arthurs Report had two major recommendations:

- 7-1.2 The WSIB should closely monitor long-term trends in occupational disease costs and the emergence of “new” occupational diseases, and make prudent financial provision for future benefit costs.
- 7-1.3 [And interestingly, because they thought it would not be feasible to estimate the number of occupational diseases into the future], the WSIB should not establish a special segregated fund to cover the future cost of occupational diseases.

Three quotes from three different key informants were:

“As far as I know, the [WSIB] has already costed and created a reserve fund for a lot of occupational disease compensation. They can genuinely tell the government, ‘We’ve set aside (I don’t know how much), at least a billion dollars’. So [we] could recommend (I’ll give you an example from [the] asbestos strategy), that the government or the Board should go right back to the ‘60s and find every mesothelioma case that’s ever happened in Ontario. They should see whether there might have been some work relatedness, dig through whatever records are available, and compensate them. As far as I know, there’s enough in the reserve funds to do that. I could be wrong, it’s worth checking.”

I think there are many sensitivities around occupational disease, and the lack of services for the worker from a trusted resource. So where else would a worker go? OHCOW can do some investigation and research and provide the advice that’s unbiased and objective, which is something that’s needed out there.

“People can pay with their lives, they can pay with their health, they can pay with their income security whenever there is any sort of systematic effort to remove worker protections. They pay and they pay. And so, to the extent that we think the system is budgeting for the cost of future occupational disease, that’s only based on status quo. If we chip away at that, then where does that leave us?”

3.2.5. Surveillance of Occupational Diseases

The Occupational Cancer Research Centre (OCRC) at Cancer Care Ontario has launched a new website, www.odsp-ocrc.ca, focused on surveillance of occupational diseases and workplace exposures. The Occupational Disease Surveillance Program (ODSP) aims to develop systems to monitor patterns and trends in occupational disease and exposure in Ontario. OCRC reports on the website that: ‘It will increase capacity to identify high-risk populations, and provide the evidence needed to implement effective prevention strategies in Ontario. The ODSP currently includes three projects:

- The Occupational Disease Surveillance System (ODSS) combines different provincial data sources to examine the risk of cancer and non-malignant diseases among workers in Ontario.
- Ontario’s Toxics Reduction Act (TRA) requires certain industrial facilities to track and report their use and emission of toxic substances. The TRA Project explores the potential application of this data for workplace exposure surveillance.
- The Mesothelioma Surveillance Project provides an update of current and future mesothelioma incidence in Canada, as well as current survival statistics.

We need better medical education. That's a very key component of [identifying the burden of occupational disease]. Claims have to be filed and have to be filed well by healthcare providers who understand these things. That isn't the complete picture, but that's the first essential step.

3.2.6. Hazardous Exposures

It is difficult to select which and what chemicals/products to highlight in this section. Suffice to say that the number of chemicals used in the workplace is stratospheric (but the actual number is highly contested), and that chemicals are used in multiple compounds. This is problematic – especially since the carcinogenicity of compounds is seldom assessed. Although today's workplaces are significantly cleaner and safer than they were pre-1979, there are new products, new chemicals, and new combinations that may express occupational disease that have not yet been determined.

Sometimes you hear big numbers but often times they're not very specific. Everybody has heard how many tens of thousands of chemicals are in commercial use, or something like that. I've never been able to figure out where they got that number. But you know it's a useful number to throw around. And it's true that we do introduce new chemicals for industrial purposes all the time, and we've only looked at a fraction of them for health effects. IARC has reviewed over a thousand different things over time. Not all of them are chemicals, but most of them are.

In the following sections, asbestos, pesticides, nano-technology, cannabis, and anti-neoplastics are highlighted. Cannabis is included since it is legal to smoke recreational cannabis (since October 2018), and in October 2019, cannabis will soon be legal to consume. But this is anything but the full list of exposures with potential health effects.

Flammables and Diesel may also emerge as significant:

Flame retardants: There are persistent chemicals in the environment. Flame retardants are a persistent pollutant and are ubiquitous. They are in so many products, there are workers who have much higher levels than that of general population, and when we go to remote parts of the world, we find flame retardants in people's bodies. It's in all of our electronics. It's important.

Diesel: I had thought that diesel exhaust had become 'water under the bridge'. But I don't think it is. There's still some resistance. I was surprised. I just went on the web. A study that I think is one of the best studies ever done on diesel exhaust, which is the diesel exhaust and miners' study, is still getting attacked. There are still attempts to discredit its findings. And this is six years after diesel exhaust was classified as a carcinogen.

Asbestos

Asbestos remains the primary cause of most occupational diseases. Now that asbestos has been banned in Canada (very recently!), we may hopefully start noting a decline in the number of occupational lung cancers, mesotheliomas and asbestosis.

"The Asbestos Free Canada (formerly Ban Asbestos Canada) group has developed an asbestos strategy. It will be responsible for coordinating the development of a plan to eradicate asbestos from Canada along with providing support for the health impacts that will continue for probably a couple of decades anyway. That strategy and the coalition that's supporting the strategy has a good level of federal government support."

I see another dichotomy between preventing people's exposure in the first place and then compensation – deciding who has been exposed, and what are we going to do about those who

are already ill. [The Occupational Cancer Research Centre] will be dealing with those people who are already ill and identify work relatedness of those people, and the compensation system to compensate them. The prevention of exposures [is not being considered] even if you talking about the end point because we no longer are massively exposed to asbestos.”

The Association des victimes de l’amiante du Québec (Quebec Association of Victims of Asbestos) recently (January 2019) submitted a brief to the CNESST (Occupational Standards, Equity, Health and Safety Commission) as well as the members of the RSST (Work Health and Safety Regulation) “Annexe I” Review Committee, with the aim of adding asbestos to the list of contaminants published in the Official Gazette of Quebec on December 12. The brief includes this statement:

Most national and international health agencies acknowledge that all types of asbestos fibre (chrysotile, amosite, crocidolite, etc.) are carcinogenic and regulate asbestos fibre exposure in workplaces and in the general environment. Quebec’s current asbestos occupational exposure limit tolerates cancer risks 10 to 100 times higher than in most national jurisdictions. In Quebec, in 2017, 145 workers died of occupational diseases caused by exposure to asbestos; more than the number of fatalities caused by work accidents. Each year on average, 85% of all occupational diseases are caused by asbestos.

