Asbestos: the International and Australian Contexts
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Executive summary

Asbestos and asbestos-related diseases (ARDs) have been a global concern for decades. Despite this, rates of asbestos use are rising in developing countries where it meets immediate demands for housing, building materials, and employment. Long term fears about the health dangers associated with asbestos use are not prioritised due to the long latency rates of these diseases as well as poor record keeping and reporting systems that do not accurately represent the danger. As a result, the World Health Organisation (WHO) and the International Labour Organisation (ILO) are attempting to help countries establish national programmes for elimination of ARDs.

Australia, due to its long history of asbestos mining and occupational use, has among the world’s highest rates of ARDs. Consequently, asbestos and ARDs have traditionally been perceived as occupational health issues in this country. However there are now predictions of a new wave of ARD sufferers caused by non-occupational exposure to asbestos materials during home repairs and DIY renovations on older buildings. This demonstrates a significant need to shift the national conversation towards recognising asbestos as a wider community issue and is essential to Australia’s progress towards eliminating ARDs. The literature presented here argues for this greater public awareness as well as increased community involvement to help prevent future incidences of ARDs.

The International context

Developed nations such as Australia, the United States, the United Kingdom, and other Western European countries have a long history of asbestos use (Virta 2006). Alongside the increasing use of asbestos materials in industrial contexts, these nations have also witnessed a growing number of ARDs and deaths associated with asbestos exposure, both in occupational and non-occupational contexts. The growing concern about asbestos use and exposure has resulted in severe restrictions around the use of the material in various parts of the world and national bans in at least 55 countries, including Australia (Kazan-Allen 2014).

Despite these efforts to limit the harm caused by asbestos, researchers are predicting a rise in global incidences of asbestos diseases, encompassing both developed and developing nations. In the developed world, countries that have previously mined, manufactured, and used asbestos are yet to see instances of ARDs hit their peak figures (Leigh et al. 2002). Further, although the banning and restrictions around asbestos have caused a decline in ARD cases related to those who suffered occupational exposure, the number of ARD cases related to non-occupational exposure, such as DIY home renovations, is increasing (Olsen et al. 2011).

Rising rates of asbestos use in the developing world

In the developing world the case is even more dire as a number of nations continue to actively use and have even increased the use of asbestos materials (Leong et al. 2015; Park et al. 2012; Le et al. 2011; Virta 2006). New research claims that “Asia has become the largest consumer of asbestos in the world and is responsible for two thirds of global asbestos consumption, currently totalling over a million tonnes per annum in the region” (Leong et al. 2015, 550). This increasing use indicates that, unless there is rapid intervention, these developing nations will experience the same health risks and community impacts that are now associated with asbestos in the developed world. Further, use of asbestos in the
developing world also poses a threat to countries that have already banned the substance. Due to global networks of production and consumption, and despite best efforts to regulate borders, products containing asbestos materials can filter into countries such as Australia via “grey markets” and as smaller components in larger products (Ferguson 2015; Peacock 2013; Doherty 2008). These factors demonstrate that asbestos is, and will continue to be, a key global concern for many years to come. This highlights the importance of an international ban on the substance as well as the need to record and report all instances of asbestos exposure and ARDs.

A considerable amount of literature in the last decade has been devoted to drawing attention to the growing asbestos problem in developing countries (see for example: Leong et al. 2015; H.-J. Lee et al. 2013; Park et al. 2012; Le et al. 2011; Takahashi and Kang 2010). This research paints a complex picture of the issue in the 21st century global context. For many developing nations, rapid population growth is driving the need for urban housing solutions, affordable building materials, and pressure to generate employment, all of which can be met to a significant degree by the use of asbestos materials (Leong et al. 2015, 551). The long latency periods for ARDs also complicate matters as in many cases developing nations are yet to experience the full impact of ARDs, or have difficulty in accurately diagnosing them (Park et al. 2012, 1753; Park et al. 2011). As a result, asbestos is being viewed as a viable solution to immediate needs, while the long-term cost of exposure has not yet been felt. However, as ARD trends in the more industrialised Asian nations are already mimicking those of Western countries who experienced high asbestos use, there are predictions that ARDs will constitute a significant burden on the community and public health systems in coming years (Le et al. 2011, 773–774). It is therefore important that the impacts of asbestos exposure are made clear on a global level and that the experiences of developed nations can be used to inform, educate, and ultimately prevent further ARDs.

