Health and Safety
Executive

HSE

Managing health risks in construction

- *What more can we do ?*

Ian Strudley

Health Risk Management Unit

HSE Construction Sector

A convert … ?

'What I saw last week was the extent to which longer term health issues tend to take second place to managing immediate safety risks. Things get put on the 'to-do' list but somehow never get done, leaving people at risk....'

Judith Hackitt 13 August 2012

Anything new ?

HSE

Health and Safety at Work etc. Act 1974

Anything new ?

Health and **Safety at Work etc. Act 1974**

The scale of the problem

Number of construction safety related fatalities 2011 / 2012:

- 42
- 50
- 93

The scale of the problem

Number of construction safety related fatalities 2011 / 2012:

- 42
- 50
- 93

The scale of the problem

Estimated number of construction asbestos related fatalities each year:

- 500
- >1000
- >2500

The scale of the problem

Estimated number of construction asbestos related fatalities each year:

- 500
- >1000
- >2500

The scale of the problem

Estimated number of construction silica related fatalities each year:

- 100
- 200
- 500

The scale of the problem

Estimated number of construction silica related fatalities each year:

- 100
- 200
- 500

The scale of the problem

Number of construction days lost due to safety related issues 2011 / 2012:

- 0.6 million
- 1.0 million
- 1.6 million

The scale of the problem

Number of construction days lost due to safety related issues 2011 / 2012:

- 0.6 million
- 1.0 million
- 1.6 million

The scale of the problem

Number of construction days lost due to health related issues 2011 / 2012:

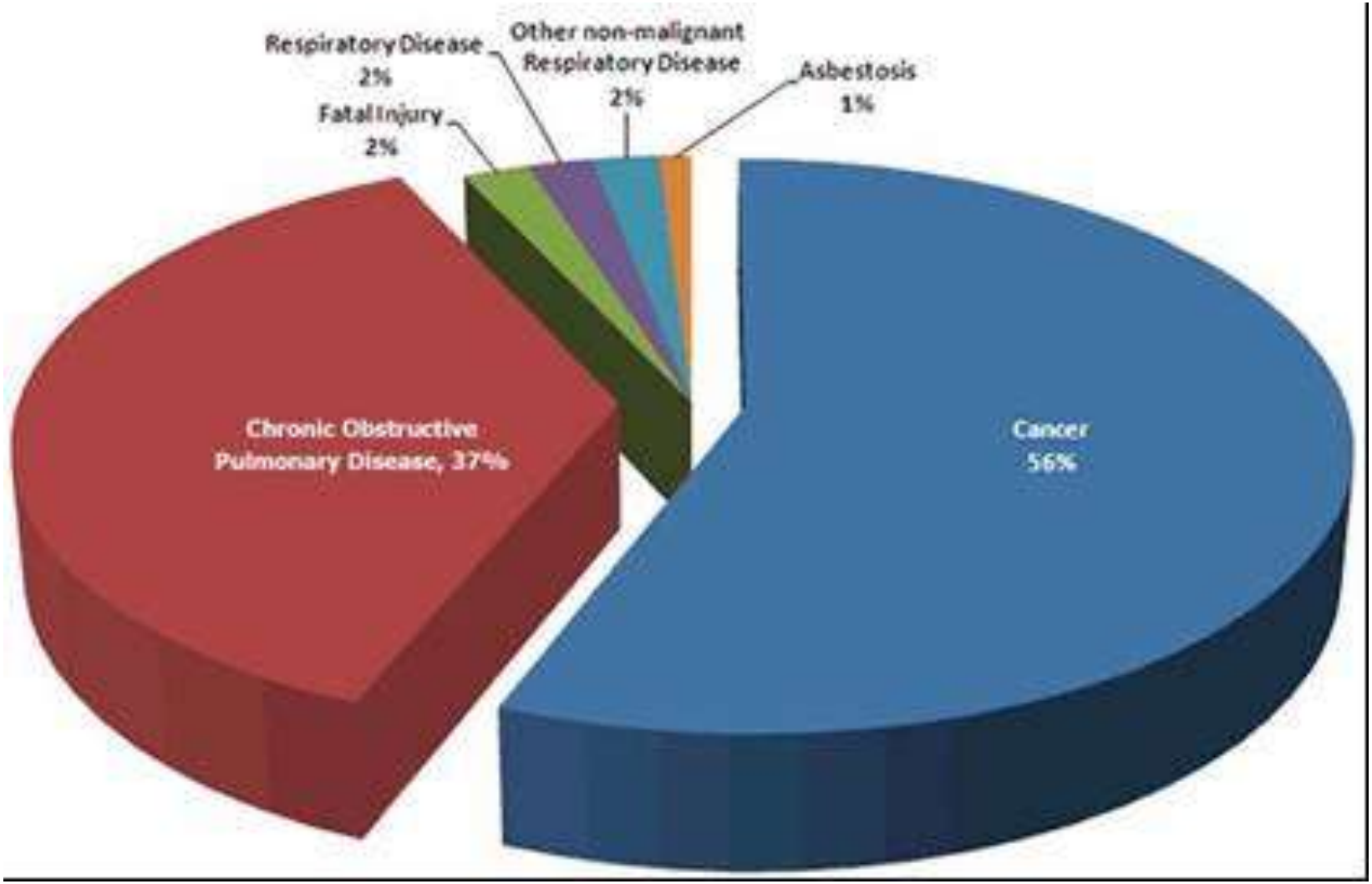
- 1.3 million
- 1.7 million
- 2.1 million