Pesticides

The most widely used, and the most contentious of pesticides is Roundup (glyphosate). Powerful lobbying from its manufacturer, Monsanto, has assured its extensive use. The World Health Organization’s International Agency for Research on Cancer (IARC) has been under siege since classifying glyphosate in March 2015 as a probably carcinogenic to humans (Group 2A). “IARC has been the target of an unprecedented number of orchestrated actions by stakeholders seeking to undermine its credibility,” it writes on its website and links to many of its responses defending its decision. <https://www.iarc.fr/featured-news/media-centre-iarc-news-glyphosate/>

I think that things pesticides like Roundup are going to continue to be challenging and controversial for some time. I don’t see that resolving at this point yet. There still are a number of studies on pesticides that will be coming out soon. The [controversy] reignites every time there’s a new study. But nor do I expect that suddenly everything’s going to turn into black and white when it comes to pesticides. It’s a difficult area to study in. We’re going to make, I hope, gradual small steps to understanding it better, which is how the science works when it’s a difficult thing to study. But it’s going to continue to be controversial.

Despite IARC’s assessment, Health Canada stands by approval of the ingredient in Roundup weed killer:

Health Canada scientists say they believe the scientific evidence they have used to approve the continued use of glyphosate in weed killers. In February, 2019, they rejected, again, arguments that the ingredient in herbicides like Monsanto’s Roundup causes cancer if the substances are used as they’re supposed to be. The department’s Pest Management Regulatory Agency is required to reassess herbicides every 15 years and after such a reassessment in 2017 Health Canada approved glyphosate for continued use in Canada with some additional labelling requirements. The review looked at more than 1,300 studies and concluded glyphosate products pose no risk to people or the environment as long as they are properly used and labelled.

Nanotechnology

Nanotechnology is a broad name given to a wide range of technologies and materials that create, manipulate, or use particles of an extremely small size – roughly between 1 and 100 nanometres (nm). A nanometre is 1 billionth of a metre. Nanomaterials can be both naturally occurring and man-made, and workers can be exposed during manufacturing (handling powders, performing maintenance, machining, sanding) and by use of many consumer products (such as computer screen coatings, sunscreen, and cosmetics).

The World Health Organization warns that the scientific evidence of the health effects of nanonutrients is at a very early stage:

The properties of nanomaterials, and of engineered nanoparticles in particular, have raised concern about unwanted or unexpected interactions with biological systems, which could result in adverse consequences to human and ecosystem health. Though rapidly growing, knowledge on these aspects is limited and many uncertainties remain. Even though applications are already widespread, nanotechnology can be considered to be in its early days and the potential for developing and applying new generations of nanomaterials is huge.

<http://www.euro.who.int/en/health-topics/environment-and-health/health-impact-assessment/nanotechnology-and-health>

The Canadian Centre for Occupational Health and Safety (CCOHS) and OHCOW are partnering on an online e-learning course on Nanotechnology and Health.

<https://www.ccohs.ca/products/courses/nanotechnology/>

OHCOW is a partner of the newly established Nanotechnology and Health Network. The group was established in December 2017 and is a mix of technical experts (e.g. The International Organization for Standardization and the Canadian Standards Association), committee members, researchers and Environmental Health & Safety professionals, Health Canada and the National Research Council, and workplace stakeholders (health and safety representatives, unions, facility management, etc.) looking to collect and disseminate current information on hazards in order to foster the implementation of workplace controls for disease prevention.

There's a lot of focus now on nanotechnology, nanoparticles, and nanofibers. They continue to be important. They're more and more in use. There is experimental evidence that would cause us to be concerned for some types of nanomaterials. But some of it is simply much more basic than that. It is a concern just knowing that these things are so small that they can pass into the body so easily. Paul Demers.

Cannabis

The federal government legalized recreational cannabis on October 17, 2018. People injured in the workplace are increasingly turning to medical marijuana for pain management rather than opioids. And worker compensation boards across the country are having to adjust their policies in response. One woman in Nova Scotia who suffers from chronic pain had to fight worker compensation for five years before it agreed to cover the cost of her medical cannabis. Some provincial boards now have guidelines in place, but it's still difficult to get coverage, as decisions are made on a case-by-case basis. (CBC Morning Brief, March 11, 2019).

The legalization has brought forward the issue of workplace impairment. The Ontario Ministry of Labour has passed a number of laws and regulations as to where you can and cannot smoke, who can smoke, the age that smoking is allowed (19), how much you can possess, and how much you can grow. <https://www.ontario.ca/page/cannabis-laws#section-2>

Now that cannabis is legal, there are many issues that are emerging. The first is whether workers can/should be tested for cannabis use if they are engaged in dangerous work. But where OHCO has focused is on the workers in the greenhouses growing marijuana plants. They are faced with multiple ergonomic issues, as well as exposure to the toxins emitted by the plants.

Antineoplastics

Antineoplastic agents are drugs used to treat cancer. Also known as chemotherapy drugs or cytotoxic drugs, these agents disrupt the cell cycle and kill cells that are rapidly dividing (e.g. cancer cells). Over 100 different antineoplastic agents are currently available. The impact of antineoplastic drugs on occupational cancer is still being determined.

Occupational exposure to antineoplastic agents may occur during the manufacturing, shipping and handling, preparation, administration, and disposal of the drugs. Workers who come into contact with body fluids, contaminated clothing, dressings, linens and other materials related to patient chemotherapy are also at risk of exposure. Exposure typically occurs through dermal contact with antineoplastic agents or contaminated materials and surfaces (which may result in exposure via dermal absorption or accidental ingestion from hand-to-mouth contact) or inhalation of contaminated aerosol and particulates. Occasionally, injection exposure may occur through unintentional needle pricks and sharp injuries. Occupations with potential exposure to antineoplastic agents include: pharmacists and pharmacy assistants, nurses, physicians, veterinarians and veterinarian assistants, environmental service workers (e.g. janitors and caretakers), shippers and receivers, industrial laundry workers, and pharmaceutical manufacturing workers.

<http://www.occupationalcancer.ca/wp-content/uploads/2014/07/Antineoplastics-and-cancer-ENG.pdf>

3.3. Mental Health/Illness in the Workplace

Mental health in the workplace has been a very neglected field in occupational health and safety. However, it has significant ramifications for productivity, efficiency, absenteeism, competence, morale and turnover. Mental health has also been directly linked to injuries, accidents, and occupational disease. The Premier of Ontario, Doug Ford, and his Ministry of Labour have stated they will take a leadership role on mental health and specifically mental health in the workplace.

“This government has repeatedly talked about being interested in the importance of mental health. They are investing \$3.8 billion over 10 years to establish a comprehensive and connected system for mental health and addictions treatment. We do not yet know how this will impact the Ministry of Labour but we are in the process of developing a new 5-year occupational health and safety strategy and will be consulting on it soon. We will be interested in any and all feedback with regard to mental health in the workplace.”