**Global confusion enables continued asbestos use**

Unfortunately international action is hampered, as it is difficult to gain a clear picture of the magnitude of the current asbestos problem on a global scale. This is in part due to problems in gaining access to clear, accurate, and representative data from all countries that use and contain asbestos materials. While Delgermaa et al. report an increase in the number of mesothelioma deaths reported to the World Health Organization (WHO) between 1994 and 2008, the full impact of these figures is unclear since, as the study points out, “to date there is no established global baseline that can be used to evaluate trends in disease occurrence” (2011, 716). Further, there are significant concerns that at least one mesothelioma case is overlooked for every four to five cases that are reported (Park et al. 2011). The data is further complicated as it only captures those countries who report data to the WHO and does not include countries such as India and China, which are not only the two most populous countries in the world, but also have high instances of asbestos use (Delgermaa et al. 2011, 722).

Further confusion is caused by arguments that the use of chrysotile asbestos is safe in controlled measures (Tweedale and McCulloch 2004). This claim has been broadly refuted with accusations that they are promoted by the asbestos industry and associated lobby groups. Chrysotile currently accounts for almost all the asbestos that is being used in the world today (Linton et al. 2012, 204). It has been classified a carcinogen by the International Agency for Research on Cancer (IARC), and the WHO confirms that there is no safe threshold for exposure to the substance (IARC 1987; ILO and WHO 2007).

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1 For a summary of arguments, please see LaDou et a. (2010), and for an historical overview of the chrysotile controversy, see Tweedale and McCulloch (2004).
Despite this, chrysotile has still not been listed as a hazardous substance by the Rotterdam Convention, which regulates international trade and use of hazardous chemicals, due in large part to the efforts of asbestos producing and manufacturing nations (LaDou et al. 2010, 899–900).

For a number of years asbestos miner Canada actively blocked measures to regulate and restrict global trade in chrysotile (Kazan-Allen 2008; Sentes 2009). This staunch opposition only shifted in 2012 when, due to public pressure, the Canadian federal government announced that it would no longer oppose attempts to list the material as a hazardous substance under the Rotterdam Convention (CBC News 2012; Lak 2012). However, at the 2013 Rotterdam Convention, a number of nations including Russia, Ukraine, Kazakhstan, Zimbabwe, Kyrgyzstan, Vietnam and India continued to oppose the listing of chrysotile as a hazardous substance (Kazan-Allen 2013). As such, chrysotile is still not officially classified as a hazardous substance at international level, a fact that lends itself to the mistaken assumption that it is a less dangerous form of asbestos.

As a further tactic to confuse the issue, the industry also sponsor the publication of scientific papers that cast doubt over the correlation between chrysotile and ARDs. Not only is the validity of such publications suspect due to the financial motivations of their backers, but they also cause harm to victims and communities in the process (Braun et al. 2003). As LaDou et al. explain, “controversies such as these have helped to make the disease experiences of asbestos-exposed workers and people in asbestos-contaminated communities invisible and uncompensated, allowing the asbestos industry to escape accountability” (2010, 898). Such instances where the industry has actively attempted to avoid accountability, as has been witnessed with James Hardie Industries in Australia, are damaging to both victims and communities and destroys the trust and cooperation essential for future management of asbestos issues (Howell and Miller 2006; Engel and Martin 2006; Moerman and van der Laan 2007; Fernando and Sim 2011).

The presence of such misleading information emphasises the need for a clear and authoritative public resource of information regarding asbestos and ARDs, supported by a clear, accurate, and unified system of reporting and recording asbestos exposure and subsequent diseases. Such a system of reporting and record keeping can have multiple benefits. Not only can it help present a clearer understanding of the global impact, thus enabling better preparation, management, and prevention plans to be put in place, but the act of recording and reporting can in itself be a deterrent to asbestos use. Leong et al. find that countries that do collect data on asbestos use and ARD have a marked decline in asbestos use while countries without ARD data continue to increase consumption, suggesting that the correlation between asbestos use and ARD is clear enough to warrant self-regulation (Leong et al. 2015, 551). On the other hand, poor records provide little evidence for change as the danger is not accurately represented, and can be used to justify continued use (Kazan-Allen 2014, S4).

