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**Occupational Respiratory Diseases: Review of  
HSE's Strategy  
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## **ACKNOWLEDGEMENTS**

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## **EXECUTIVE SUMMARY**

In July 2004, HSE convened a workshop to discuss whether or not there is adequate justification for devoting resource to a programme of work aimed at reducing the incidence of non-asthma forms of occupational respiratory disease, and in particular, whether or not work-related COPD should be a priority within such a programme. To facilitate discussions, participants had been provided with a draft HSE document outlining the evidence on the scale of occupational respiratory diseases (other than asthma) in the UK, using evidence from international studies where necessary to help address gaps in knowledge. This paper provides a summary of the workshop presentations and main discussion points.

### **Key Findings**

Consensus opinion supported the view that occupational exposures are likely to make a significant contribution to the population burden of COPD in the UK and work-related COPD should be a priority for action within HSE's Chemicals Programme.

The workshop noted the absence of direct information on the extent of occupational COPD in the UK and felt that this should be addressed. .

It was suggested that risk reduction activities would be best focused on where priority exposures are highest in industry but this would require intelligence on exposure conditions.

Two broad types of strategy approach were identified, one which adopted a "broad-brush approach" where exposure controls etc. were adopted that attempted to reduce exposures generally across industrial sectors, and a second which adopted a more "focused approach" where sector and substance specific issues were targeted.

In addition to concerns for work-related COPD, concerns were also expressed in relation to particular substances, notably crystalline silica. Other substances identified as warranting consideration in the strategy were welding fumes and other irritant gases/vapours, diesel engine exhaust emissions and nanoparticles.

Delivery of the strategy aims was argued to require a combination of more effective enforcement and, where appropriate, stricter regulation, in parallel with better communication of best practice.

The term, "nuisance dust", used widely both in industry and by the regulator, was judged to be counterproductive in the attempt to communicate the adverse respiratory health effects associated with occupational dust exposure.

The effectiveness of using advice sheets to communicate best practice was questioned given that they often fail to reach the relevant workers in the workplaces being targeted and considering the average reading age of the UK workforce. Bearing in mind the latter, the importance of working with workers to produce guidance information was highlighted.

The use of qualitative assessments of exposure, for example, the assessment of workers attitudes to exposure control, as much as the establishment and promotion of exposure monitoring, was regarded as important.

#### Questions still to address

- What is the occupational COPD burden in the UK?
- Is there a role for health surveillance in determining the effectiveness of the strategy?
- And a role for health surveillance of workers for work related COPD per se?

#### Options for communication

- Target workforce specifically, not just employers, therefore simple messages essential
- Communicate risk to workers via local stories/case studies
- Training of primary care professionals in occupational health
- Communicate clearly defined solutions/best practice that inspectors can easily enforce

#### How to overcome barriers

- Raise awareness of the issue of dust control in workplaces
- Address the misnomer of the widely used term “nuisance/inert dust” in both workers and professionals
- Convince stakeholders that addressing the possible 10-20% burden of COPD attributable to workplace is worthwhile
- Promote better reporting of occupational disease cases to SWORD, perhaps by reaching consensus agreement on common standards for diagnosis

#### Important partnerships

- Employers/employees
- Central/local government
- Contractors and those determining contractor arrangements
- Insurance companies
- Training providers

#### Suggested short-term actions

- Review COSHH position on dust levels of  $10/4 \text{ mg m}^{-3}$  for inhalable/respirable dust
- Address misnomer of nuisance/inert dust in both workers and professionals
- Raise awareness of issue of dust control in workplaces
- Promote industry specific information and guidance on exposure control
- Review evidence regarding associations between priority exposures and diseases

#### Suggested longer-term actions

- Demonstrate any interventions aimed at reducing disease incidence are having the desired effects
- Develop communication plan to relay central messages of strategy to workplaces/workforces

## **BACKGROUND TO WORKSHOP**

Occupational respiratory diseases encompass a broad spectrum of conditions, of which perhaps the most familiar and well publicised is occupational asthma. Indeed, occupational asthma has been singled out in the UK with a specific target of reducing its incidence by 30% by the year 2010. There is already a well-defined strategy and programme of activities in the UK spearheaded by HSE for meeting such a target. However, occupational asthma is not the only occupational respiratory disease that exerts a societal burden in the UK.