In any given week, 500,000 Canadians are unable to work due to mental health problems according to the Mental Health Commission of Canada. About 30 per cent of short- and long-term disability claims in Canada are attributed to mental health problems and illnesses. The total cost from mental health

If you want to think of it in very simplistic terms, the old industry put the strain on the spine, the new industry puts it on the central nervous system. Work-related stress that is producing physical pathologies, not just anxiety, is much more a white-collar than a blue-collar phenomenon. Not to say that it doesn't exist in the blue-collar sector, but white-collar work is much more likely to be associated with excessive psychological strains and blue-collar work associated with excessive physical strains.

problems to the Canadian economy exceeds \$50 billion annually. In 2011, mental health problems and illnesses among working adults in Canada cost employers more than \$6 billion in lost productivity from absenteeism, presenteeism and turnover. These numbers are based on Statistics Canada data; they are probably an underestimate, rather than an over-estimate.

Steven Bittle, Ashley Chen, Jasmine Hébert, "Work-Related Deaths in Canada", in the *Journal of Canadian Labour Studies*, 2018 (vol 82), states that:

"Overall, there is growing recognition that conditions at work significantly contribute to workers' deteriorating

mental health. At the very least, stressful working conditions add to the already heavy burden that many people face as they struggle to keep up with the demands of modern capitalism. If we work from the conservative premise that roughly 10 per cent of all suicides are work related, we find approximately 400 work-related suicides in Canada each year. We arrive at this number by calculating the average number of suicides in Canada from 2009 to 2013. During this period there were 19,717 suicides, or an average of 3,943 suicides per year."

The World Health Organization posted an ILO report in January 2019 that focused on the importance of mental health in the workplace:

"Healthier and safer workplaces can prevent at least 1.2 million deaths every year, according to a 2018 WHO study. '[Many] more deaths and disabilities can be prevented through addressing major health threats at the workplace, such as stress, long working hours and shift work, sedentary work, climate sensitive diseases and workplace air pollution', said Dr Maria Neira, WHO Director for Public Health, Environmental and Social Determinants of Health.

"We share the interest of the Global Commission about the possible mental health effects of new technologies and work organization in the digital economy and we are eager to collaborate with ILO to develop recommendations for improving mental health at the workplace", said Dr Dévora Kestel, WHO Director for Mental Health and Substance Abuse.

https://www.who.int/occupational_health/events/future-of-work-january-2019/en/

A recently published (2018) report from Statistics Canada on workplace harassment states that harassment in the workplace has far-reaching effects on the health and well-being of workers, as well as on their job tenure, job stability and job satisfaction. Using data from 2016 General Social Survey on Canadians at Work and Home (GSS), a study focused on workplace harassment experienced by respondents at some point in the past year. The target population includes those who were aged 15 to 64 and worked for pay in the past year.

- Overall, 19% of women and 13% of men reported that they had experienced harassment in their workplace in the past year. Workplace harassment includes verbal abuse, humiliating behaviour, threats to persons, physical violence, and unwanted sexual attention or sexual harassment.

- The most common type of workplace harassment was verbal abuse—13% of women and 10% of men reported having experienced it in the past year. The next most common type was humiliating behaviour—6% of women and 5% of men reported having experienced it, while about 3% of each said they had experienced threats.
- Women were more likely to report sexual harassment in their workplace (4%) than men (less than 1%). Among women who reported sexual harassment, more than half were targeted by clients or customers.
- Workers in healthcare occupations are the most likely to report having been harassed on the job in the past year. The differences between those in healthcare and other occupations are more pronounced for women than men.

As you know, the healthcare sector has an inclination to deny or make excuses when it comes to occupational health and safety. Any conversation I have had with them about OHS, has had them either first denying, or second if they can't deny the problem, explaining it as: 'Well it's inevitable. You know, these are human service industries. It's not avoidable.' So they have a view that because they're so committed to health, they can't possibly say, 'Yes, you're right. We've got a problem here. We're at fault.' It's an attitude that too often leads to denial and excuse. And they now loom so large in the economy that frankly we have to do something about it.

<https://www150.statcan.gc.ca/n1/pub/75-006-x/2018001/article/54982-eng.htm>

3.3.1 Responding to the Workplace Mental Health Crisis

Never before has the awareness of the social and personal impact of mental illness been higher. The Mental Health Commission of Canada has made an impact with their campaigns such as “Opening Minds” to demystify and destigmatize mental illness. They are not the only ones. The Canadian Association of Mental Health (CAMH), the Mental Health Commission of Canada, the Mental Health Association, the “Me Too” movement, the gender-equity movement, gaining rights for the LGBTQ populations, and other social movements have all increased the awareness of mental health.

Most importantly the National Standard of Canada for Psychological Health and Safety in the Workplace, the only national standard (although voluntary) of its kind in the world, has been established. However, the outcomes of the Standard have been disappointing; they have not been widely accepted or adopted.

<https://www.mentalhealthcommission.ca/English/what-we-do/workplace/national-standard>

The Ontario Ministry of Labour and the Ontario Occupational Health and Safety System, together with the insurance companies and some private companies, have already put in place multiple initiatives to enhance mental health in the workplace and ensure that Ontario and Canada are leading this vital initiative world-wide.

Within the Occupational Health and Safety System, there is education/training on mental health and mental illness, surveys, resources, tools, courses, websites, metrics, apps, policy changes, recognition awards, research. The Public Services Health & Safety Association (PSHSA) and the Workplace Safety & Prevention Services (WSPS) have products. The PSHSA has products that specifically focus on Post Traumatic Stress Disorder: <https://www.pshsa.ca/product/reducing-mental-health-stigma-in-the->

[workplace/](http://www.wsps.ca/Information-Resources/Topics/Healthy-Workplaces.aspx). The WSPS has many products and tools on Healthy Workplaces:
<http://www.wsps.ca/Information-Resources/Topics/Healthy-Workplaces.aspx>

OHCOW has taken a lead on mental health in the workplace:

- Together with CCOHS, OHCOW has developed *StressAssess*, a free, evidence-based online survey tool designed to assist workplaces in identifying psychosocial hazards that can lead to stress and mental injury, providing suggestions and pathways to address them, and thus preventing harm. They have made the Copenhagen Psychosocial Questionnaire accessible as an app that can be filled out on your smartphone.
- OHCOW had an information day on mental illness in the workplace in October 2018. Another will be held in Ottawa on April 5, 2019. <https://www.ohcow.on.ca/news/spring-into-action-health-and-safety-forum.html>
- OHCOW has created a Mental Injury Toolkit, *Action on Workplace Stress*. This was created in collaboration with a group of unions led by Terri Szymanski, University of Waterloo researchers, and representatives from the Office of the Worker Adviser (OWA), and the Workers Health & Safety Centre (WHSC). <https://www.ohcow.on.ca/mental-injury-toolkit.html>
- OHCOW sits on the Ministry of Labour's Workplace Mental Health System Working Group. Their work will feed into the new Ontario OHS Strategy that is due August 2019. The Strategy will focus on 3 Key Areas (or Pillars): Healthy Workplaces (including Workplace Mental Health), Occupational Illness, and High-Risk Traumatic Hazards.