The data can also reflect a growing awareness and understanding of ARDs. Delgermaa et al. explain that the increasing figures observed in their study can reflect both a rising number of mesothelioma incidents as well as improved recognition and diagnosis of the disease. As knowledge of the consequences of asbestos exposure expands, and awareness of the associated risks and diseases is heightened, the chances of more accurate diagnosis improve. This emphasises the need to address possible inadequacies in health services in developing nations, especially in terms of improving access to the resources, technology, training and experience to diagnose, as well as treat, ARDs (Park et al. 2012).
The WHO’s National Programme for the Elimination of Asbestos-Related Diseases (NPEAD)

The WHO is attempting to address the above concerns by leading the global community in strategies to prevent, and eventually eliminate, asbestos use and ARDs (WHO 2006). They have partnered with the International Labour Office (ILO) in creating a guide to developing National Programmes for Elimination of Asbestos-Related Diseases (NPEAD), concentrating on the following strategic directions:

- By recognising that the most effective way to eliminate asbestos-related diseases is to stop the use of all types of asbestos;
- By providing information about solutions for replacing asbestos with safer substitutes and developing economic and technological mechanisms to stimulate its replacement;
- By taking measures to prevent exposure to asbestos in place and during asbestos removal (abatement);
- By improving early diagnosis, treatment, social and medical rehabilitation of asbestos-related diseases and by establishing registries of people with past and/or current exposures to asbestos. (ILO and WHO 2007). In July 2014 the WHO updated this list to include the following:
  - By establishing registries of people with past and/or current exposures to asbestos and organizing medical surveillance of exposed workers;
  - By providing information on the hazards associated with asbestos-containing materials and products, and by raising awareness that waste containing asbestos should be treated as hazardous waste. (WHO 2014)

A key recommendation of the NPEAD is the establishment of a National Asbestos Profile to serve as an “instrument for information” that “defines the baseline situation” to better understand levels and types of asbestos exposure and ARDs (ILO and WHO 2007, 4). Such information would be regularly updated so that progress towards the NPEAD targets can be measured. These recommendations have received broad support in academic, advocacy, and medical sectors, and are particularly referenced in calls for greater international collaboration and cooperation to combat ARDs (Takahashi and Kang 2010; LaDou et al. 2010). Although there are clear benefits for such information monitoring tools in terms of managing asbestos and ARDs, there is very little discussion in the NPEAD regarding preventative measures that can be used to target non-occupational groups at risk of forming a third-wave of ARDs.

Nevertheless, the WHO’s recommendations are a vital step in the global fight to manage and contain asbestos use and instances of ARDs. Not only is asbestos still present in a number of countries due to decades of previous use, including in Australia, but it continues to be actively produced, exported, and used in many parts of the world. This not only presents a danger to those countries that have not yet banned the use of asbestos but, due to global networks of production and trade, it also poses a threat to countries where asbestos is prohibited, such as Australia, where the material can be used for component parts of larger products and thus slip through customs. Consequently, ARDs and issues relating to asbestos exposure are global concerns and will continue to be so in years to come. Australia, with its long familiarity with various forms of asbestos mining and use, as well as the associated ARDs, is well placed to implement the WHO’s strategic directions and lead the world in managing asbestos in the community. The following discussion concentrates on the Australian context, focussing on how asbestos issues have been managed in previous cases and what can be done to better improve education, awareness, and communication about asbestos in the public.
The Australian context

Australia has a long history of asbestos use, and was one of the world’s highest consumers of asbestos in the 1950s (Leigh et al. 2002, 160). The material was mined for over a hundred years, with production only ceasing in 1983 (Leigh et al. 2002, 160; Virta 2006, 32–34). Asbestos was also imported into the country and was widely used in the manufacturing and construction industries, including in structures built up to the late 1980s (Olsen et al. 2011, 271). Use of amosite and crocidolite began to be phased out in the 1980s, with the use, re-use, import, export, and sale of all forms of asbestos banned as of 31 December 2003 (Department of Health 2013). However this ban does not apply to asbestos material already in place, due in part to the extensive amount that still exists in older buildings and infrastructure, as well as fears that disturbing existing asbestos can cause its dangerous fibres to be released into the air (Australian Safety and Compensation Council 2008, 5).

