Canada's Asbestos Legacy at Home and Abroad

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Despite international efforts to block Canada's export of asbestos, the Canadian federal government continues to defend the economic interests of the asbestos industry. Ironically, Canadian asbestos miners, mill workers, and those engaged in a wide range of other occupations continue to suffer asbestos-related disease and premature death. Although there is an employer-funded compensation system in each province, many workers with mesothelioma and other asbestos-related diseases remain uncompensated. The export of Canadian asbestos to developing countries sets the stage for another preventable occupational disease epidemic that will manifest over the coming decades. There is growing support from the Canadian labor movement for an end to asbestos exportation and for a just transition strategy for the asbestos workers and their communities. *Key words*: asbestos; Canada; labor unions; mesothelioma; industry influence.

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The International Labor Organization (ILO) states that over 2 million workers die each year of occupational causes[1]; 75% of these preventable deaths are due to work-related disease and the rest to trauma. Ten per cent of these fatalities occur among children where child labor is practiced.[2] Cancer represents the largest component of occupational disease mortality.[3] The single largest contributor to this work-related cancer epidemic is without question "the magic mineral"—asbestos. Asbestos has been called the, "most pervasive environmental hazard in the world,"[4] and in all its forms, including serpentine chrysotile, is recognized for its potent toxicity[5] and is responsible for tens of thousands of preventable cancer deaths globally each year.[6] Over 300 million tons of asbestos have been mined in the last century, and has found its way into thousands of products because of its resistance to heat, exceptional strength, and insulating properties.[4] The most prevalent use of asbestos today is in cement materials, mainly manufactured and used in developing countries.[7] Chrysotile asbestos is the most ubiquitous form, representing virtually all of the asbestos mined currently around the globe.[8]

Canada has remained essentially alone among industrialized countries in failing to acknowledge and act upon the increasing incidence of mesothelioma and other asbestos-related cancers and respiratory diseases. For instance, throughout Europe, where scientists have estimated in excess of half a million cases of mesothelioma and asbestos-related lung cancer would occur between 1995 and 2029,[9] a total ban of this product has been legislated after considerable public pressure.[4] Asbestos forums, regularly organized throughout Europe, the United States, and other industrialized countries, involve medical and legal professionals, trade unionists, and representatives of victims' groups, all of whom are committed to focusing attention on this totally preventable cancer epidemic.[10,11] Yet in Canada, one seldom finds much mention of asbestos disease, even from the informed scientific community.[12]

The government of Canada contends that Canadian asbestos—chrysotile or white asbestos—is a weak carcinogen.[13,14] Canada steadily maintains this position in spite of the overwhelming scientific consensus to the contrary. Major health organizations such as the International Agency for Research on Cancer (IARC),[15] the Collegium Ramazzini,[6] and the World Health Organization (WHO)[16] classify all forms of asbestos, including chrysotile, as human carcinogens, and have determined that there is no safe threshold at which there is no cancer risk. Asbestos remains one of the most glaring examples in all of occupational health in Canada of the gap between the scientific evidence of harm and the lack of "adequate preventive measures."[17]

The Canadian federal government continues to argue for the "controlled use" of chrysotile asbestos.[18] The concept of "controlled use" is based on the erroneous belief that, in developing countries, there exist the legal infrastructure and the technologic capacity to reduce asbestos dust exposure to almost zero. In Canada, occupational health and safety regulations and workers' compensation generally fall under provincial jurisdiction, with each province setting its own standards and policies. For example, in the province of Ontario, the asbestos exposure standard is 0.1 fibers/cc.[19] Even with rigid precautions and controls, such an exposure poses a lifetime toll of five excess lung cancer deaths and two asbestosis deaths per 1,000 workers.[20] These estimates do not include any projec-

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tions for mesothelioma. Further, these deaths are occurring under a Canadian standard that would represent "controlled use." In contrast, other developed nations, such as Sweden, which has some of the most advanced health and safety protections in the world, believe that they cannot control asbestos exposures and therefore have banned its use.[21] With advanced capitalist economies rejecting in practice "controlled use," developing countries are being left to deal with this hazard with minimal levels of protection.

