GLOBAL PANORAMA ON MESOTHELIOMA 2009

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Presented at *Mesothelioma Symposium*
Chamber of Deputies
São Paulo, Brazil, November 2009

1. Introduction

Malignant mesothelioma is an "orphan" disease that in most of the world goes undiagnosed and unreported. Recent research by Professor Ken Takahashi from the University of Occupational and Environmental Health (Japan) has found that the highest period mortality rates for 1996-2005 were recorded in Europe and Oceania;[1] the worst affected countries were: the UK (31.1 deaths/million/year), the Netherlands (30), Australia (25.5), New Zealand (20.5) and Denmark (12.9).[2]

Lower levels of pleural mesothelioma mortality were noted in countries in Central & Eastern Europe, Latin America and Asia (Japan); an analysis of the annual percent change of disease incidence in countries with low levels was informative as it revealed that in many, there was a statistically significant increase in fatalities.

Annual Percent Change in Pleural Mesothelioma Fatalities (1996-2005)

Increasing Levels	Decreasing Levels
Croatia 11.0	Austria -5.9
Hungary 11.0	Norway -2.7
Brazil 9.0	Iceland -1.4
Argentina 8.9	France -1.0
Japan 3.9	
Germany 3.3	

It is absolutely essential that national authorities are cognizant not only of the current increase in disease levels but of prospects for the future.

2. Information Vacuum

While national mesothelioma epidemics are serious matters what is equally as worrying, if not more so, is the lack of mesothelioma data:

[1] Takahashi K. *Asbestos Diseases – A Global Ecological Perspectiv*e. Paper presented at the Asian Asbestos Congress 2009, Hong Kong**.**

[2] In another paper by Professor Takahashi, *An International Comparative Approach to the Global Asbestos Epidemic*, which he presented on November 23, 2007 at the International Conference on Asbestos in Yokohoma, Japan, he reported statistically significant increases in mortality from pleural mesothelioma in: Greece, Czech Republic, Japan, Italy and the UK and marginally significant increases in 5 other countries; only the Netherlands recorded a statistically significant decrease and Iceland a marginally significant decrease.

> "Reliable figures on the incidence/mortality of/from mesothelioma are available for about 15% only of the world population. In particular, mesothelioma epidemiology is ***scarcely*** known for a majority of the big asbestos producer/consumer countries. Where data are available, marked variations in incidence are observed. During the last decades mesothelioma incidence showed a progressive increase in various industrialized countries, reaching the highest values in Australia, Belgium, and the UK… The mesothelioma wave consequent on the very high world asbestos consumption (which) occurred in the 1970s ***has yet to be seen***."[3]

In some countries, national authorities use the lack of data as an excuse for preserving a status quo which allows asbestos to be used. They say, if no one has died, why should regulations be changed or profitable industrial practices be curtailed. Unfortunately, a lack of mesothelioma data does not mean that there is no mesothelioma. It may mean that:

- local medical expertise is insufficiently developed to diagnose an illness which is notoriously difficult to diagnose; or

- historical national usage has not yet reached the end of the latency period; that is the time between the occurrence of the hazardous exposure and the manifestation of disease. In asbestos-related diseases the latency period can be from 10-40 years.

Sometimes, the lack of national data on asbestos diseases is an intentional oversight. It is beyond strange that in a developed country such as Canada which has, for over 100 years been one of the world leaders in asbestos mining, there is neither a national cancer registry not a national mesothelioma registry. Canadian observers maintain that this "oversight" is part of a political strategy of "plausible deniability." In other words, what the public doesn't know can't impinge on the federal government's support for the national asbestos industry. In India, a country which has a seemingly unquenchable thirst for asbestos, mesothelioma is almost never diagnosed; even if it were, there are no procedures for collecting data on this or any other occupational disease. [4]

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[3] Bianchi B. *Geography of Mesothelioma: An Overview.* Abstract to Global Asbestos Congress 2004; website:http://park3.wakwak.com/~gac2004/

[4] Research published in 2000 by European scientists on malignant mesothelioma in 35 countries found that "data about the proportion of asbestos-related carcinomas of the lung were unavailable." Due to the difficulty in attributing lung cancer deaths to asbestos, the HSE has, in the past, estimated 1-2 asbestos-related lung cancers for each mesothelioma; a conservative estimate for the number of UK asbestos-related lung cancer deaths in 2006 was 1,705, the number of mesothelioma deaths. Other medical experts feel this figure could significantly underestimate the asbestos-related lung cancer death toll. In 2004, Professor Joe LaDou wrote: "The number of lung cancer deaths caused by asbestos is at least equal to the number of deaths from mesothelioma. The ratio may be much higher than 1 to 1, with some reports suggesting up to 7 to 1."

