

Silicosis and coal workers pneumoconiosis 2016

Contents

Summary	2
Introduction	3
Silicosis	3
Coal workers' pneumoconiosis	5
References	6



Summary

The document can be found at: www.hse.gov.uk/statistics/causdis/pneumoconiosis/

Silicosis

- Annual new cases assessed for Industrial Injuries Disablement Benefit (IIDB) have reduced during the last 10 years from around 80 cases per year on average during 2005-2007 to around 40 cases per year during 2013-2015.
- Over 50 estimated new cases were identified by specialist chest doctors in both 2014 and 2015. Prior to this annual estimated cases fluctuated between 10 and 30 cases per year.
- There have typically been between 10 and 20 annual deaths from silicosis over the last 10 years, with 10 deaths in 2014.

Coal workers' pneumoconiosis

- Annual new cases assessed for IIDB have reduced since 2005-2007. Since then there have been 200-300 cases per year, with 220 in 2015.
- Estimated numbers of annual new cases identified by specialist chest doctors fluctuated substantially year-on-year averaging around 25 cases per year. There were 48 cases in 2014 and 2 cases in 2015.
- Annual deaths from pneumoconiosis have remained relatively constant over the last 10 years with an average of around 140 deaths per year, and 141 deaths in 2014.

Introduction

Pneumoconiosis is a serious lung disease caused by inhaling various forms of dust in certain kinds of occupations.

The most common forms are coal workers' pneumoconiosis (due to coal dust), silicosis (due to respirable crystalline silica (RCS)), and asbestosis (due to asbestos). The different forms of disease are usually identified based on assessment of an occupational history of exposure to one of these dusts.

This report describes available statistics for forms of pneumoconiosis other than asbestosis, which is covered in a separate report available at <http://www.hse.gov.uk/statistics/causdis/asbestosis/index.htm>.

Pneumoconiosis is a "long latency" disease which typically develops gradually over a number of decades following exposure to these dusts and can eventually be fatal. Current and recently occurring cases and deaths therefore largely reflect the effect of past working conditions.

Statistics based on individual cases of pneumoconiosis occurring in Britain are available from the three sources:

- cases assessed for Industrial Injuries Disablement Benefit (IIDB) (main source table IIDB01 www.hse.gov.uk/statistics/tables/iidb01.xlsx).
- cases identified by specialist chest doctors within the Health and Occupation Reporting (THOR) scheme (main source table THORR01 www.hse.gov.uk/statistics/tables/thorr01.xlsx).
- deaths recorded with pneumoconiosis as the underlying cause (Table DC01 www.hse.gov.uk/statistics/tables/dc01.xlsx).

Silicosis

Statistics for silicosis are shown in Figure 1.