For over 60 years the asbestos industry has known about the carcinogenic potential of asbestos. But, for decades, the industry actively kept this information from its employees and the public.[22] Because of this unethical behavior and the toxicity of its product, many of the corporate producers and users of asbestos in the United States have now been forced out of business or are under bankruptcy protection, facing billions of dollars of liability for their negligence.[23]

Today we are in the midst of a global epidemic of asbestos-related disease that is unfolding primarily in industrialized countries.[2] Current exports and use in underdeveloped economies are setting the stage for yet another epidemic to emerge in the coming decades. The ILO has calculated that 100,000 to 140,000 people worldwide suffer premature deaths from asbestos-related cancers each year.[24,25] The WHO estimates between 5 and 10 million people will ultimately die from asbestos-related diseases.[3] Yet, Canada continues to promote a product known to cause illness and premature death.

CANADA'S ROLE IN PERPETUATING THE ASBESTOS INDUSTRY

The Canadian government has played a key role in supporting the asbestos industry. While the asbestos market has collapsed in most of the industrialized world, consumption is increasing in developing countries. In 2004 Canada exported more than 95% of its asbestos to developing countries, 68% of which went to Asian countries.[10] The Canadian federal government provides economic and political support for this largely discredited industry and helps to maintain global asbestos markets by its direct funding of the industry-sponsored Chrysotile Institute. Ottawa also exerts diplomatic pressure on behalf of the industry, funds legal challenges, and defends against economic threats. The Canadian federal government brought a legal challenge to the World Trade Organization (WTO) to reverse the European asbestos ban.[26,27] In 2000, the WTO ruled in favor of the ban,[28] as Canada was unable to disprove the overwhelming scientific evidence regarding the carcinogenicity and harm caused by chrysotile asbestos.[29] Canada appealed this decision and, again was unsuccessful in overturning the European ban. At the time of the WTO dispute, Canada was the world's largest exporter of asbestos. It is now number two after Russia.[30] While asbestos is still mined in Canada, it is now more profitably mined in developing countries. However, Canada continues to work in tandem with the discredited global asbestos industry by providing technical expertise and political influence.[31]

Canada's generally positive global reputation allows it to promote this hazardous substance facing only a minimum of scepticism.[32] The Canadian government has blocked efforts through the United Nations to have chrysotile asbestos included in the Rotterdam Convention, a global treaty that obligates producing countries to warn of the possible harm posed by their exports of toxic substances banned in many regions of the world.[33] Recently obtained federal government documents contained briefing notes for Mr. Gary Lunn, Minister of National Resources, which explained Canada's opposition to the Rotterdam Convention.[30] A group that included Mr. Gary Nash, an assistant deputy minister and former founding president of the Chrysotile Institute in Montreal, prepared the background information.[34] The documents reveal that the international asbestos industry is intentionally keeping the price of chrysotile asbestos inflated so that the Canadian mines can remain competitive and thus allow the Canadian government to use its international standing to promote and protect the global industry: "Foreign producers tolerate higher-cost Canadian producers because of Canada's leadership and credibility in promoting the safer use of chrysotile."[32]

This federal government document then has a blacked-out bullet point—apparently too sensitive to reveal under the Freedom of Information Act—but the document goes on to say that lower cost producers could, at will,

> withdraw support for the Canadian chrysotile industry in that they could easily reduce prices to eliminate Canadian competition.

This background perspective towards the United Nations' treaty comes at the same time that the federal government doubled its financial contribution to the Chrysotile Institute in Montreal.[35]

While the federal government works in the more global arenas, its embassies throughout the world are busy promoting asbestos in individual countries.[36] For example, in 1997, representatives from the Canadian Embassy persuaded South Korea to withdraw legislation that would have required warning labelling about the possible dangers of chrysotile asbestos.[37] In the late 1980s, the Canadian government intervened along with the asbestos industry to block the U.S. Environmental Protection Agency (EPA) from enacting a phase-out of asbestos use.[38] The U.S. Court of Appeals upheld the challenge on a narrow legal technicality—the potential toxicity of substitutes—the court did not question the toxicity of asbestos. The EPA asked the