3.4. Changing Standards in OHS

Consensus standards developing and technical committees have been working on a number of new OHS Standards: ISO 45001 on Occupational Health and Safety Management Systems; ISO 31000 on Risk Management; ANSI Z-10 on Occupational Health and Safety Management Systems; ANSI Z-16 on Occupational Health and Safety Metrics; ANSI Z-490 on Occupational Health and Safety Training; and ASTM D22 on Air Quality.

3.5. Implications and Consequences for OHCOW

- At the time of writing this Environmental Scan, the results and recommendations of the five-year review and audits of the OHS System and WSIB are unknown. The worst-case scenario is that all funding is cut and there is a dismantling of the OHS Prevention System. However, a reorganization is much more likely than a dissolution of the System. There may be an amalgamation of the individual agencies within the OHS, or a realignment of the individual agencies. It is not unreasonable to consider the possibility of OHCOW, CRE-OD and OCRC being amalgamated (and perhaps all merged under the Institute for Work & Health mantle).
- OHCOW is uniquely placed to withstand the exigencies of these waves of political change because of its focus on occupational disease, its focus on workplace primary stress prevention, its wide and deep collaborations and partnerships with all the HSAs and CCOHS, and its partnerships with the research centres.
- At the moment, OHCOW's clients predominantly have diseases and illnesses that result from exposures that took place many years ago (workers with lung cancer or mesothelioma could

have been exposed to hazards as far back as 30 years ago). The exposures that existed then, seldom occur in today's workplace; equally, present-day exposures may not have health impacts for many years to come.

- There may be a threat to change the governance structure or the organizational structure of OHCOW in some way to have more of an employer presence. *"I think that's the threat that OHCOW will always be under if they're doing a good job"*.
- There may not be future financial support for occupational mental health initiatives and programs going forward.
"The major employer objective is to constrain the definition of occupational disease -- certainly to keep it to absolutely only physical conditions – to not expand the concept to include work related stress conditions that have somatic expression, but which are ultimately stress based."
- There have been approaches made to have mutual projects and funding from both the Ministry of Labour and the Ministry of Health and Long-Term Care, but these seem to have been nugatory. This has implications for OHCOW. Worth noting is that if OHCOW did get funding from another Ministry, that may not be regarded positively by the Ministry of Labour.
- If OHCOW continues its focus on mental health in the workplace, it should consider hiring a staff person who is a psychologist or social worker to help inform their work.

4. Socio-Cultural Environment

In the Socio-cultural environment, the topics on work and health include: the millennials and the Gig economy; the rise in poverty, homelessness and food insecurity; gender inequity; the aging workforces; and racism in the workplace.

The socio-cultural environment is going through revolutionary changes. These changes mostly offer opportunities for OHCOW to extend its work and its influence.

4.1 The Millennials and the Gig Economy

The generation gap that was identified in the 1960s is nothing in comparison to the generation chasm that has developed between the Baby Boomers (born 1946-1964) and the Millennials (born 1977-1995). They are actually two generations apart with GenX (1965-1976) in between. The needs and skills of the millennials are profoundly different: they use technology and social media as their first language; they are in constant contact with, and influenced by their circle of “friends”; they have no limit to their access to information; they live in a “post-truth” era where it is hard to tell the difference between accurate and misleading information; they are risk takers; and their priorities for work is based on personal satisfaction rather than financial.

They live in a very diverse social environment. There is now much more respect for, acceptance of, and demand for a diverse society, where multiple identities, multiple genders, and multiple races is more accepted and expected.

“This opens up the opportunity to speak up about issues such as mental health as a genuine health issue, and not something shameful”

Their work environment is different. They are part of the burgeoning economy called the Gig Economy. They make up the approximately 150 million workers in North America and Western Europe who have left the relatively stable confines of organizational life — sometimes by choice, sometimes not — to work as independent contractors. Numbers for Canada were difficult to obtain, but for these workers, precarious work is the norm. They work in cafés, they text constantly, and they are mobile/portable. They are getting unusual musculoskeletal disorders (‘texting thumb’), they are prone to mental health issues driven in part by the precarious nature of most of their work, and depending upon their income (and issues of addiction and suicide), their life expectancy is expected to be shorter. Because companies are outsourcing their most hazardous work, as contractors, they are also exposed to chemicals at a high level from both the environment as well as workplaces (there are now estimated to be over 750,000 hazardous chemicals found in workplaces worldwide).

<https://genhq.com/faq-info-about-generations/>

<https://hbr.org/2018/03/thriving-in-the-gig-economy>

<https://www.usi.edu/media/2795754/usihazcomchem.pdf>

4.2. Low Income/Poverty

A major societal trend is the widening gap between the rich and the poor, the employed and the marginally employed, the unionized and the non-unionized worker, those who have employers and those who work piecemeal, or for unregistered employers. This has led to an under-class of very vulnerable and marginalized workers who are exposed to hazards that most employed workers are not exposed to.

The OECD 2018 Employment Outlook for Canada seems to give Canada a good mark in comparison to other countries, but there is a codicil that warns of a growing number of workers that are left without protection.

Canada has a relatively high rate of low-income households, with 14.1% of the working age population (aged 18 to 64) living in households with disposable income less than 50% of the median. In Canada, less than half of workers who faced job loss for economic reasons found a new job within one year. Unemployment benefit coverage in Canada is below the OECD average, and decreased significantly between 2007 and 2014. This is as a result of a relatively low maximum potential duration of benefits and a more than doubling of long-term unemployment over the period.

Food Secure Canada is a national network of organizations that work on poverty and food insecurity issues who lobby government for change. They report that:

12.3% or an estimated 4.8 million Canadians live below the poverty line. There are anywhere between 4,000 and 6,000 people who are homeless in Toronto alone.

Dr. Valerie Tarasuk leads a team of researchers at the University of Toronto, called Food Insecurity Policy Research (PROOF), who have been tracking the growing number of households that are poor and hence have food insecurity. Her research has shown shocking numbers that demonstrate a growing number of very poor people in Canada who are struggling to put food on the table.