The scale of the problem

Number of construction days lost due to health related issues 2011 / 2012:

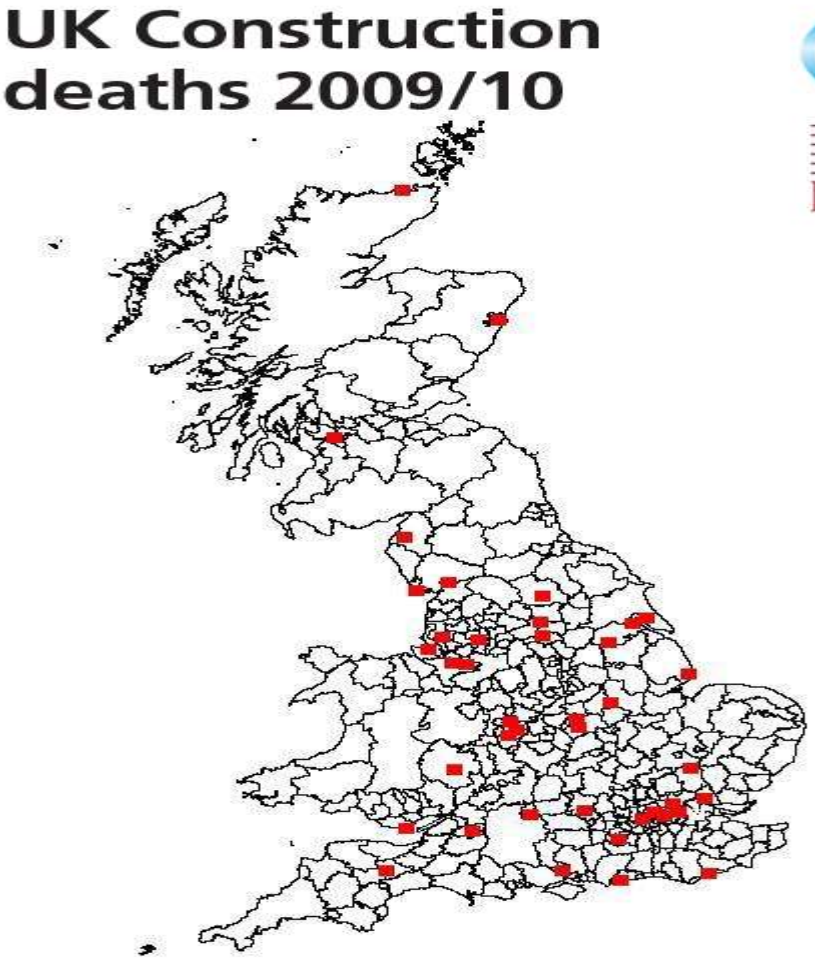
- 1.3 million
- 1.7 million
- 2.1 million