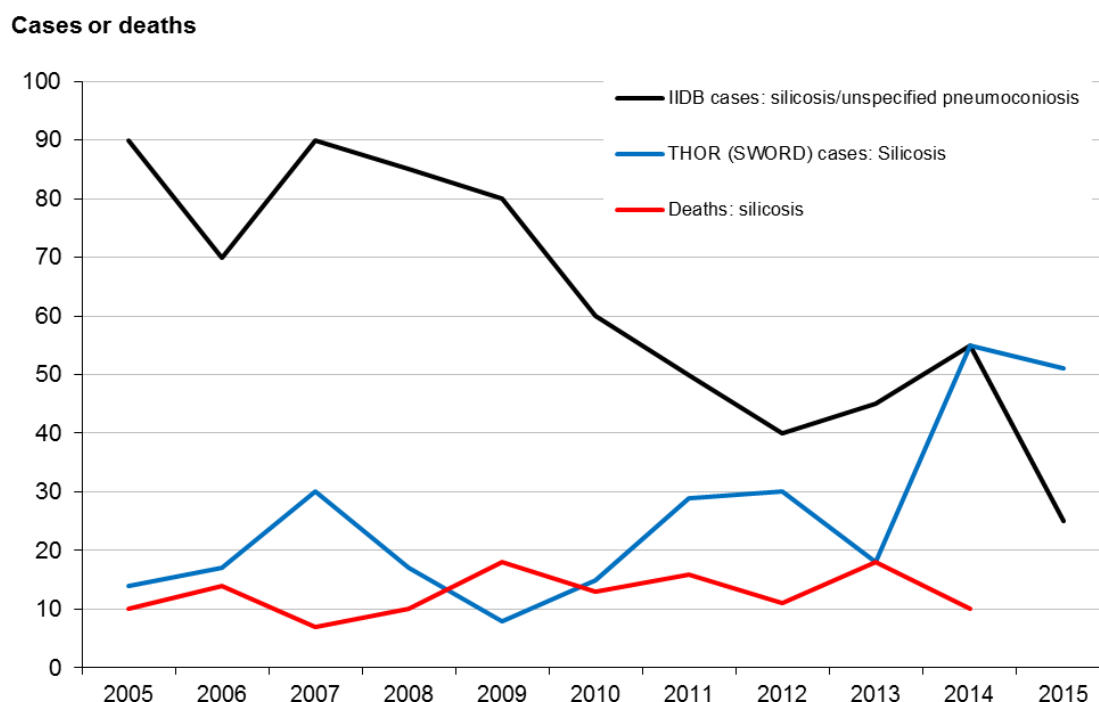
- The majority of IIDB cases that are not due to coal or asbestos are silicosis*. Numbers of annual new cases in this category have reduced during the last 10 years from around 80 cases per year on average during 2005-2007 to around 40 cases per year during 2013-2015.
- Over 50 estimated new cases of silicosis were identified by specialist chest doctors in both 2014 and 2015. Prior to this annual estimated cases fluctuated between 10 and 30 cases per year.
- There have typically been between 10 and 20 annual deaths from silicosis over the last 10 years, with 10 deaths in 2014.

Given the different patterns suggested and the limitations of these data sources it is difficult to draw any firm conclusions about an overall trend in silicosis incidence during the period.

Both the IIDB and THOR data sources are likely to substantially underestimate the incidence of silicosis. Estimates of annual lung cancer cases due to past exposures to silica (nearly 800 deaths per year)¹ imply that the extent of underestimation of silicosis by IIDB and THOR was substantial, since many such lung cancers would be expected to develop from among highly exposed workers who were also developing silicosis. Estimates of the risk of silicosis following long-term exposure², together with information about the likely extent of past exposures in Britain, also suggest that silicosis incidence could be much higher than recorded in the available IIDB and THOR statistics.

* Causal agents other than coal or asbestos are not recorded in the IIDB scheme, but details of the industrial setting in which cases occurred suggest that the majority of other cases are in fact silicosis.

Figure 1: Silicosis in Great Britain, 2005-2015



The analysis of cases reported within the THOR scheme during the 10-year period 2006-2015 showed that the following industries and occupations were most commonly associated with silicosis cases:

- Stonemasons and bricklayers (26% of actual reported cases)
- Other construction-related occupations (25% of actual reported cases)
- Mining and quarrying (20% of actual reported cases)
- Foundry-related occupations (13% of actual reported cases)

The role of silica exposure in work-related respiratory disease is also supported by information about how individuals currently with “breathing or lung problems” thought that work had caused or made their illness worse, according to the Labour Force Survey (LFS).

The most recent estimate of the annual prevalence of work-related respiratory disease (based on data from the LFS in 2013/14, 2014/15 and 2015/16) suggests that around 141,000 people who had ever worked currently had breathing or lung problems caused or made worse by work (95% Confidence Interval: 123,000 – 159,000). Based on questions about what respondents thought was the cause of their work related illness in the 2009/10, 2010/11, and 2011/12 surveys, “Dusts from stone, cement, brick or concrete” contributed in 19% of estimated cases of breathing and lung problems.