In July 2004, HSE convened a workshop to discuss whether or not there is adequate justification for devoting resource to the problem of non-asthma forms of occupational respiratory disease, in particular, work-related COPD. To facilitate discussion, participants had been provided with a draft HSE document outlining the evidence on what is known about the extent of occupational respiratory diseases in the UK. The primary aim of the workshop was to share opinion on the content of the HSE document then determine a scope for action. This report provides a summary of the workshop presentations and main discussion points.

## **SUMMARY OF WORKSHOP PRESENTATIONS**

### **HSE DRAFT STRATEGY DOCUMENT FOR NON-ASTHMA OCCUPATIONAL RESPIRATORY DISEASE**

The first presentation of the workshop provided a summary overview of HSE's draft strategy for dealing with non-asthma forms of occupational respiratory disease. Following an initial review of evidence from a variety of sources, including UK national statistics and studies reported in the published scientific literature, it was concluded there was particular grounds for concern for occupationally related chronic obstructive pulmonary disease (COPD). Occupational exposure to respirable crystalline silica was also felt to be an important issue that should be addressed. Other issues that warranted consideration included respiratory disease in the agricultural sector, welding fumes and other irritant gases/vapours, diesel engine exhaust emissions and nanoparticles. A worrying trend for a possible increase in the incidence of respiratory disease in coal miners was noted, but it was noted that changes to the Respirable Dust Regulations in underground coalmines were being implemented and that no additional actions would be undertaken at this time.

### **HSE SILICA ACTION PLAN**

The second presentation provided a background to HSE's Silica Action Plan. Silica was suggested to be a worthy priority for action because of the very large numbers of workers regularly exposed to respirable crystalline silica in a wide variety of different industry sectors; new evidence on the quantitative risks of developing silicosis suggest that the risks are substantially higher than were previously realised; statistics from the Industrial Injuries Scheme show that there has been no decline in the annual incidence of silicosis in the UK for the last 10-13 years; HSE is concerned that there are still situations where exposures to silica are not adequately controlled. Central to the plan is the development of a new occupational exposure limit for respirable crystalline silica (RCS). The current UK position is that RCS is subject to a maximum exposure limit of  $0.3 \text{ mg.m}^{-3}$  (8-hour TWA) HSE plans to issue a Consultative Document proposing a new limit for respirable crystalline silica by the end of 2004. The Plan also recommends the development of COSHH Essentials style guidance for control of RCS, the initiation of an exposure monitoring/control intelligence programme and a review of the current HSE stance regarding health surveillance of workers exposed to RCS. A major inspection initiative to be carried out by HSE's Field Operational Division is also planned. Although silicosis was the key health concern underpinning the Action Plan, the workshop discussed whether or not silica might also be a significant cause of COPD. Opinions were divided on this matter; one view was that COPD was more of a problem than silicosis but another expert opinion was that silica was a relatively weak cause of COPD. HSE plans to review the evidence surrounding this issue in the coming months.

### **THE INTERNATIONAL PICTURE**

A third presentation introduced key points in the 2003 American Thoracic Society Statement on COPD and occupation and summarised data from recent population studies including UCSF's COPD study. The ATS 2003 statement communicates the key findings of a review of studies investigating links between occupation and asthma and COPD, quantifying disease risk attributable to workplace exposures based on collective findings. The median PAR% estimate reported for chronic bronchitis is 15%, for COPD related breathlessness, 13%, and for COPD related airflow obstruction, 18%. Based on such evidence, the ATS statement regards 15% a reasonable estimate of the occupational contribution to the population burden of COPD. This estimate is based on an analysis of ten large-scale general population studies conducted in the

United States, France, Spain, Norway, the Netherlands, Northern Italy, China and New Zealand. This estimate is also supported by a few additional studies published too recently to have been included in the ATS analysis. A number of industries are identified associated with higher prevalences of COPD; these are construction, mining, utilities, leather/rubber/plastics manufacture, chemical processors, food industry, and textiles. A number of substances associated with higher risks of COPD are also identified; these are wood dust, glass fibre, metal fumes, crystalline silica and welding fume.