U.S. Department of Justice to appeal to the Supreme Court, but was stymied. Although there is no formal U.S. ban on asbestos use, in practice its actual use is severely curtailed. A de facto ban exists because asbestos litigation remains the "longest running mass tort litigation" in the United States.[39] By 2002, approximately 730,000 people had filed claims[37]—representing hundreds of billions of dollars of potential liability for American corporations.[40] This is occurring while over 10,000 Americans die each year from its historic use.[41] A recent Senate bill (S. 852) to create a $140 billion dollar compensation fund failed in part because the sum was insufficient to cover the vast number of claims for asbestos-related diseases.[42]

The historic failure of cancer agencies and compensation boards to properly recognize the serious impact asbestos is having on the lives of ordinary Canadians is matched by the federal government's silence on the incidence of asbestos disease. While the compensation boards in British Columbia, Ontario, and Quebec have made some progress in identifying mesothelioma cases in recent years, progress has been generally slow in terms of recognizing the wider incidences of other asbestos-related cancers and respiratory disease.

A recent study estimated the incidence of mesothelioma based on the global use of asbestos.[43] In 2000 Canada exported over 300,000 tons of asbestos to developing countries, while domestically consuming less that 5,000 tons, and that overwhelmingly in Quebec. The major Western European nations, the United States, Australia, and New Zealand have publicly tracked and published incidence data on mesothelioma occurring among their citizens, yet Canada, the center of this industry for decades, has not.

Two recent reports—one on asbestos-related diseases in Quebec[44] and the other on work-related mortality in Canada[45]—reveal a startling set of findings. In the case of Quebec the government report found rates of mesothelioma among men and women to be some of the highest in the world. The report on Canadian occupational mortality entitled "Five Deaths a Day: Workplace Fatalities in Canada, 1993–2005" estimates asbestos-related deaths at almost 31% of all workplace fatalities. The authors further suggest that almost 70% of the increase in workplace fatalities between 1996 and 2005 was due to asbestos. The number of deaths from asbestos exposure is projected to peak between 2010 and 2020. According to the authors, ". . . the increased fatality rate from asbestos, up from 0.4 per 100,000 workers in 1996 to 1.8 in 2004, accounted for the lion's share of the increased incidence from occupational disease."

These studies show that the subversion of public trust and scientific integrity in the interest of the asbestos industry has had a deleterious effect on the health of Canadian workers. The same pattern of duplicitous conduct will likely produce disease in developing countries, where there is little or no health and safety protection for the asbestos-exposed. The trust many countries have in Canadian institutions makes the federal government's mode of action even more troubling.

ASBESTOS AND QUEBEC

It is important for those who care about public health, human rights, and social justice to understand how the asbestos tragedy has unfolded in Canada.[30] Chrysotile asbestos was first mined in Quebec in the 1870s.[46] The province of Quebec remains the Canadian epicenter of the asbestos controversy. Since the 1930s the corporations belonging to the Quebec Asbestos Mining Association (QAMA) have been aware of the health consequences facing asbestos-exposed miners and textile workers. As decades of court proceedings have revealed, the industry actively suppressed medical and scientific information about the dangers of asbestos in order to protect its product.[47] Like the tobacco industry, asbestos corporations exploited "medical uncertainty" by employing a host of medical and scientific experts who were prepared to lie and to protect the corporate interests over the health of the exposed populations.[48]

The Johns–Manville Corporation was aware in the 1930s that over half of the Quebec asbestos textile workers showed signs of respiratory damage—the majority of whom were women.[49] In the 1940s over 700 Quebec miners were given x-rays; however, the results were withheld. Only four of those examined were without radiographic signs of asbestos exposure.

The corporate–medical conspiracy to deny the potential health hazards of chrysotile asbestos was revealed in correspondence from the Johns–Manville medical consultant, Dr. Kenneth Wallace Smith, when he wrote to corporate headquarters about the x-ray results of Quebec mill workers who showed signs of asbestosis: He wrote: "But as long as the man is not disabled it is felt that he should not be told of his condition so that he can live and work in peace and the company can benefit by his many years of experience."[50]

In the late 1940s the Montreal newspaper *Le Devoir* carried a series of articles by Burton LaDoux about the lives of asbestos miners who were employed by the U.S.-owned Quebec Asbestos Corporation.[33] These articles, titled "Asbestosis at East Broughton—A Village of 3,000 Suffocated by Dust," described the deplorable working conditions. Workers ate their meals in the midst of dust without any safety protection. "LeDoux found that the men's clothes were encrusted with grey-green fibre, as were their hands and faces, their eye-brows, ears and hair."