One in 8 households in Canada is food insecure, amounting to over 4 million Canadians, including 1.15 million children, living in homes that cannot afford at least one meal a week.

From the national statistics, we see that the prevalence of food insecurity in Canada has increased significantly from 11.3% in 2007-2008 to 12.4% in 2011-2012.

Renters make up two-thirds of the food-insecure households in Canada. 1 in 4 households that rent their accommodations is food-insecure. Owning a home provides protection against food insecurity as home owners have a considerable asset that can be used to leverage funds when there is a need, such as job loss, sudden illness and other income shocks.

Over 60% of food-insecure households are relying on wages and salaries as their main source of income. Simply having a job is not enough; low-waged jobs and precarious work means people in the workforce often don't have enough income to be food-secure.

Employment Insurance and workers' compensation, social programs for those in the workforce, do not protect households from food insecurity. 38% of households reliant on these programs are food-insecure.

Adults living in food-insecure households report poorer physical health and are more vulnerable to a wide range of chronic conditions, such as diabetes, heart disease, hypertension, arthritis, and back problems. They are also more likely to be diagnosed with multiple chronic conditions.

There is a particularly strong relationship between food insecurity and poor mental health. The risk of experiencing depression, anxiety disorder, mood disorders, or suicidal thoughts increases with the severity of food insecurity.

<https://proof.utoronto.ca/food-insecurity/>

4.3. Gender Inequity

The OECD Economic Outlook report of 2018, says that the gender gap is closing in the workforce. Other issues are that “Me Too” Movement has put sexual exploitation front and centre, and sexual predatory behaviours once acceptable in the workplace are no longer so.

Stats Canada reported in February 2019, in a special issue on Participation Rate of Women in the Workforce in Canada, that:

In 1950, less than one-quarter (21.6%) of women aged 25 to 54 participated in the labour market. By 1991, that proportion had risen to just over three-quarters (75.9%). The increase in women's participation coincided with socio-demographic and economic changes, such as increased participation in higher levels of education, delayed marriage and childbearing, and increased separation and divorce.

In recent years, after the 2008/2009 recession, the participation rate for women aged 25-54 continued to rise, but at a slower pace, reaching 83.2% in 2018 (+1.3 percentage points). Provincially, core-aged women in Newfoundland and Labrador recorded the fastest growth in their participation rate over the 10-year period, up 5.0 percentage points to 81.6% in 2018, followed by those living in Quebec (+3.9 percentage points to 86.7%).

Over the same period, the participation rate for Aboriginal core-aged women rose 2.5 percentage points to 73.8%, while for immigrant women in the same age group, the rate increased 2.3 percentage points to 77.7%.

According to 2017 data from the Organisation for Economic Co-operation and Development (OECD), Canada's participation rate for women aged 25 to 54 (82.9%) was higher than the OECD average of 73.0%. Compared with Canada, the participation rate of core-aged women was higher in Sweden and Iceland (88.7%) and lower in the United States (75.0%).
<https://www150.statcan.gc.ca/n1/daily-quotidien/190308/dq190308a-eng.htm>

The Rotman School of Business' Institute for Gender and Economy (2018) mentions a number of interesting details about women in the Canadian workforce ⁷.

The gender wage gap in Canada has narrowed over time, but it remains significant. One hypothesis is that the pay gap persists because it is hidden. Building on this hypothesis, policy makers in many countries, including Canada, the US, the UK, and Norway, have proposed various pay disclosure requirement.

Among university graduates in Canada aged 25 to 34, immigrant women are twice as likely to have a STEM (Science, Technology, Engineering, Math) degree as Canadian-born women (23% versus 13%). Yet, immigrant women face some of the highest levels of labour market challenges in Canada across indicators, including: unemployment rate, wage gap, part-time employment, and low-income rate.

In 2017, 90% of mothers took maternity leave, but only 12% of fathers took or intended to take paternity leave.

Men in traditional marriages are more likely than men in non-traditional marriages to make decisions that prevent the advancement of qualified women in the workplace. This requires a bit of “unpacking”, but what is implied is if a man has a wife that stays at home with the children, they are less likely to help women in the workplace advance.

Having power and authority does not protect women from harassment, it actually increases its likelihood. The most common perpetrators of workplace harassment are male co-workers or clients. Powerful women pose a threat to men's position in the gender hierarchy, which motivates men to undermine those women and their authority through sexual harassment. Research indicates that harassment also becomes more pronounced in male-dominated work sites.

Workers who reveal to their superiors their desire to achieve work-life balance are penalized, while those who obscure their efforts to achieve work-life balance (for example, through taking on local clients only, or working from home) face no such penalties. This pattern is gendered: women are more likely than men to reveal efforts to achieve work-life balance, and thus face greater penalties.

Only 5% of the 500 CEOs on the 2016 Fortune 500 list are women, a mere 27 out of 500. Men are two to three times more likely to hold senior management positions, a figure that has stagnated for almost 30 years despite widespread efforts to remedy this imbalance. Employers still lean toward hiring men over women who have similar qualifications, and the gender wage gap persists in numerous occupations. In Canada, despite implementation of a "comply or explain" disclosure regime to facilitate gender diversity on boards of directors, 45% of companies still have no women on their boards. Notwithstanding extensive research on the topic and widespread diversity initiatives, gender representation remains a persistent problem in corporate leadership and in the workforce.

<https://www.gendereconomy.org/>

The power relationship with the employer is additionally precarious for women. There have been some pretty high-profile cases of female migrant workers being the subject of just terrible sexual harassment and abuse in the context of the employment relationship. Because of the power that the employer asserts over migrant workers -- they're in their home, they control their housing, they control their access to health care, they control their access to transportation, they control their salary, they control their ability to stay in Ontario, in Canada -- women are much more vulnerable, precarious from a health and safety perspective. Of course, that's also the case with live-in caregivers. Often they'll approach us for help with the WSIB but they'll end up deciding not to pursue it. The risk is so high, the stakes are so high, so even where they've been subject to really gross sexual assault, which we have seen, they're reluctant to pursue any litigation or compensation for that because of the risks of it.

4.4. Aging Workforce

In addition to the changing nature of work, workforce demographics are also changing. The workforce is ageing and this is having an impact on exposure and health. Older adults in the workforce raise distinct issues about health, information processing and decision making. In February, 2019, Stats Canada reported that employment among people aged 55 and older had not changed much. Their unemployment rate increased 0.4 percentage points to 5.5% as more of them searched for work. On a year-over-year basis, employment for this age group grew by 2.8% or 111,000.