The UCSF study was specifically designed to estimate the occupational risk of COPD in the US general population. Subjects were recruited to the study across a wide range of industries, occupations and demographic categories, although particular emphasis was placed on recruiting older age groups at supposed greater risk, individuals with doctor diagnosed COPD/asthma, and individuals living in states with higher COPD related mortality. Occupational exposures were determined on the basis of self-reported exposure to vapours, gases, dust and fumes, with emphasis placed on exposure from the longest held job, while disease status was defined on the basis of a self-reported physician diagnosis of COPD, emphysema or chronic bronchitis. Consistent with the ATS Statement, between 9 and 20% of COPD is reported attributable to occupational exposures.

## **COPD – A PRIORITY FOR THE WORKPLACE**

The next presentation introduced key issues requiring consideration in the development of an effective strategy for dealing with work-related COPD. Given the individual and societal costs of the disease as well as the costs incurred by industry, the point was re-iterated that the argument for HSE addressing the problem was strong. However, a strong evidence base was identified as key to support the instigation of strategy actions and the development of such an evidence base was suggested to be a major challenge facing HSE bearing in mind the rather limited resources available. Issues in the optimisation of the scope of a strategy when the strategy focus is specific were then highlighted, in particular the potential for uncoordinated activity and the direction of resource away from prevention and control. The importance of a high level of technical understanding and the difficulty in distinguishing between different categories of obstructive respiratory disease, including COPD, asthma, emphysema and chronic bronchitis, were also emphasised. These challenges were put forward as supporting the viewpoint that a strategy targeting respiratory disease generally may be more effective in reducing the burden of disease.

## **UK SURVEILLANCE OF OCCUPATIONAL RESPIRATORY DISEASE**

The final presentation of the workshop provided a brief introduction to THOR, the health and occupational reporting network, a surveillance scheme established in the UK for the reporting of cases of occupational related disease. THOR is made up of a number of sub-schemes, each specialising in a certain category of occupational disease, cases of occupational related respiratory disease being reported to SWORD.

SWORD classifies disease into 10 sub-categories, including: 1) asthma due to sensitisation, 2) irritation (RADS), 3) inhalation accidents, 4) allergic alveolitis, 5) bronchitis/emphysema, 6) infectious disease, 7) non-malignant pleural disease, 8) predominantly diffuse, 9) mesothelioma, 10) lung cancer, 11) pneumoconiosis and 12) other. The SWORD reporting scheme is made up of 440 occupational and chest physicians, the majority reporting cases seen over a one-month period, which are annualised by multiplying by 12, the remainder of physicians report every case of occupational respiratory disease seen.

In 2003, core reporters reported 20 cases of bronchitis/emphysema to SWORD, while non-core reporters reported 5 cases (giving an annualised figure of 60 cases). Therefore, the estimated total number of cases in 2003 was 80. The equivalent figures for 2000-2002 were 144, 48 and 30 respectively. The five most important occupations contributing close on 60% of all cases of bronchitis/emphysema over the periods 1989-2003, were identified as coal miners (22%), dock workers (17%), welders (16%) and petroleum workers (2%). The five most important substances attributed to cases of bronchitis/emphysema reported to SWORD between 1989-2003, were identified as welding fume (31%), coal (20%), ill-defined fumes/gases (7%), dusts (5%) and silica (3%).