Another Way?

Despite the universality of human biology and the fact that Chinese lungs will be as adversely affected by hazardous asbestos exposures as British ones, it is not uncommon for governments to call for country-specific data before taking action on the asbestos hazard. Where no data collection has been done, this type of information can take decades to accumulate. During this time, asbestos usage could continue unabated and new generations could be exposed. A method is being developed by Professor Takahashi to calculate national mortality rate trends of asbestos disease; a regression model is used which compares per capita asbestos use from 1960-1985 with recent asbestos mortality. In the absence of country-specific data, the researchers' calculations of national disease levels could prove useful to government decision makers.

3. Europe: A Continent Devastated by Asbestos

The health effects of Europe's massive asbestos use were analyzed in a 1999 paper entitled: *The European Mesothelioma Epidemic*. Using data from Britain, France, Germany, Italy, the Netherlands and Switzerland, the authors predicted that the number of men dying from mesothelioma in Western Europe for the period 1995-2029 would increase from 5,000 in 1998 to 9,000 in 2018.[5] In this 35 year period, a quarter of a million male mesothelioma deaths are expected. Adding the number of male deaths expected from asbestos-related lung cancer and other diseases linked to asbestos exposure to the asbestos deaths of women is likely to produce an asbestos death toll in excess of 500,000 in Western Europe alone.[6] No estimates have been made for asbestos fatalities in Eastern Europe, where the unrestricted use of Russian asbestos was ubiquitous, or in developing countries, now the main asbestos consumers.

Unfortunately, the long latency period of asbestos-related diseases and the presence of millions of tonnes of asbestos-containing products in national infrastructures mean that asbestos deaths in Europe will continue for decades to come. In light of the European asbestos tragedy, the situation in countries where asbestos is still being mined, processed and used is of grave concern. Despite the assurances given by industry lobbyists that asbestos is used safely by current consumers, footage broadcast in June 2009 by the Canadian Broadcasting Corporation reveals the barbaric reality which persists. Conditions at an asbestos factory in Ahmedabad India have not been seen in Britain for over 60 years. It does not take an oncologist or a thoracic specialist to predict the future for the workers at the Eagle India Textile Factory. [Newcastle 2-7]

4. Mesothelioma in Britain

Britain has a rather confused geographical outlook when it comes to its physical position. This confusion is illustrated by a headline from The Times on October 22, 1957

[5] Peto J, Decarli A, La Vecchia C, Levi F, Negri E. The *European Mesothelioma Epidemic*. British Journal of Cancer. 1999;79(3/4):666-672

[6] At an IARC meeting in March 2009, experts found sufficient evidence "available to show that asbestos also causes cancer of the larynx and of the ovary." [www.thelancet.com/oncology May 2009;10]. In a recently published paper, British researchers presented evidence of an association between asbestos exposure and mortality from stomach cancer and strokes.

which proclaimed: *Heavy Fog in Channel; Continent Cut Off*. Despite a rather schizophrenic attitude to our nearest neighbors, Britain is part of Europe. When it comes to the deadly consequences of national asbestos consumption, however we are way ahead of our neighbors; unfortunately, the UK has the dubious distinction of having the highest death rate from mesothelioma not only in Europe but worldwide.[7]

Over the last ten years, mesothelioma incidence rates in Britain increased by 26% in men and by 61% in women; mesothelioma is the most rapidly increasing cancer amongst British women (coming before malignant melanoma, cancer of the uterus and oral cancer) and the 3rd most rapidly increasing cancer in men. This is a public health disaster of the highest magnitude.