Coal workers' pneumoconiosis

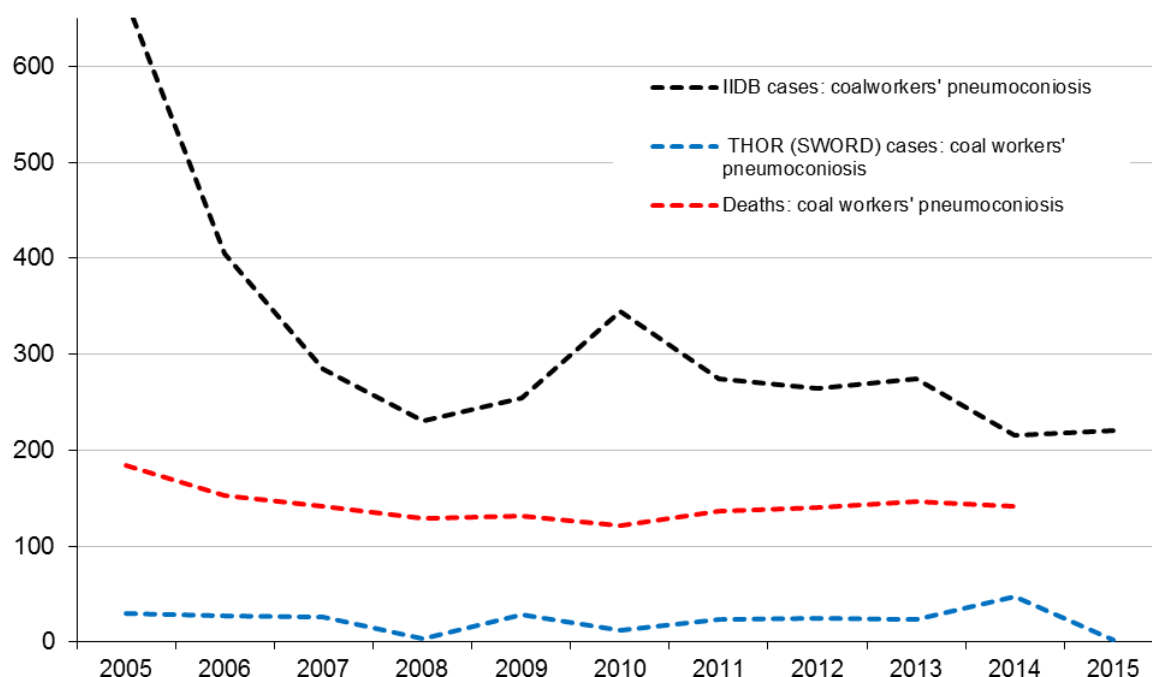
Statistics for coal workers' pneumoconiosis are shown in Figure 1.

- Annual new cases assessed for IIDB reduced during 2005 to 2007. Since then there have typically been 200-300 cases per year, with 220 in 2015, the most recent year.
- Estimated numbers of annual new cases identified by specialist chest doctors fluctuated year-on-year with an average of around 25 cases per year. There were an estimated 48 cases in 2014 and 2 cases in 2015.
- Annual deaths from pneumoconiosis other than silicosis and asbestosis (which are mainly coal workers pneumoconiosis) have remained relatively constant over the last 10 years with an average of around 140 deaths per year, and 141 deaths in 2014.

Current numbers of annual coal workers' pneumoconiosis cases and deaths are now lower than in previous decades and this reflects an overall reduction in exposure to coal dust over time driven, at least in part, by the substantial reduction in the size of the coal mining industry since the 1980s.

Figure 2: Coal workers' pneumoconiosis in Great Britain, 2005-2015

Cases or deaths



Both the IIDB and THOR schemes indicate that most cases of pneumoconiosis occur in men over retirement age (see table IIDB07 www.hse.gov.uk/statistics/tables/iidb07.xlsx and THORR02 www.hse.gov.uk/statistics/tables/thorr02.xlsx). For example, over 90% of non-asbestos pneumoconiosis IIDB cases assessed in 2015 were over 65 years of age.

References

1. Rushton L, et al. (2012) Occupation and cancer in Britain. British Journal of Cancer 107;(Supplement 1):S1-S108
2. Health and Safety Commission. (2005) Control of Substances Hazardous to Health Regulations 2002 (as amended 2005). Proposal for a Workplace Exposure Limit for Respirable Crystalline Silica. Consultative Document CD203. HSE Books, Sudbury, Suffolk. www.hse.gov.uk/consult/condocs/cd203.pdf (Page 12, Table 1)

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