The main weaknesses of the data from SWORD were identified to be: 1) participating physicians are likely to see only a fraction of total cases, 2) annualised estimates of cases seen by non-core reporters is dependent on the number of cases seen during the reporting month, which may not reflect the annual picture, 3) inter-year comparison of data/plotting of trends is difficult because of uncertainties in denominators, 4) physicians are likely to have widely different thresholds for diagnosis, this is likely to be particularly the case for COPD because of the difficulties in diagnosing, variations in clinical approaches etc., 5) information reported on cases, i.e. on disease, symptoms and severity, and putative causative agent, is of limited detail, and 6) data reported on cases may be inaccurate/unreliable and subject to reporting fatigue. It was suggested that such limitations would be addressed somewhat via: 1) the provision of physician guidelines for reporting to SWORD, 2) changes to the type of data reported, and 3) the establishment of agreed standards for disease diagnosis.

## **DISCUSSION POINTS**

The following themes were identified prior to the workshop to be considered in group discussions: 1) the robustness of HSE's case for a non-asthma occupational respiratory disease strategy, 2) an assessment of the scope of the strategy, its priorities and the identification of any gaps, 3) the identification of effective methods of strategy delivery, and 4) how to evaluate the success of the strategy. Main discussion points are summarised in the four sections that follow.

### **CASE FOR STRATEGY**

Consensus opinion supported the view that COPD was likely to be a problem in the UK that needed addressing, and that the 15% PAR estimate from the ATS was likely to be broadly representative of the situation in the UK, particularly considering that much of the supporting evidence derives from studies in Northern European countries where the pattern of industrialisation is likely to be similar to that in the UK. However, the absence in the scientific literature of population based studies of occupational COPD for the UK was suggested to require addressing so that benchmark disease prevalence figures may be established against which the success of any intervention strategies may be judged. Assuming the 15% figure for the total COPD burden that is work related to be representative of the situation in the UK, then by way of simple interpolation, bearing in mind the total COPD burden in the UK, there were argued to be as many as: 1) 135,000 diagnosed cases of work related COPD in UK, 2) 60,000 cases of work related COPD below retirement age, 3) 14,000 cases of work related COPD unable to work, and 4) 3,000,000 working days lost due to work related COPD (figures based on UK COPD statistics reported by ONS). These estimates were suggested to be consistent with the estimate quoted in a recent UK Labour force survey of people reporting breathing and lung problems caused by work.

### **SCOPE**

An appropriate scope for a UK strategy addressing the problem of non-asthma respiratory disease was actively debated. In maximising the potential for success, two important considerations were identified, specifically, that the strategy was aimed toward: 1) the preventable component of disease risk at the individual level, and 2) preventing disease within industrial sectors where the disease burden is particularly large. The merits of shifting the focus of the strategy from disease to exposure were discussed. Intelligence on where priority exposures are highest across industry, perhaps rather than where ill health is highest, was identified as key in establishing an appropriate scope for the strategy. Interventions could then be targeted accordingly. Two broad types of strategy approach were identified, one which adopted a "broad-brush approach" where exposure controls etc. were adopted that attempted to reduce exposures generally across industrial sectors, and a second which adopted a more "focused approach" where sector and substance specific issues were targeted. Given the rather patchy nature of the evidence base for many of the substances prior identified for consideration in the strategy and the fact that the causes within workplaces of individual diseases are often multifactorial, a broad-brush approach was agreed by many to be more appropriate. In addition, given the likely overlap between elements of HSE's various occupational respiratory strategies, for example, asthma, non-asthma and cancer, and constituent preventative strategies, attributable to the fact that such diseases share common or similar aetiologies and pathological mechanisms, the argument for a broad-brush strategy approach is further strengthened. Indeed, these together with the clinical difficulties in distinguishing between different respiratory diseases from a diagnostic point of view, in particular, between asthma and COPD, beg the question whether a multiple strategy approach is necessary, or whether an overarching generic respiratory strategy in which generic exposure control measures etc. are employed aimed at

reducing occupational respiratory disease generally, may be more manageable, practicable and ultimately successful. However, those favouring a more focused approach argued that a broad-brush approach would be unable to address key issues specific to particular industries and processes.