These dramatic revelations and the changing social conditions within Quebec in 1949 led to a four-month strike by the Quebec asbestos workers.[51] A central demand was the ". . . elimination of asbestos dust inside and outside of the mill." This was a classic labor dispute, which pitted "Goliath," the multinational asbestos

corporations allied with the reactionary provincial government of Maurice Duplessis, against "David," the asbestos mine and mill workers supported by sections of the Catholic Church and progressive intellectuals. The strike ended without resolving the issue of working conditions. It established, however, an impressive legacy of resistance to asbestos exposure, and laid the groundwork for subsequent actions, including major social and political change throughout Quebec.

In the 1970s the Quebec mining unions requested the help of Dr. Irving Selikoff, the renowned physician and researcher from Mt. Sinai Hospital in New York City, to determine whether asbestos disease was as prevalent as their own perceptions indicated.[52] Selikoff's team found widespread disease among the workers; of those employed for over 20 years, 60% had evidence of abnormalities on their x-rays. The team found that the asbestos workers were dying of lung cancer at a rate four times higher than the unexposed population.[52] These study findings triggered a strike by 3,500 Thetford asbestos mine and mill workers. The QAMA attacked the validity of the findings countering with arguably flawed,[53,54] ". . . studies by McGill University researchers [which] since 1966 have found that the death rate among asbestos workers is lower, in general, than that of the Quebec population as a whole."

To counter the strike and the adverse publicity generated by Selikoff's findings, the Quebec provincial government established the Beaudry commission to examine the working conditions of asbestos workers in Quebec. To cite only one short excerpt from the Commission:

> It is inconceivable to have to report that in 1976 certain employers were still requiring their workers to handle asbestos fibre by hand. It is equally inconceivable to see that in 1976, a recently built mining operation would knowingly be built with no dust control systems. It is even more inconceivable to find that in 1976 these companies would have the right to operate in such unsafe conditions.[55]

However, the medical and scientific evidence produced with industry collaboration and sponsorship created such an atmosphere of uncertainty that Quebec was without a specific asbestos dust standard until 1978.[56] That initial asbestos standard allowed for 5 fibers per cubic centimeter (f/cc) in an eight-hour average concentration. By comparison, the current standard for chrysotile asbestos is 1 f/cc.[57] The occupational exposure limit (OEL) for chrysotile asbestos in Quebec remains ten times higher than the generally accepted 0.1 f/cc standard. Despite the improved standard, sampling within the mining environments in Quebec between 1978 and 1997 found numerous examples of asbestos exposures in excess of the legal level.[53] The aforementioned government documents cite a 0.4 f/cc average concentration in 1994.[30] Although this is below the Quebec OEL, it still constitutes an elevated mortality risk. The excessive levels of asbestos exposure that were tolerated by the authorities help explain why the incidence of mesothelioma in Quebec is among the highest in the world.[37] It should be noted, however, that levels have been substantially reduced within the mining environment over the last 40 years.[30]

This increased level of protection is one of the reasons that the Quebec unions continue to support the concept of "safe use" based on what has been achieved within the mining environments. Moreover, because the Canadian government and the asbestos industry have failed to offer strategies to protect the economic interests of the asbestos workers and their communities, the unions have been faced with an almost impossible dilemma. A ban on asbestos would result in the loss of the livelihoods of the 800 currently employed Quebec asbestos miners and the approximately 1000 others indirectly employed by the Quebec asbestos industry.[30] It would also jeopardize the economic viability of their communities. Because there is no serious just transition strategy,[58] the asbestos ban continues to be opposed by the Quebec Labour Movement. This impasse was evident at the most recent national convention of the Canadian Labour Congress (CLC), when the Quebec Federation of Labour (QFL) requested that all the resolutions supporting the ban be withheld from reaching the convention floor. Beyond the economic justtransition issues, a strategy is also needed to remediate the asbestos-contaminated communities in Quebec, to protect public health from environmental asbestos exposure and to create communities that are viable for alternative economic activity.[59]