"Work becomes more complex as you age: Return to work is harder to achieve when you are older. Compensation often doesn't take into account the whole person, just the compensable injury. Pre-existing

conditions not only affect return to work outcomes, but benefit entitlement as well. Some conditions that might be compensable due to exposures are not compensated because they are also associated with aging, eg. prostate cancer. Age is also associated with hearing loss, and hearing loss is probably correlated to poorer safety outcomes.”

4.5. Racism in the Workforce

One cannot underestimate the impact of racism on individual’s lives and the health of communities. Racism has a direct impact on health, chronic diseases and cancer. Both personal and systemic racism causes constant anxiety and unease. Racism is a social construct that is inflicted upon and experienced differently by different racialized communities. This report needs to acknowledge the systemic injustices that have been inflicted on the Indigenous Communities in Canada that exceed all standards of Human Rights.

Dr. Nancy Krieger (2011)¹¹, a pre-eminent social epidemiologist, who was previously at the University of Toronto and Cancer Care Ontario, and is now at Harvard University. <https://doi.org/10.1093/aje/kws005> has conceptualized an “eco-social model” that suggests six distinct pathways through which racism impacts health:

- Economic and social deprivation
- Toxic substances and hazardous conditions
- Discrimination and other forms of socially inflicted trauma (mental, physical, and sexual, directly experienced or witnessed, from verbal threats to violent acts)
- Targeted marketing of harmful commodities (examples include ‘junk’ food, tobacco, alcohol, as well as legal and illicit drugs)
- Inadequate or degrading medical care
- Degradation of ecosystems, including as linked to systemic alienation of Indigenous populations from their lands and corresponding traditional economies.

The impact of racism on work can be found in historical documents that have tracked racism in the unions. Ken Neumann, the national director of the Canadian Steelworkers has acknowledged historical racism in the unions. On the CSA website in February 2019, he wrote:

We are beginning to recognize that despite advances in equality, racism has played an historic part in our national experience. This experience has also led to discrimination against black immigrants and Canadians in our workplaces.

<https://www.usw.ca/news/media-centre/releases/2019/ken-neumann-statement-on-black-history-month-2019>

In the early labor unions, unions not only allowed racism, some promoted it. Tens of thousands of African Americans sought well paying jobs on the railroads of America, but instead many found racism blocking those jobs or at least upward mobility in those jobs. Unions were supposed to be somewhat of a fraternal organization giving the members a better sense of community and belonging -- not exclusion. However, that is in fact exactly what many African

Americans experienced on the railroad.

<https://www.papermasters.com/racism-railroad-unions.html>

We recognize that racism fuels this entire labour force; for sure with migrant workers. With migrant workers, you have people who are exclusively racialized under the direct control of mostly white employers. Those employers have direct control over almost every meaningful element of their lives for significant periods of time. So you have a worker who's here 8 months of the year, for many years in a row, and their access to their livelihood, to support their families, is controlled by this person. If you lose that job, you cannot get another job. If that employer fires them that means that they will be repatriated back out of the program. Falling out of favour with your employer is extraordinarily risky. You also lose your housing if you fall out of favour because you have to live with the employer, on their property. The employer mediates your access even to something as basic as getting to the doctor, because you're on a rural and remote farm, without transportation, often working very long hours. So you're relying on your employer's graces to drive you to the doctor. Sometimes the employers are going into the doctor with you -- into your appointments with you. Sometimes you're required to rely on the employer for interpretation. There are all kinds of power dynamics that are racialized power dynamics, that are created by the system. This system exists as it is because of this long history of it being racialized. Advocates and workers have been trying to push for changes to the system to somewhat shift the power dynamics for many years without success. It continues to be a huge problem.

4.6. Implications and Opportunities for OHCOW

- The more the socio-cultural environment becomes constrained and restricted for the majority of workers, the more opportunities there will be for OHCOW to extend its sphere of influence to those who are most marginalized (migrant, immigrant, seasonal, and foreign workers, and newcomers). OHCOW needs to respond to newly emerging diseases (backpain, arthritis and diabetes from the Baby Boomers, and new musculoskeletal disorders and unusual cancers from the millennials), to newly emerging hazards (nano-technology, antineoplastics), and to the inevitable rise of mental illness in the workplace.
- The acknowledgement of the changing diversity of the workforce may be a challenge for OHCOW. The OHCOW leadership and staff need to begin to reflect on their changing composition in light of the continuing change in the Ontario workforce. Demanding to be heard and to be seen and to have a piece of the pie are the millennials, the racialized communities, and women. OHCOW needs to examine the diversity of its own staff and management and respond to this social pressure.

5. The Technological Environment

In the Technological environment, the topics on work and health include: the introduction of new (and relatively new) workplace disruptions such as robots, artificial intelligence (AI), the adoption of innovative technologies, and the risk of losing jobs due to robots, automation, and artificial intelligence.

“Big Data can lead to rigid social control, and to the end of personal freedom. It will allow companies to hire or fire people based upon personal

Although this is not a focus of this scan, it would be remiss if this report did not note the impact of social media and artificial intelligence on our economy and our lives. It is hard to underestimate the impact of the “internet giants”, Microsoft, Amazon, Google, Facebook, and Apple. The Big Five tech giants are together now worth more than \$3 trillion. Garnering the ability of machine intelligence and surveillance, they are mining vast quantities of our personal data. A Social Credit system in China has already started to use surveillance to monitor citizen’s “socially acceptable behaviour”, gathered by surveillance, to reward and punish. Social media is also affecting how we feel: despite positive economic indicators, since people are obsessively comparing themselves to the fabricated positive optics posted on Facebook (and other social media), people are continuously feeling inadequate, insecure, and that makes them feel that their lives are insufficient. Expectations are raised which are impossible to meet.

traits. Sensors are all over the place (from voice-, to face-, to emotion-recognition). They can allow employers to monitor your eye movements, your internet searches, your propensity to being accident prone, your health (from “wearables” that track everything from your blood pressure, exercise, to indicators of cancer). It could possibly lead to 30-40% unemployment.”

5.1 Emerging Technology

It is a necessity in order to survive, to be innovative and to use emerging technologies in our education, the way we work, the way we interact with emerging clients, and the way we collect information.

However, although technology was initially designed to be a help and assistance to people, and provide physical relief for people, it has changed substantially in recent years. Technology is now replacing the work that was done by people, it is changing the way we communicate as individuals, it makes work-life more complex than many people can tolerate, it can lead to alienation, and it threatens our privacy in multiple ways.

However, this is one stream of prediction. The other, is that technology is opening up new possibilities of work previously un contemplated. Whole new industries are starting up. An example of a totally new industry that typifies the new “circular economy” was announced by the [CBC Morning Brief](#) (March 25, 2019):

“Three Canadian companies are using different technologies to tackle a tough environmental problem. Styrofoam is rarely recycled and usually ends up in landfill. These three start-ups have developed new chemical processes to break it down and turn it into other products in ways that are more efficient. It opens the possibility of a “circular economy,” where products are used,

reused and recycled almost endlessly. If it works, it would keep material out of dumps and reduce our dependency on oil.”