The evaluation of the results of studies published recently in the scientific literature in HSE's draft strategy document was suggested to point to a number of potential priority substances that should be covered by the strategy and others where further research into respiratory health effects would be of benefit. The evidence base for respirable crystalline silica exposure and its association with silicosis and COPD within the strategy was judged strong although current understanding was deemed lacking as to which disease was the lead health effect. Disease risks among construction workers, especially tunnellers, were regarded as particularly high. With regard to welding fumes, notwithstanding the perceived gaps in knowledge regarding respiratory health effects, the pollutant was argued to be rightly identified in the strategy as a respiratory hazard, although more work was deemed necessary before the true extent of the health risk across Great Britain could be characterised. Evidence collated so far on diesel engine exhaust emissions (DEEE's) was deemed not sufficiently consistent or robust to allow a judgement as to its priority status within the strategy. Irritant gases, such as aldehydes, within DEEE's were identified as the likely causative agents for acute irritant effects of DEEE exposure, but the particulates component was suggested to be of more concern for chronic long-term respiratory ill health. Occupational exposure to irritant gases such as ammonia, chlorine, nitrogen oxides, ozone, and sulphur dioxide, was suggested to be widespread across a range of different industry sectors. Although epidemiological evidence and/or evidence from studies in laboratory animals was deemed sufficient for such gases to be considered risk factors for the development of COPD, further work was deemed important before a decision could be made on the appropriate priority status of such gases within the strategy. The consensus of opinion in the published scientific literature was suggested to point towards an increased risk of chronic bronchitis, and by implication potentially COPD also, in agricultural workers. The evidence was described as complex and was suggested to require careful evaluation in order to discriminate between asthma and non-asthmatic conditions, and to delineate the various roles of chemical and endotoxin exposures. Further evaluation work was judged necessary prior to reaching a decision as to appropriate actions.

## **DELIVERY**

Delivery of the strategy aims was argued to require a combination of more effectively enforced and, where appropriate, stricter regulation, in parallel with better communication of best practice.

The term, "nuisance dust", used widely both in industry and by the regulator, was judged to be counterproductive in the attempt to communicate the adverse respiratory health effects associated with occupational dust exposure. Also highlighted was the need to communicate the adverse health effects associated with other exposures, including vapours, gases and fumes. Substantial data exists describing the dose response relationship between dust exposure and occupational respiratory disease for UK miners. It was suggested that such data might be used to extrapolate to safe levels of "other dusts" and safe dust levels for UK workers as a whole. This information may then be used as a benchmark for developing guidance under COSHH for "low toxicity dusts". The UK position regarding dust, currently, is that dust is regarded as hazardous to health in the COSHH regulations at concentrations of 4 and 10 mg/m<sup>3</sup> (8-hr TWA) for respirable and total inhalable dust respectively. It was highlighted that these values have no scientific basis and that it is not known the extent of health protection they confer. Encouraging industry via ACTS and IACs, perhaps through the provision of financial incentives or

otherwise, to establish their own performance targets for reducing work-related respiratory disease was suggested as an alternative approach to tightening statutory legislation.

The effectiveness of using advice sheets to communicate best practice was questioned given that they often fail to reach the relevant workers in the workplaces being targeted and considering the average reading age of the UK workforce. Bearing in mind the latter, the importance of working with workers to produce guidance information was highlighted. The potential effectiveness of alternative lines of media/communication was also considered.

On the health side, the relative merits of health surveillance, the form it should take and whether it should be a statutory requirement for certain industries, were all actively debated. The main problem in recommending removal of an occupational disease case from an exposed workplace based on the results of lung function testing is that the need for repeated measures over time might result in delay and therefore a poorer prognosis. It was also suggested that physicians reporting to SWORD would benefit from suitable guidance, perhaps in the form of periodic evaluation of reporting with respect to mock cases, so that incoming data was more homogenous and therefore provided a better reflection of occupationally related disease morbidity.