MESOTHELIOMA IN ONTARIO

Ontario, the most populated Canadian province, is the center of the industrial infrastructure for Canada. In the early 1980s the provincial government established a Royal Commission to examine asbestos-related disease.[60] The government action arose from an increasingly active trade union health and safety movement that was exposing hazards in the workplace.[44] The unions and injured workers' groups were also mounting pressure on the Ontario Workers' Compensation Board, later renamed the Workplace Safety and Insurance Board (WSIB), to recognize occupationally-related diseases such as mesothelioma.[61,62] While the Royal Commission's findings seem to support the concept of the "safe use" of chrysotile, the overall campaign did result in much improved asbestos regulations and greater recognition by the WSIB of asbestos-related diseases.

A recent report, entitled "Occupational Cancer Research and Surveillance Project," a joint venture of Cancer Care Ontario (CCO) and the WSIB,[63] reveals that approximately 1,487 male cases of mesothelioma

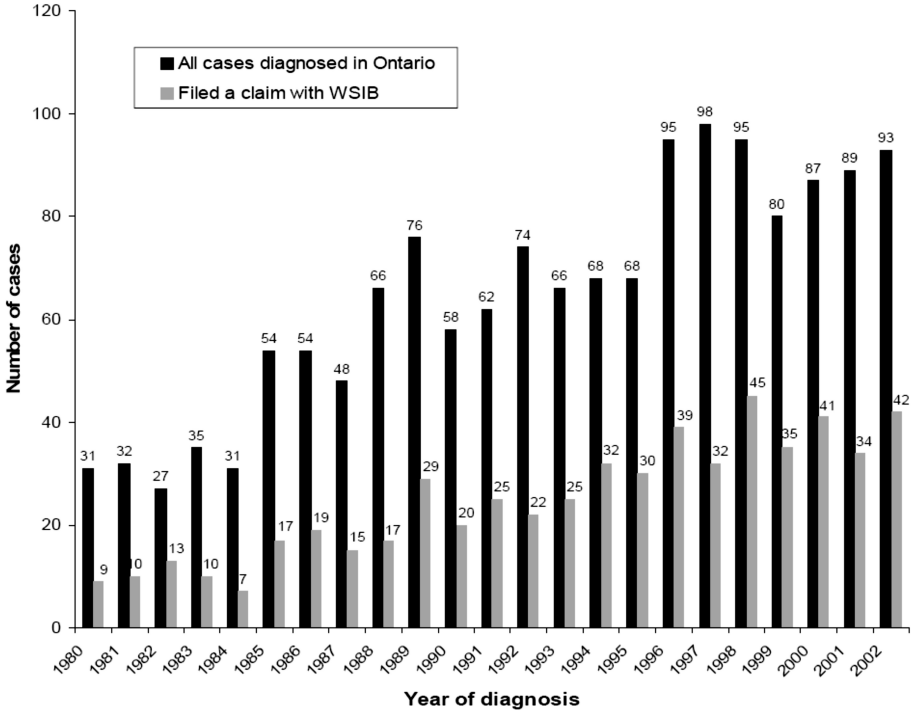

Figure 1—Mesothelioma cases diagnosed and filed for compensation, 1980–2002. Mesothelioma defined as: (ICD 9 163 or 158) and morphology of mesothelioma (ICD 0 905). Sources: Ontario Cancer Registry and WSIB's Occupational Disease Information Surveillance System (ODISS).

occurred between 1980 and 2002 in Ontario. This is likely to be an underestimation of the actual incidence because of the historic under-diagnosis and poor recording of this type of asbestos-related cancer. Nevertheless, it is an alarming statistic, and for the first time, reveals to the public the tragic consequences of poorly regulated and controlled asbestos exposures. In the same period, 1980 to 2002, only 568 cases of mesothelioma, approximately 38%, were registered with the WSIB (Figure 1).