As a result of this history and wide-ranging use, Australia has one of the highest incidences of mesothelioma in the world. It is estimated that Australia will reach 18,000 cases by 2020, with other ARDs constituting another 30-40000 cases (Leigh et al. 2002, 164; Prince, Davidson, and Dudley 2004). These have predominantly been cases identified with occupational asbestos exposure, comprising of the first wave of asbestos miners and manufacturers and the second wave of tradespeople using asbestos products, and are expected to decline due to the ban on asbestos mining and use (Musk 2011). However, Olsen et al. predict that the number of non-occupational cases due to domestic and environmental exposure will begin to rise, constituting a third-wave of asbestos sufferers (2011). This third-wave is regularly associated with do-it-yourself (DIY) renovators undertaking repairs and improvements on homes without realising that they may be exposing themselves to asbestos in the process. There are two key concerns related to this third-wave. First, these cases are registering a shorter latency period than previous incidences, with researchers stating that this could partly be due to the difficulties in determining when first exposure occurred (Olsen et al. 2011, 274). Second, it is unknown when this third-wave of sufferers will peak. Both these concerns emphasise the need to raise public awareness of the possible asbestos risk associated with DIY home repairs and renovations, particularly for those working on older structures, and highlights the importance of recognising asbestos as a broader community, rather than solely occupational, issue.

While warnings of this third-wave have received wide media coverage there is still a lack of clear knowledge and awareness of asbestos issues in the public domain. An investigation into asbestos-related issues in New South Wales (NSW) in 2010 warned that “it is clear that the public has little or no knowledge about the dangers of asbestos and the types of measures required to handle it safely”, citing the complexity of information as well as technical jargon as possible reasons why available information was not readily consumed (NSW Ombudsman 2010, 5). Even though there is plenty of information available online, the sheer volume and complexity of this material can be difficult to navigate and can often require a fair degree of technical and scientific literacy (NSW Ombudsman 2010, 5). This is supported by Phillips and Lindgren, who suggest that finding and processing information about asbestos and ARDs is a complex and often daunting task (2010). They point to the litigious nature of previous asbestos cases as possible obstacles to gaining information: “although the media have reported on asbestos issues for many years, often the voices of asbestos sufferers are missing because of

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2 The third-wave of asbestos sufferers has been covered by a number of Australian news sources (see for example: Patty 2014; Noone 2014; Nicholson 2014; Medlen 2013).
confidentiality clauses in compensation settlements” (Phillips and Lindgren 2010, 200–201). Researchers have also observed a deeply entrenched resistance to acknowledging the real threat of asbestos in affected communities, adding a further barrier to the challenge of raising public awareness (Phillips and Lindgren 2010; Walker and LaMontagne 2004). Additional hindrance is caused by confusion and uncertainty over how existing asbestos materials in the community should be handled and who is responsible for them (Phillips and Lindgren 2010).

**Summary and conclusions**

Asbestos has traditionally been presented, discussed and managed as an occupational issue. However the sheer impact of ARDs from occupational exposures, as well as the growing incidences of ARDs from non-occupational exposures, highlights the fact that far from being an occupational issue, asbestos exposure instead needs to be recognised as a wider community issue. On the global scale, it is important to recognise that asbestos materials are meeting a very real demand in developing nations, and its continuing use raises the risk of asbestos exposure and ARDs across the globe. In order to fully eradicate asbestos, more will need to be done to educate these nations on the public health and environmental dangers posed by the material, and support them in sourcing viable and affordable alternatives.

It is also important that clear systems of recording and reporting asbestos exposure and disease are established to better manage and prevent rising ARD incidences. Until asbestos use is fully eradicated, the threat of ARDs is not only a very real danger, but will also form a considerable burden on public and social health systems and finances. In the Australian context more needs to be done to raise awareness in the general public about the existing presence of asbestos materials in the community and the risks associated with them.
Reference List