5.2. Technological Trends in Occupational Health and Safety

At the end and at the beginning of each year, OHS magazines and blogs come up with “Top Technological and OHS Trends”. This occurred at the beginning of 2019. The following are some highlights:

From www.protectear.com: (Trends for 2019)

- NIOSH (the US. National Institute for Occupational Safety and Health) continues to emphasize that work-related stress disorders are expected to rise as the economy continues to undergo significant changes;
- An increasing number of companies will survey their employees on employee engagement;
- A huge skills gap is emerging and therefore there is a need for an increase in resources for training and developing programs;
- Companies will be leveraging Big Data to make data-driven risk management decisions as part of the development of risk management programs and systems;
- There will be a need to redesign jobs and work spaces for the Millennials who will be taking over;
- The new technology will continue to disrupt: AI, automation and 3D software.

From www.cos-mag.com. Reporting from the Executive Forum at the National Safety Council’s annual conference in Houston, October 22, 2018, Amanda Silliker notes:

- We are in the Fourth Industrial Revolution (Industry 4.0);
- There will be sensors on forklifts, employees and unsafe zone areas;
- We will start using 3D Printing to customize anything;
- Companies will have employees using “wearables” sensor technology to monitor their fatigue. Privacy issues are emerging as very significant;
- Collaborative Robots, also called “co-bots”, will work in tandem with humans and inform on the environment;
- QR Codes (the square matrix barcodes) will be used to bring up related safety training;
- Employees will be trained using virtual reality.

From www.cos-mag.com (January 3, 2018) from Dave Rebbitt:

- There will be a new designation for health professionals: the CRSP will soon require a degree or diploma;
- A new ISO45001 is released in 2018 on OHSMS (Occupational Health and Safety Management Systems);
- There is debate over the effectiveness of Behaviour Based Safety which is going out of favour.

From www.pshsa.ca (2018 health and safety trends report):

- Importance of mental health;
- Legislation of cannabis;

- Fatigue as a productivity issue;
- Work intensification and increased demands, funding and budget cuts, and high workload will lead to compassion fatigue (tension and fatigue from over identifying with patients, especially in healthcare) and burnout [<http://www.compassionfatigue.org/>];
- The aging population;
- Mental health legislation will include: January 1, 2018 the coverage of chronic mental stress claims; December 2017, nurses get presumptive coverage for PTSD.

From www.cos-mag.com (health and safety trends for 2019):

- Harassment and bullying is about perceptions and feelings and human interaction;
- Random drug testing. The Supreme Court of Canada has placed the burden of proof on employers to demonstrate the need for drug testing.
- Marijuana legalization will need to fit into existing drug and alcohol testing “for cause”.

From www.totalika.org (Workplace health and safety trends that will make a big impact in 2019; November 19, 2018):

- Focus on stress (loss of job satisfaction; drop in productivity);
- Better feedback system. Mobile apps will be used to report accidents. You will have complaints in real time. A better evaluation and monitoring system;
- Need to retrain workers and up-skilling;
- Big Data;
- Shift in demographics. The Millennials and Gen-Zers become dominant in the workforces. This will cause a dynamic shift in culture, management and ethics;
- Smart PPE devices will track bio data (heart rate, blood pressure, steps, calories burned, blood alcohol levels).

From www.columbiasouthern.edu/blog (OHS Trends to Watch in 2019). 28th January 2019:

- Shift away from reward and recognition programs to prevention (education, training);
- Acknowledge workplace substance abuse and mental health. The US Department of Justice has stated that about half of workplace accidents are due to drug abuse; 11% of fatalities involve alcohol;
- Need for more safety professionals;
- Smart PPE;
- New OSHA rules;
- Institute new annual safety retraining programs.

5.3. What we have Lost with Disruptive Technology

In his book, *21 Lessons for the 21st Century*, (2018), the Israeli, Yuval Noah Harari, mentions a number of significant losses:

- a liberal democracy in crisis;
- the rise of Fundamentalism in the three big religions (Christianity, Judaism and Islam);
- we are probably on the brink of a new world war;

- the President in the United States is undermining the foundational liberal values of North America and is ensuring that the United States is no longer the World Power;
- we are overwhelmed with the quantity of news that assails us, and have an epidemic of fake news;
- the rise of China and Russia as world powers;
- Europe and the US are rejecting immigrants and Europe now has more homeless and stateless people than it did at the end of WWII;
- the rich are getting richer and the poor poorer; and
- climate change is now all-but irreversible.

<https://www.ynharari.com/book/21-lessons/>

Innovative technology is replacing many jobs. This is very contentious. The less people who are exposed to workplace hazards, the better. However, unemployment is more harmful to your health than any workplace exposure because of low income, and the mental health consequences of loneliness, isolation, and self-esteem.⁸

Is unemployment and low income harmful to health? Evidence from Britain. 2015. Review of Social Economy 73(1). DOI: 10.1080/00346764.2014.986969

Some obvious examples of jobs being replaced include:

- Medical personnel are being replaced since artificial intelligence (AI) means that diagnosis in healthcare is now quicker and cheaper; the prediction of personalized cancer medication is more accurate. However, the need for personal care, especially of the aging, is increasing.
- In mining, many operators are now above-ground running automated scoops, leaving the underground only inhabited by machines. *“This will predict the end of the mining unions and the end of mining as a culture,”* says J.P. Mrochek, Steelworkers Local 6500.
- Lawyers are being replaced by automated processors and outsourcing to other countries.
- Construction is becoming more similar to assembly-line manufacturing. Many houses are put together like logo-sets in a central facility, and then shipped to where they are needed.
- Increasingly, teaching is being offered on-line, allowing for a-synchronous, and non-interactive learning. (for example, the new Ontario OHS Certification course that is obligatory for all companies in Ontario is now offered online.)

5.4. The Impact of Changing Technology on Industrial Hygienists

The AIHA Environmental Scan (February 23, 2014) identified a number of technological innovations that the AIHA thought would have an impact on industrial hygiene. The reviewers, Foresight Alliance, mention the following:

“New hazards may arise from new materials (such as nanomaterials, graphene, or programmable matter) or from new processes (such as 3D printing, robotics, contextual computing, or fracking.) Risks may also come from whole new industries, including the green economy (where closed-loop manufacturing and remanufacturing are growing), or biotechnology (including biomanufacturing, synthetic biology, and small-scale biotech).