Mesothelioma is recognized in Ontario as a "Schedule 4" disease. This legal designation provides for an irrebuttable presumption that mesothelioma is work-related and is, therefore, automatically compensable. Figure 1 shows that between 1980 and 1997 there were 1043 cases of mesothelioma recorded in Ontario, approximately 58 per year. Between 1998 and 2002, 444 cases were diagnosed, about 90 cases per year. Only 197 cases (44%) were registered with the WSIB. The authors have learned that between 1993 and 2006 over 100 cases of mesothelioma were denied compensation. Although the specific rationale for the rejection of the individual cases is unknown, it is possible to refuse a claim for mesothelioma in Ontario on the following grounds: either one has less than two years of proven exposure to asbestos or one's particular employment is not included in the Schedule.[64]

Figure 1 also shows the under-compensation of mesothelioma victims. Ontario workers have been deprived of hundreds of millions of dollars in compensation because the medical community and the WSIB have failed to register at least 50% of the mesothelioma cases. In Ontario the WSIB is legally obligated to reimburse the provincial health care system for costs related to compensable diseases. Therefore the failure to recognize the work relatedness of many mesothelioma cases has resulted in an economic loss to the provincial Ministry of Health.

Not only is mesothelioma under-recognized by the WSIB, but so too are other asbestos-related diseases. Mesothelioma mortality represents a "marker" of asbestos exposure. For each case of mesothelioma, it is estimated that there are two cases of asbestos-related lung cancer,[65] as well as numerous other cancers that are elevated in asbestos-exposed cohorts.[66] The actual numbers of accepted claims for other asbestos-related cancers are significantly less than the number of accepted claims for mesothelioma.[67]

SARNIA–LAMBTON: AN ASBESTOS-DISEASE CASE STUDY

Sarnia–Lambton, Ontario, is situated along the St. Clair River about midway through the Great Lakes system. The city of Sarnia and the county of Lambton, in which it is located, have a combined population of approximately 127,000. Sarnia–Lambton is home to a large petrochemical complex that produces approximately 40% of Canada's chemicals. The refining and chemical-production facilities include such industry giants as Imperial, Dow, Bayer, Shell, and Suncor.

One characteristic of almost all of the industries in Sarnia–Lambton is their prior extensive use of asbestos: asbestos lined foundry ovens; asbestos products were produced and exported; and asbestos insulation cov-

ered the thousand of miles of pipes that interweave the so-called Chemical Valley.[68] Although they are more than a thousand kilometers from the nearest asbestos mine, workers in Sarnia–Lambton have been diagnosed with asbestos-related diseases in record numbers.[69]

The Occupational Cancer Research and Surveillance Project report compares mesothelioma by county in Ontario. It graphically demonstrates that Sarnia–Lambton has age-adjusted rates of mesothelioma that are comparable to some of the worst international asbestos-disease hot spots, such as areas in Scotland where shipbuilding exposed tens of thousands of workers to asbestos.[70,71] The Sarnia–Lambton area has been cited as having the highest rates of pleural mesothelioma in Ontario.[72,73] Between 1986 and 1993 there was a fourfold excess incidence of mesothelioma in Sarnia–Lambton compared with the rest of Ontario; 74% of the cases were among former workers from either the Sarnia–Lambton petrochemical industry or a foundry and asbestos insulation manufacturing complex.[74]

The uncovering of the asbestos-disease tragedy in Sarnia–Lambton has garnered national and international media attention.[75] In the last three years the Occupational Health Clinic for Ontario Workers (OHCOW) has registered on average one new patient each week with mesothelioma, asbestos-related lung cancer, or asbestosis.[11,73–77] Between 1999 and 2006 OHCOW recorded and diagnosed approximately 588 cases of asbestos-related cancer or asbestosis in workers or family members (Figure 2). This number likely underestimates the actual number of cases of asbestos-related disease in Sarnia–Lambton, because some individuals may have been diagnosed by their family physicians and not registered with OHCOW.

Figure 3 shows the occupations of OHCOW registrants diagnosed with asbestos-related diseases. The largest group is the building trades. These figures may also underestimate the asbestos disease burden resulting from exposures in Sarnia–Lambton because many of the building trades workers often resided in other Ontario communities. Their disease diagnoses, therefore, would be attributed to the communities in which they lived rather than Sarnia–Lambton.

