SUBMISSION

Consultation Regulation Impact Statement:

Managing the risks of respirable crystalline silica at work

Instructions

To complete this online submission:

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- Use the saved version to enter your responses under each question below. These questions are from the Consultation Regulation Impact Statement on managing the risks of respirable crystalline silica at work.
- Once you have completed your submission, save it and upload it using the upload your submission link on the Engage submission form.

Submissions will be accepted until **11.59 pm on 15 August 2022.**

Additional documentation

Up to three additional documents can also be uploaded when you submit your response. Relevant documents to upload could include cover letters or reports with data and evidence supporting your views.

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Your details

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1. Name or organisation

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Questionnaire

(Consultation RIS questions)

Statement of the problem (Chapter 2)

2.1 Do you agree with the identified problem? Has the entirety of the problem been identified? Please provide evidence to support your position.

We generally agree with the problem definition in that it has identified that:

a) Workers in a broad range of industries are at risk of silicosis and silica related diseases;
b) Worker exposure to RCS results from a lack of understanding of the risks and the current regulatory requirements to ensure the health and safety of those working with silica-containing materials; and
c) There are inadequate levels of compliance and enforcement with the current model WHS laws.

However, while the issue of working with engineered stone has been mentioned, we feel that insufficient attention has been paid to this issue. Engineered stone is a manmade product which has been shown to be more dangerous than natural silica-containing products. Working with engineered stone generates much higher levels of RCS than other products, it contains reactive products which increase risk, and the settled dust continues to be reactive (Ramkissoon et al, 2022; Thredgold et al 2022; Maharjan et al 2021). Silicosis caused by working with engineered stone occurs earlier than that with natural stone, it progresses faster than would be expected in other workplace settings, and it continues to progress even after removal from exposure (León-Jiménez et al 2020; Leso et al 2019). These facts highlight the need for engineered stone to be emphasised more clearly in the RIS and for a clear strategy to be proposed to eliminate the risk from this product. We would encourage you to add this information to Table 3.

Secondly, we know that reduced exposure to silica dust will lower the risk of silicosis and lung cancer. The current WES of 0.05mg/m^3 cannot be considered a health-based standard given

the current evidence. An exposure standard of 0.025mg/m^3 has been identified as the level at which the risk of lung cancer would be reduced to an acceptably low level by the American Conference of Governmental Industrial Hygienists. For every additional lung cancer in silica exposed cohorts, there are approximately 10 additional cases of silicosis (Liu et al 2013). Therefore, the current exposure limit for RCS is risk the lives of thousands of people in Australia. Again, this important information should be added to Table 3.

2.2 Do you have further information, analysis or data that will help measure the impact of the problem identified?

We have used our method, the Future Excess Fraction method, to model the future number of cases of silicosis and lung cancer which would result from exposure to respirable crystalline silica (RCS) in one year. This method takes into account how many workers were estimated to be exposed in that year (in this case, 2016), a risk estimate for the association between RCS exposure and lung cancer, the future incidence of lung cancer, and the ratio of lung cancer to silicosis cases in exposed cohorts. We estimated that 584,000 Australian workers were exposed to RCS in 2016, and that these workers would develop over 10,000 lung cancers and around 100,000 silicosis cases over their lifetime.

We also modelled the impact of ways to reduce exposure to RCS, including wet cutting, using good quality respirators, and banning engineered stone. We found that a ban on engineered stone could prevent around 100 lung cancers and 1,000 silicosis cases. Other methods of reducing exposure like mandatory wet cutting (preventing 40 lung cancers and 300 silicosis cases) and on-tool dust extraction (preventing 50 lung cancers and 400 silicosis cases) could also reduce the health impacts of working with engineered stone if used alongside respiratory protection. However, as can be seen, these approaches were not as effective as the elimination strategy (banning engineered stone) and require 100% compliance.

Our modelling also found that dust suppression methods on construction and mine sites could prevent around 1,400 lung cancers and 13,000 silicosis cases, while mandatory wet cutting of concrete would prevent another 600 lung cancers and 6,000 silicosis cases.

This modelling is likely to underestimate the current scope of the problem and the lives that could be saved. We used a best estimate of the number of workers exposed, based predominantly on nationwide data from 2011-12. Since that time, there has been an increasing number of workplaces with RCS exposure, and we were not able to include exposures in some of these industries, including tunnel construction. Further, our estimate of the number of workers exposed to engineered stone was based on Census data from 2016, and is likely to underestimate the true number of workers currently exposed.

Our report is available at https://about.curtin.edu.au/wp-content/uploads/sites/5/2022/07/FEFreport_formatted.pdf.

Why is Government action needed? (Chapter 3)

3.1 Do you agree with the case for government intervention? Please provide evidence to support your position.

The recent epidemic of silicosis is a shocking consequence of a failure to control a known danger. We have known of the danger of silica dust and how to control it for nearly a century. Figure 1 in the RIS shows the compensation statistics for silicosis over time and, while we note that compensation statistics are always an underestimate of disease (Azaroff et al 2002), it is clear that silica exposure has been inadequately controlled over the last few years. This has resulted in the unfortunate consequence of cases of silicosis appearing in Australian workers.