New tools to protect worker health and safety include sensors, which are increasingly ubiquitous (including deployment to consumers), increasingly intimate (on-body and in-body), and

increasingly networked. Machine learning and expert systems applied to burgeoning, sometimes crowd-sourced, data streams will offer new ways to detect and analyze health issues; digital epidemiology is one example. Genomics at the personal and population levels will offer new insights into worker risk, and here toxicogenomics is one emerging discipline.” [Toxicogenomics is a subdiscipline of pharmacology that deals with the collection, interpretation, and storage of information about gene and protein activity within a particular cell or tissue of an organism in response to exposure to toxic substances.]

The State of AIHA Research Report 2018-19 updated their 2014 report.

Industrial hygiene professionals must be able to leverage cutting edge data management technologies, such as Big Data analytics, to inform risk assessment and management decisions.

Given the large number of chemicals present in commercial products, the relatively low number of occupational exposure limits for those chemicals, and the difficulty of updating OELs, exposure banding offers a robust way to manage exposure risk assessments.

New applications of sensor technologies are producing greater amounts of diverse, structured and unstructured data. Real-time instruments can better capture current exposures and allow for a real-time response. They also hold promise for long-term and continuous monitoring and can be used to promote risk communication.

Non-occupational exposure profiles (e.g., hobbies, consumer products, environmental factors) must be integrated into occupational exposures.

The increasing non-traditional exposure profiles, the changing workforce, global economic shifts and immigration are all growing in importance; these factors impact the health of workers.

5.5. Implications and Opportunities for OHCOW

- OHCOW’s future clients will have jobs that are very dissimilar to the work they have now.
- Clients’ exposures and health impacts will have changed.
- The ability to determine work-relatedness will be increasingly difficult as the relationship between worker and employer becomes increasingly tenuous.
- Artificial Intelligence (AI) can be used in the development of apps to help crowd-source information on workplace exposures.
- AI could potentially help OHCOW access global data on occupational exposures and work-relatedness by linking its data with other organizations with similar mandates (e.g. the ILO).
- OHCOW needs to adopt innovative communication tools (apps, online knowledge transfer, and Twitter).
- Avoid Facebook (this is my personal opinion) since it invites an invasion of privacy, and makes no distinction between credible and false news. Facebook also owns Instagram WhatsApp, and Snapchat.

6. Advice for OHCOW from the Key Informants

Many of the key informants had strong ideas on how OHCOW should move forward. Some of these quotes are included if they have not been included in other places in the report.

“Occupational disease and mental illness are likely to continue to be a focus for the ministry and the occupational health and safety system. OHCOW may wish to consider what they do on those areas [mental illness and occupational disease] and how to tell the story of what they can provide. I’m not going to change the mandate of OHCOW because I think the mandate and who they represent and even their composition and how they were created is important to remember. But the other thing is, and this is just open advice, whenever they’re telling their story, if they’d say how it also will help business run better, it will help them tell their story. I know that usually their work is about how they’re helping workers, and they can continue to tell that story, but they might also want to say that helping workers helps workplaces. OHCOW may wish to consider how their work helps employers and job creators. In the context that we are in, what would catch their attention is if they would say, ‘If you seriously injure or lose a worker, not only is that a tragedy for all involved, there is also a cost from the turnover, retraining, injury costs, and the WSIB premiums that might be raised’. All of those are significant things too. This government is focused on how to grow the economy and create good jobs while still protecting health and safety.”

“The other thing is, the government has said they’ve committed to ending hallway medicine. Many occupational illnesses go unreported to the WSIB. That means that OHIP is footing the bill [for these patients] when WSIB should be footing the bill. If you want to help OHIP and out-of-control healthcare costs, we should be appropriating this cost where they should be, which is on the employer premiums. Otherwise the taxpayer is paying for them when it should be the employer who is paying for them. And if we want to make sure we don’t raise taxes, and we want to make sure that people are not sleeping in hospital corridors, it’s an important storyline to say that we need surveillance and we need to know [which illnesses] are due to workplace exposures. We can help to make sure [that claims] are transferred over to the WSIB where they should be, and paid that way. That’s the kind of the context we’re looking at.”

I think if OHCOW wants to enter this zone – the larger field of health and poverty -- I would recommend thinking about where best to partner. Partnering is critical to actually bubbling up relevant on-the-ground interventions (solutions) to these complex problems. There are many organizations and people in this field of practice but the challenge still remains to find and prove what actually works. This is necessary to change both practice and policy. This is the focus of MAP [MAP Centre for Urban Health Solutions at St. Michael’s Hospital, Toronto.]

Strategy in my opinion is around choices, and focus, and not diluting our attention and vision by chasing resources. We can’t do everything. We need to decide (probably together) how best to add value as part of the OH&S system versus as individual contributors.

Report's Author

This report was researched, compiled and written by Dr. Desré Kramer, MES, MSc., Ph.D. Desré was a member of the OHCOW Board in 2006. She has been a journalist and an academic in the field of work and health for over two decades. She is now a research consultant conducting studies on how occupational exposures can be identified and prioritized by JHSCs, food insecurity across Canada, and this environmental scan on work and health. As a journalist, she published 500 articles, and as an academic, over 20 manuscripts. Her nationally-funded research recently focused on occupational disease in Sarnia; the greening of Sudbury; clinicians collecting information on occupational exposures; and a Canada-wide workplace intervention study on sun safety. For seven years, she was the Associate Director of the Occupational Cancer Research Centre, and for eight years, the Associate Director of the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders. She continues to collaborate closely with Dr. Linn Holness, Director of the Centre of Research Expertise in Occupational Disease, and Dr. Thomas Tenkate, Director of the School of Occupational and Public Health at Ryerson University.

Abbreviations

CCOHS	- Canadian Centre for Occupational Health and Safety
CRE-OD	- Centre of Research Expertise in Occupational Disease
HSAs	Health and Safety Associations (includes the four SWAs)
IHSA	Infrastructure Health and Safety Association
IWH	Institute for Work & Health
MOL	Ministry of Labour
OCRC	Occupational Cancer Research Centre
OEA	Office of the Employer Advisor
OHCOW	- Occupational Health Clinics for Ontario Workers Inc.
OHS	Occupational Health and Safety
OWA	Office of the Worker Advisor
PSHSA	Public Services Health & Safety Association
SWA	Safe Work Associations (includes the four associations: WSN, PSHSA, WSPS and IHSA)
WHSC	Workers' Health & Safety Centre (the Workers' Centre)
WSIB	Workplace Safety and Insurance Board
WSN	Workplace Safety North
WSPS	Workplace Safety & Prevention Services