Accident v Ill Health Fatals



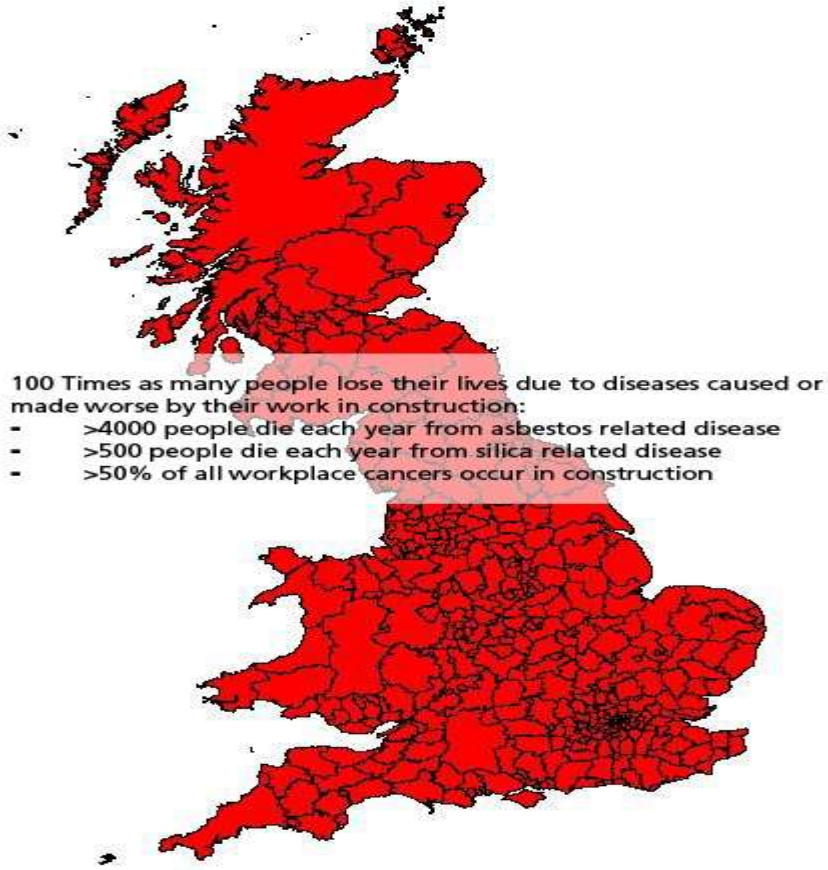
So… safety….

Vs.



Deaths from ill-health

Health map



100 Times as many people lose their lives due to diseases caused or made worse by their work in construction:

- >4000 people die each year from asbestos related disease
- >500 people die each year from silica related disease
- >50% of all workplace cancers occur in construction

What *are* HSE doing….

- Working with others *in partnership*
  - CONIAC Health Risks Working Group
  - Supply chain
  - Dust partnership
  - Constructing Better Health (CBH)

What *are* HSE doing…..(1) – CONIAC Health Risks Working Group

- What is ‘occupational health’
  - Guidance for employers, employees, designers
  - *‘Myth busting’* – e.g. health surveillance
- Future focus on ‘Top 5’ risks
  - *‘Burden of occupational cancer’* report

Burden of occupational cancer

Lesley Rushton / Imperial College London:

http://www.nature.com/bjc/journal/v107/n1s/index.html

- Asbestos
- Solar radiation
- Silica
- Painters
- Diesel EEE
- PAH – Coal tars / pitches

What *are* HSE doing..(2) Supply chain

- Supply chain – strands to date :
  - Manual handling of kerbs and paving, heavy blocks, plasterboard
  - silica exposure from kerb and paving cutting + cutting roof tiles
  - HAV from portable vibrating tools
- Current one :
  - *Paving, road and highway work*