Our study predicted that, if we continue as we have been doing, 100,000 workers would be diagnosed with silicosis and up to 10,000 workers would develop lung cancer from exposure to RCS. Without government intervention, the cost burden of that disease will be moved from employers under their existing obligations under WHS legislation, and onto the affected individuals and the public health system. Therefore, a federally coordinated response to government intervention is needed.

We note the reference to alternatives to government action included in the RIS and we agree with the statement that "while these activities enhance awareness, they are unlikely on their own to result in the level of prevention of silicosis and silica related diseases that is needed".

3.2 Do you agree with the objectives of government intervention? Please provide evidence to support your position.

One of the most basic functions of government is to ensure the safety of its citizens. There is absolutely no doubt that controlling the exposures which lead to a preventable disease by legislation is the most effective way to act.

However, we feel that the objective is not strong enough. The objective in the response to the National Dust Disease Taskforce (NDDT) by the Australian Government stated that their shared objective was the "elimination of silicosis amongst workers and increased quality of life for those already impacted and their families". This should also be the objective of government intervention.

What policy options are being considered? (Chapter 4)

4.1 Do these options address the problem? Please provide evidence to support your position.

We find the options being considered underwhelming and the absolute minimum of what we should be doing. This is evident in the low number of silicosis cases which are required to be prevented in order to break even (Table 23). As our modelling showed (https://about.curtin.edu.au/wp-content/uploads/sites/5/2022/07/FEFreport_formatted.pdf), there are going to be thousands of cases of silicosis over the lifetime of the current workforce, and many options to reduce this future disease burden. It can be seen that more ambitious options would still be cost effective even if their cost was substantial.

4.2 Are there any other non-regulatory or regulatory options you think should be considered to address the problem?

Ban on engineered stone

Our modelling has shown that hundreds of lives would be lost due to the continued use of engineered stone, and we are dismayed at the dismissal of this option in section 4.8.1. One of the most effective ways to achieve elimination of silicosis (as is the goal of the Whole of Government's Response to the NDDT) is to substantially reduce exposure to silica from engineered stone. As the well-established hierarchy of control states, the highest level of protection is elimination.

Engineered stone is not manufactured in Australia and many alternatives (with lower silica content) are available. Banning the importation of engineered stone is a practical solution to preventing RCS exposure, thereby preventing silicosis and other silica-related diseases and deaths in Australia.

We feel that the reasons given for the RIS not considering this option are weak:

1. While it is true that the NDDT final report recommended that a ban be considered if there is no measurable improvement in control, we feel that the alternative view should be taken. That is, given that elimination is something that we know will work, engineered stone should be banned until the industry can show it can be reintroduced safely.
2. Time may be required to institute the ban, but the process should begin now. Delaying the process will mean that no progress will have been made by July 2024, with the exception of many more workers having developed a fatal disease.
3. As for point 2, waiting for further information will result in more workers developing preventable disease.
4. Safe Work Australia state that the "scope of the model WHS laws… could not prevent the importation of engineered stone into Australia". This infers that SWA consider that their role is simply to promote the model WHS laws. This fails to reflect on one of the key functions of Safe Work Australia, being "to collaborate with the Commonwealth, the States and the Territories, and other national and international bodies, on WHS and worker's compensation policy matters of national importance". A leadership role by Safe Work Australia is required.
5. There is no equity issue involved in banning engineered stone. This ban will reduce exposure to silica and prevent future disease, regardless of whether others are still exposed via other means.

We need to immediately identify the most effective ways to implement a ban on the use of high-silica content engineered stone and support industry and consumer acceptance and utilisation of safer substitutes. This will lead to improved health outcomes for the worker as it makes earlier intervention, such as preventing further exposure, possible.

Replacement of chest X-ray with low dose HRCT

This is not a preventive measure, however for those who have already developed silicosis or lung cancer, it is vital that the diseases are identified as early as possible.

For silica-exposed workers, low-dose high-resolution CT scans are more effective than chest X-rays in detecting early lung changes indicative of lung disease such as silicosis and lung cancer (Hoy et al 2021; Guarnieri et al 2020). The Royal Australian and New Zealand College of Radiologists note that chest X-rays are failing to reliably detect disease in workers exposed to silica dust from engineered stone and strongly recommend CT of the chest as the primary imaging modality to be used for screening workers (www.ranzcr.com/college/document-library/silicosis-position-statement). Western Australia is currently the only State in Australia where it is mandatory for workers exposed to risky levels of silica dust to be provided with a low-dose high-resolution CT scan as part of their health surveillance. All other States require chest X-rays. We believe that nationally consistent legislation for the health surveillance of workers in the engineered stone industry including low-dose high-resolution CT scans as the required radiological screening test instead of chest X-rays is needed.