According to the latest available figures, there were 2,056 British mesothelioma deaths in 2006; this compares to 312 (1976), 706 (1986) and 1,322 (1996). The 2006 figure represents more than a six-fold increase in fatalities in 40 years.[8] The outlook remains bleak:

> "Mortality amongst all males is expected to keep increasing, reaching a peak at around 2,040 deaths in the year 2016, with a rapid decline following the peak year. Around 91,000 deaths are predicted to occur by 2050 with around 61,000 of these occurring from 2007 onwards."[9]

5. Causation

Once considered to be a rare tumor, malignant mesothelioma has become increasingly common. There is a consensus that the commonest causal agent of mesothelioma is asbestos; all types of asbestos are classified as carcinogenic.[10] Mesothelioma accounts for the majority of victims who contract an asbestos-related disease through environmental exposure. Unfortunately low levels of exposure can produce disease and nowadays there are more cases of mesothelioma amongst people such as schoolteachers, nurses or doctors who experienced hazardous exposures in asbestos-containing buildings. On October 14, 2009, the Court of Appeal upheld a decision which confirmed that schoolday exposures she experienced were the reason for the mesothelioma contracted by Dianne Willmore, a 49-year old mother of two. Unfortunately the day after the Judges confirmed the ruling awarding the claimant £240,000 (Reais 682.049), Ms. Willmore died.

6. Current Asbestos Consumption

An analysis of worldwide asbestos consumption data reveals that:

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[7] HSE Press Release: *'Baby boom' carpenters at greatest risk of developing asbestos related cancer*. March 3, 2009. http://www.hse.gov.uk/press/2009/e09021.htm

[8] *Table MESO 01 - Death certificates mentioning mesothelioma 1968-2006.* http://www.hse.gov.uk/statistics/tables/meso01.htm

[9] *Table MESO 02 - Death certificates for males mentioning mesothelioma by year of death and 5-year age group*. http://www.hse.gov.uk/statistics/tables/meso02.htm

[10] Kazan-Allen L. *Asbestos Policies of Major International Agencies.* August 27, 2009. http://ibasecretariat.org/lka_asb_polic_maj_int_agencies.php

- total usage by the top 13 consuming countries (2007) was 1,912,434 metric tons or 92% of global consumption; comparative figures for 2006 were: 1,914,434 metric tons and 86%; taken as a group, **big users are using more asbestos;**
- in 2007, asbestos markets in Asian and Eastern European countries accounted for the majority (1,903,880 metric tons; 92%) of global asbestos consumption;[11] the only big user outside of these regions is Brazil which accounted for 5% of annual global consumption; **as developed countries have banned asbestos, markets in developing countries have been targeted;**
- among the top 13 users, the 3 which have ratified the ILO Asbestos Convention[12] consume 431,128 metric tons (21% of global consumption), while those which have not ratified it consume nearly three times as much (1,481,566 metric tons, 71% of global consumption); the nature of asbestos use in the 3 signatory countries – Russia, Brazil and Zimbabwe – is suspect; **the asbestos industry's talk of "controlled use" is a lie.**

The fact that twelve of the thirteen of the largest asbestos-consuming countries are members of the International Labor Organization (ILO)[13] and that only three have ratified the ILO Asbestos Convention suggests that even minimal precautions are lacking for most workers. In the three signatory countries, Russia, Brazil and Zimbabwe, the existence of occupational safeguards is questionable.

6.1 Russia

There is collusion among asbestos stakeholders, researchers and the government to support the national use of asbestos, promote chrysotile exports and attack global efforts to restrict trade. According to one Russian contact:

> "there is no publicly accessible information about the rate of cancer associated with asbestos in Russia. Very well known medical experts declare that chrysotile asbestos is totally safe. But they keep quiet the fact that even small factories producing asbestos release huge amounts of this substance into the air. For example in Volgograd an asbestos producing factory emits 6.5 tonnes of asbestos per year. So while talking about asbestos safety Russian experts talk about products and not processes. They state that products made of asbestos are totally safe if you don't crush them. But they say nothing about releases into the air which are faced by citizens in the communities nearby asbestos production factories."[14]

6.2 Brazil

Despite the fact that Brazil is a signatory to ILO Convention 162, "the majority of Brazilian employers do not fulfil their responsibilities for protecting workers from