What *are* HSE doing…..(3) - CBH

constructing **better** health

IMPROVING WORKPLACE HEALTH

What *are* HSE doing…..(4) – silica /dust

- Priority Inspection Topic since 2009
- Very good stakeholder buy-in

Control of silica risks : roof tile cutting

Wet Cutting =

- Dedicated cutting area
- Scaffold board protection
- Associated RPE use

Interim Position

Valleys

- Cut in-situ using Protection Factor 20 RPE

What about RPE

Disposable (FFP3)

Powered Respirator with Hood

PF = 20

What about RPE

Must fit correctly

Be worn correctly

Valley Tiles

HSL found significant short term exposures:

- Silica: 1.7 – 9.9 mg/m3
- Respirable dust: 3.9 – 50 mg/m3
- Inhalable dust also very high

Valley Tiles

- NFRC guidance
- Supported by HBF, NHBC, roofing training groups
- Bedding in period

NFRC THE NATIONAL FEDERATION OF ROOFING CONTRACTORS LIMITED
September 2012

HEALTH & SAFETY GUIDANCE SHEET s

CONTROLLING SILICA WHEN DISC CUTTING ROOF TILES

1. INTRODUCTION

This guidance sheet gives information about the control of Respirable Crystalline Silica (RCS) issues associated with the disc cutting of concrete and clay roof tiles. However, the requirement to use water suppression applies to all roof tiles and related roof coverings such as artificial slates, concrete slates etc as well as all related fittings. This guidance note does not cover the practice of hand cutting, with the exception that this is recommended where possible to further reduce the risks.

Roof tiles often need to be cut in the verge, ridge, hip and valley area. Most roofers use a disc cutter saw for this. These saws produce large amounts of dust that contains silica that can easily be inhaled by the operator and others in the vicinity. Over time this dust can be very harmful to the lungs. Because of this it needs proper control in line with the Control of Substances Hazardous to Health Regulations (as amended) 2002 – commonly known as COSHH.

The Health and Safety Executive (HSE) has, for some time, seen the control of silica dust as a priority. NFRC has worked with them and others within the housing industry to provide a practical solution to this issue. This resulted in an interim agreement to use water suppression and respiratory protective equipment (RPE) for the cutting of all roof tiles except for valleys. Here, the established industry practice of only using RPE was allowed to continue. Wet cutting these tiles created a number of difficulties that some felt could not be effectively overcome at the time. There was also insufficient information on the level of risk created.

Subsequently, HSE has undertaken further work in this area. This has revealed that the levels of silica dust created when dry cutting valley tiles is much higher than published safety limits. Following a series of tests, effective methods of wet cutting valley tiles have also been devised. HSE therefore wants a high standard of control for cutting all roof tiles. This guidance note has been produced to assist members in complying with this requirement and COSHH. HSE will expect roofing contractors to follow it from 1st October 2012.

2. THE RISK

Silica is a natural mineral found in large amounts in things like sand, sandstone and granite. It is also commonly found in many construction materials such as concrete and mortar. The silica is broken into very fine dust (also known as Respirable Crystalline Silica or RCS) during many common tasks such as cutting, drilling and grinding. It is often called silica dust.

Silica dust damages lungs and airways. It can cause lung cancer, silicosis and Chronic Obstructive Pulmonary Disease (COPD). While some of these lung diseases, like advanced silicosis, can come on quite quickly, most take a long time. Often this is over years. They happen because regularly breathing even small amounts of dust add up and damage the lungs and airways. Unfortunately, by the time the damage is noticed it is more difficult to treat. Because of this it is important to limit the amount of silica dust every time work is done so that the total amount someone may breathe in over the years does not build up.

Even though roof tiles can be cut quickly this does not mean that the work is low risk. HSE has found that dry cutting a single valley side can produce very high silica levels. COSHH sets a limit on the amount of silica dust that someone can breathe This limit is not large. The image shows the maximum amount of silica you can breathe when averaged over a normal working day as compared to a penny. This limit is the legal maximum, the most you can breathe after the right controls have been used. For tasks that can create high levels of silica, like cutting roof tiles these controls have to be very good as the risk from the silica is high.

1

Thank you for listening

Any questions ?

Ian Strudley

HM Principal Inspector

Head of Health Risk Management Unit

Construction Division

HSE

01256 404085

ian.strudley@hse.gsi.gov.uk