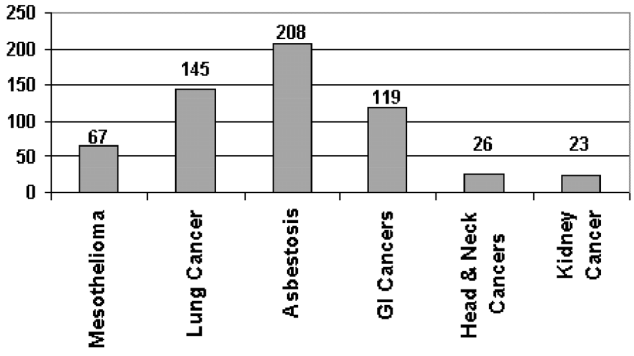

Figure 2—Asbestos-related disease, 1999–2006.

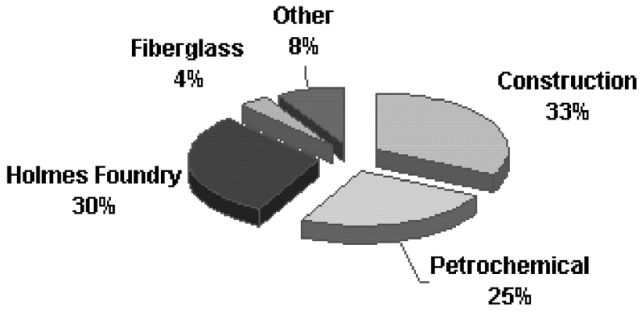

Figure 3—Occupations of OHCOW registrants with asbestos-related diseases.

Further, Figure 3 does not include the 830 workers identified at OHCOW as having pleural plaques. Forty-four percent of the OHCOW registrants in Sarnia– Lambton with pleural plaques are from the building trades group. Forty-two percent are less than 65 years of age. Pleural plaques are markers of asbestos exposure found on the lining of the lungs. They are indicators of an increased risk of contracting asbestos-related diseases such as mesothelioma and lung cancer.[81] OHCOW is in partnership with Princess Margaret Hospital in Toronto, Ontario, in a study examining the validity of using CT scanning to detect cancers in patients with known asbestos exposure and/or pleural plaques in an effort to improve their likelihood of survival.[82,83]

CANADIAN RESISTANCE TO EXPORTING ASBESTOS IS GROWING

A growing number of voices are demanding an end to Canada's century-long failure to protect workers from preventable asbestos diseases. A national network of trade unions, environmentalists, medical and scientific associations, and victims' groups has formed an organization called Ban Asbestos Canada. A ban would end the export of Canadian asbestos and disarm the global promotion campaign that has been based in Canada. The National Committee on Environmental and Occupational Exposures (NCEOE), a subcommittee of the Primary Prevention Action Group of the Canadian Strategy for Cancer Control, has written a letter of support to the World Health Organization endorsing the call for a ban on asbestos as well as for a just transition strategy. The ban and a just-transition strategy are also supported by the Canadian Association of Researchers in Work and Health (CARWH), the Canadian Auto Workers Union (CAW),[84] the Canadian Union of Public Employees (CUPE), the Canadian Association of University Teachers (CAUT), Mining Watch Canada, the Sierra Club (of Canada), the Green Party, and the Occupational Health Clinics for Ontario Workers, among others. Of particular significance, the Saskatchewan,

Alberta, and British Columbian Federations of Labour have endorsed the ban. Delegates at the 2006 Saskatchewan Federation of Labour convention donated $10,000 to help launch a national campaign.

The Sarnia City Council was the first in Canada to demand the federal government cease its efforts to promote asbestos, ban its export, and provide a just economic transition for the asbestos mining communities. There is increasing recognition within Canada that we must address the issue of occupational and environmental cancer.[85] The World Health Organization and the International Labor Organization have developed clear policies for the elimination of asbestos use. Canada is eroding its credibility as an ethical society by promoting asbestos while ignoring or harming the health of people in other countries. If we agree that human rights and health are paramount, we must follow the precautionary principle and not the demands of the corporations and their shareholders.[86] Implementing the resolutions of the ILO and the WHO would be the ethical course of action for the Canadian federal government. Providing the necessary resources for alternative sustainable economic development in the asbestos mining communities is an absolute precondition to stopping the asbestos disease epidemic.

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