[11] See Appendix A.
[12] *ILO Convention No. 162, Concerning Safety in the Use of Asbestos.* http://www.ilo.org/ilolex/english/convdisp1.htm
[13] As of May 2009, Belarus was not a member state of the ILO.
[14] Private correspondence received by Laurie Kazan-Allen on February 12, 2008.

occupational asbestos exposure." During twenty years of workplace inspections, Senior Labor Inspector Fernanda Giannasi routinely finds hazardous conditions:

> "The controls specified by ILO Convention 162 are frequently absent, especially in smaller companies. Even when these firms are aware of the risks, they continue to treat asbestos as just another raw material; no safety measures or protective equipment are used. Employers prefer to pay fines which are cheaper than adequate controls. The highest fine ever imposed for infringement of safety and health regulations is US$3,000. It is very cheap to kill and injure Brazilian workers. "[15]

6.3 Zimbabwe

In his examination of the asbestos industry in Southern Africa, Historian Jock McCulloch visited the chrysotile asbestos mines in Zimbabwe. On his most recent visit (2000), he found the Shabanie mine surrounded by tailings heaps rich with asbestos waste which in some cases encroached within meters of domestic dwellings. The miners he interviewed were poorly informed about the dangers of working with asbestos. In Zimbabwe, a poor country with a crumbling economy, workers regard any job as a good job.

In January 2009, the administrators of the government-run asbestos mines at Shabanie and Mashaba stopped paying the workforce. As a result 2,280 mine workers, members of the Shebanie Mine Workers Union, went on strike, shutting down mining operations in September 2009. This action led to violent reprisals (Sept 25) by members of Zimbabwe's Republic Police Force who attacked demonstrators at a peaceful rally. Negotiators Alois Zhou, Taurai Zhao and Simbarashe Masahuka, representing the strikers, were shot by police as they waited to take part in a meeting with the mine management. In the aftermath of this violence, striking workers were intimidated and threatened by the secret police and company security officers."[16] In such circumstances and under such conditions, it is unlikely that occupational safeguards for protecting miners' health and safety will be regarded by the management of the mine as a key priority.

7. Delays = Death

One of the most effective strategies employed by asbestos vested interests is: confusion. Sowing doubt where none exists enables them to forestall regulations restricting the use of their products. As one employee of Turner & Newall, the infamous British asbestos giant noted, the aim of the game was to do whatever it took to "ward off the evil day when asbestos cannot economically be applied."

The fact that four Brazilian States and several municipalities have banned asbestos is of crucial importance. No Brazilian ban was more important than that of São Paulo State

[15] Personal correspondence received January 5, 2004.
[16] http://ibasecretariat.org/lka_attack_strik_miners.php
http://www.zimnetradio.com/news/zimnet271456.html

and I pay tribute to State Deputy Marcos Martins who I have known since 2000. His commitment and efforts were pivotal in insuring that this life-saving piece of legislation became law. It is disappointing to learn that moves are being made in São Paulo to reverse the ban by introducing a 10 year transition period at the end of which asbestos could be reinstated as a legitimate raw material. This reversal is most certainly not justified on humanitarian grounds; one must examine the motives of those backing this bill to understand the true purpose of their proposal. Asbestos victims from Osasco, Rio de Janeiro and other Brazilian asbestos hot spots agree that banning asbestos is the best way to prevent more avoidable asbestos deaths.

8. The Way Ahead

When the problems which remain in the industrialized world from its asbestos past are considered, it is inexplicable that decision makers elsewhere continue to allow the use of this acknowledged toxin. Current asbestos exposures will lead to higher health costs, lost productivity and increasing mortality from a range of asbestos-related diseases. Incorporating even more asbestos into national infrastructures will only worsen an already deadly situation. Contaminated buildings and transport systems constitute a risk to all who use, work in or maintain them; over time, the presence of asbestos will attract higher maintenance bills as governments mandate stricter regulations for minimizing hazardous exposures. And, in the end, any asbestos used will have to be removed and dumped as hazardous waste, incurring yet more avoidable costs.