Again, we consider that the reasons for the RIS not considering this option are weak (section 4.8.2):

1. CTs are known to be effective and better for diagnosing disease, so it is unclear why we would not use them. The cost to the employer is negligible compared to the risk to the worker and the public health system, and this cost should not be a reason to provide an inferior surveillance system.
2. CTs have been shown to be best practice. Medical practitioners should not have the right to provide substandard care to their patients.
3. The availability or otherwise of CTs should not prevent us from using them where they are available. Instead, we need to ensure that there are systems which support those in rural areas to get the best available health surveillance.

Increase in government and non-government funding for resources to support effective implementation of regulatory and non-regulatory options

There is an urgent need to increase the extent of specialist resources to support the effective implementation of regulatory and non-regulatory options in each State and Territory health and safety regulator. The scale of the problem is evident in Table 8 of the RIS where the number of workplace visits and associated action with regards to notices issued is provided. That table shows a wide disparity in the frequency of visits to workplaces in each State. It is evident that the structure of the respective State and Territory WHS Regulators, in terms of the number of specialist resources engaged at present, is insufficient to adequately intervene. While there have been increases to allocated funding to the inspectorate in some jurisdictions, such increases are still insufficient to enable effective intervention for all at-risk industries.

The establishment of a Centre for Disease Prevention and Control, with an emphasis on occupational health

For many years successive governments have reduced the funding for technical expertise within Safe Work Australia. In addition, schemes such as the Medical Research Future Fund rarely fund any research in occupational health, or if they do, it is firmly in the area of treatment and not prevention. We need a multi-disciplinary Institute of Occupational Health, as part of a Centre for Disease Prevention and Control. An independent body is needed to provide timely and relevant information for decision makers on policy, conduct horizon scanning, conduct and coordinate research, and measure the effectiveness of interventions.

Occupational health is an area which often falls between the remits of the industry and health ministries. However, we need Safe Work Australia to work more effectively with the Department of Health, and other agencies such as the Australian Industrial Chemicals Introduction Scheme (AICIS), Australian Border Force and other chemical regulating agencies, to enable coordinated action and leadership.

A multi-disciplinary Institute of Occupational Health could draw on the diverse expertise and knowledge of specialists including occupational hygienists and epidemiologists. There are many international examples to draw from, including the National Institute for Occupational Safety & Health (NIOSH) in the USA.

The need for reform has been highlighted in discussions during the development of the National Silicosis Prevention Strategy (NSPS) and the National Action Plan (NAP), being led by the Lung Foundation Australia (LFA). The Strategy and Plan are recommendations from the NDDT Final Report to define the priorities and actions required to reduce the impact of silicosis on individuals, the community and the economy. Discussions have concluded that existing regulatory frameworks have not effectively protected people working with engineered stone and that reform is urgently required. They have also highlighted that government coordination is required to address silicosis and other preventable workplace diseases, and that coordination is missing. A whole-of-government integrated approach including national and State and Territory governments across health and regulatory agencies is critical for success.

What is the likely impact of each option? (Chapter 6)

6.1 Is the cost modelling methodology appropriate to estimate the costs to industry and governments (Appendix D)? Please provide evidence to support your position.

No. There does not seem to be any consideration of the significant costs to the medical system of each case of silicosis. There also is no mention of other diseases known to be caused by silica exposure such as COPD and lung cancer.

6.2 Are the estimates of the number of businesses covered by each of the regulatory and non-regulatory options accurate? Please provide evidence to support your position.

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6.3 Are there other factors that should be considered in the assessment of the effectiveness of each option (Section 6.5)? Please provide evidence to support your position.

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6.4 Are the cost and other estimates (including worker wage assumptions) listed in Appendix D accurate and appropriate? If not, please provide additional data to support a more accurate estimate of costs.

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6.5 Do you have further information regarding the costs to the public health system for silicosis and silica related diseases?

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Discussion of options (Chapter 7)

7.1 Which option or combination of the options presented is most likely to address the identified problem? Please provide evidence to support your position.

We consider that the absolute minimum that should be done is to introduce options 2, 3, 4, and 5 together. Not doing so would be abrogating the government's responsibility to care for its citizens.

We must also ban engineered stone, and introduce a health-based occupational exposure limit for RCS. We cannot be distracted from urgent and coordinated action. Our modelling showed the many thousands of lives that we need to consider (https://about.curtin.edu.au/wp-content/uploads/sites/5/2022/07/FEFreport_formatted.pdf).

7.2 Are there any significant barriers to implementation of the options presented? What are those barriers? Is there a cost associated with them? How could they be overcome?

The primary barriers to implementation are the dispersed responsibilities among State, Territory and Federal governments with no clear leadership and no sense of urgency. We need strong, well-informed leadership and a clear vision that protecting workers is the primary goal of all action in this space.

Other comment

Do you have anything further you would like to add as part of this process?

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