The transfer of asbestos production to poor countries where there are neither laws to protect the vulnerable nor affordable healthcare to treat the injured is unconscionable. Banning asbestos is a vital component of an effective health strategy for every nation.

Appendix A

Top Asbestos-Consuming Nations (tonnes)[17]

Country	2006	2007	Signatories to ILO Asbestos Convention, Date	Global Ranking 2006/2007
China	531,190	626,099	No	1/1
India	373,931	302,139	No	2/2
Russia	292,541	280,019	Yes, 2000	3/3
Brazil	143,123	93,780	Yes, 1990	4/5
Kazakhstan	142,873	108,951	No	5/4
Thailand	140,861	86,525	No	6/6
Ukraine	124,130	85,602	No	7/8
Zimbabwe	67,447	57,329	Yes, 2003	8/10
Uzbekistan	63,246	86,488	No	8/7
Vietnam	60,717	64,429	No	9/9
Iran	57,776	41,889	No	10/12
Indonesia	40,562	46,187	No	11/11
Belarus	24,786	33,257	No	13/13
Total	**1,914,434**	**1,912,694**		

Key Points

- global asbestos consumption in 2006 + 2007 was: 2,214,068 + 2,079,590 metric tons respectively;
- in 2006 + 2007, the highest consuming nations collectively accounted for 86% + 92% of global use respectively;
- total consumption in Asia in 2006 + 2007 was 1,283,979 metric tons + 1,223,013 metric tons, which equated to 57% + 59% of global use.

[17] Figures for consumption data from the U.S. Geological Survey.

Appendix B

Documenting Britain's Mesothelioma Epidemic

In 1995, the paper *Continuing Increase in Mesothelioma Mortality in Britain*, by Julian Peto et al, predicted that "mesothelioma deaths will continue to increase for at least 15 and more likely 25 years. For the worst affected cohorts – men born in the 1940s – mesothelioma may account for around 1% of all deaths."[18] In 2002, Peto qualified the earlier findings:

> "There were 1600 (UK) mesothelioma deaths in 1999 and the number is still rising. The latest HSE estimate suggests the peak will occur earlier than we originally predicted and that the maximum will be of the order of 2000 deaths in or around 2010.
>
> Based on data up to 1991, we predicted a peak of about 2500 mesothelioma deaths per year around the year of 2020. The rate of increase since 1991 has flattened, presumably due to the very abrupt reduction in the use of asbestos in the late 1970s particularly in construction."[19]

A paper published in 2004 confirmed the continued risk to UK workers:

> "One in every hundred men born in the 1940s will die of malignant pleural mesothelioma… For a man first exposed as a teenager, who remained in a high risk occupation, such as insulation, throughout his working life, the lifetime risk of mesothelioma can be as high as one in five...The disease is increasing in frequency…we will be seeing many more mesotheliomas in the next 25 years."[20]

In 2005, UK epidemiologists predicted that:

> "Between 1968 and 2050, there will have been approximately 90,000 deaths from mesothelioma in great Britain, 65,000 of which will occur after 2001."[21]

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[18] Peto J, Hodgson JT, Matthews FE, Jones JR. *Continuing Increase in Mesothelioma Mortality in Britain.* Lancet. 1995; 345:535-539.

[19] Kazan-Allen L. *Control of Asbestos at Work Regulations 2002*. British Asbestos Newsletter. 2002-03;49:1-4; http://www.lkaz.demon.co.uk
According to UK government statistics, there were 22,295 asbestos-related deaths between 1926 and 1996. Occupational hygienist Robin Howie believes that this figure is a gross underestimate. In a paper published in 1999, Howie calculated that the death toll over this 70 year period was 125,000, five times the government estimate. Furthermore, Howie calculated that the number of cumulative asbestos-induced deaths which will occur in the UK between 1929 and 2020 could reach 663,000-820,000.

[20] Treasure T, Waller D, Swift S, Peto J. *Radical Surgery for Mesothelioma*. British Medical Journal. 2004;328:237-238.

[21] Hodgson JT, McElvenny DM, Darnton AJ, Price MJ, Peto J. *The Expected Burden of Mesothelioma Mortality in Great Britain from 2002 to 2050*. British Journal of Cancer. 2005; 92: 587-593.