## **EVALUATION**

Health strategies may be evaluated using either disease or exposure-based targets. For diseases such as COPD, the problem in using disease-based targets is that it is likely to be a long time before observable health benefits are realised because of the long latency associated with disease. In any strategy evaluation, demonstrating any interventions aimed at reducing incidence of work related COPD are having the desired effect was deemed key. This may be most directly achieved through the carrying out of a series of population studies over time, combining documentation of any changes in disease prevalence with measurement of any changes in attributable risk. However, it was also suggested that emphasis should be placed on documenting raised awareness of the possible occupational component of disease in industry and good industrial practice, that is, effective control of exposures, as much as measuring exposure and disease. The use of qualitative assessments of exposure, for example, the assessment of workers attitudes to exposure control, as much as the establishment and promotion of exposure monitoring, was regarded as important. A challenge associated with evaluating the success of the strategy using PAR estimates is that for multifactorial diseases such as COPD, changes in prevalence of one risk factor, for example, decreased cigarette smoking, will impact on the PAR of another. Therefore, in any evaluation of success, the possible role of changes in significance of all main disease risk factors over time, in addition to work-related factors, needs to be recognised. Considering the likely importance of factors such as cigarette smoking, obesity and allergy over occupational factors, the effects of such factors may well shadow any reductions in disease incidence due to reductions in occupational exposures.

The merits of use of different markers of disease in studies, for example, morbidity versus mortality, clinical documentation versus symptoms questionnaire, spirometry and PEF versus BHR etc. were discussed. A difficulty in evaluating strategy success using disease-based surveillance is that respiratory diseases such as COPD have a wide spectrum of severity and the objective documentation of cases is often problematic. The use of different disease markers across studies inevitably results in heterogeneity in disease cases with respect to severity. Clinicians generally supported the use of FEV1 in surveys, whereas epidemiologists highlighted the resource implications of such surveillance and favoured the use of symptoms questionnaires. For population based health surveillance, standardised, validated self-administered symptoms questionnaires were suggested to have an important role because of the ease with which they

may be administered on large sample numbers. Alternatively, such information may be gathered quickly during a GP/physician consultation via the taking of a detailed occupational history. Effectively quantifying work related respiratory disease was suggested to be a challenge, although opinion was expressed that the presence of symptoms during the working week, e.g. cough and sputum production for COPD, that improved at weekends/on holidays, was a good marker. The best clinical marker of COPD was deemed to be documentation of a faster than normal decline in FEV<sub>1</sub> with age. However, the problem with using FEV<sub>1</sub> as an outcome measure is that any subtle benefits across large samples resulting from interventions may be difficult to detect. A key resource in evaluating success is the case data reported routinely as part of the SWORD surveillance scheme. Physicians attending the workshop suggested that the quality of such data would be improved through the provision of reporting guidance to reporters to the scheme.

## **SYNDICATE SESSIONS**

Workshop delegates were divided into two groups for discussions in two themed syndicate sessions (syndicate groups are detailed in a separate appendix).

### **SYNDICATE SESSION ONE**

The following broad themes were discussed by groups in Syndicate Session 1:

- Whether the science underpinning the proposed strategy are convincing
- How the issues should be communicated and to whom
- What barriers exist that might prevent implementation
- How would more stringent requirements for health surveillance be perceived by employers and workers
- What partnerships need to be made

Specific outputs reported back to workshop delegates were:

- A list of research questions still needing to be addressed
- A list of options for communication
- Recommendations as to how any barriers should be overcome
- A list of important partnerships and how they could be forged (if not already in place)

### **SYNDICATE SESSION TWO**

The objective of Syndicate Session 2 was to identify actions to be implemented by HSE over the short as well as medium-longer term that will succeed in realising the elements of the respiratory strategy. Specifically, each syndicate group reported back to workshop delegates a short term and longer term action, with the following recorded for each action identified:

- What the objective aims to achieve
- How the objective is to be achieved
- How success is to be evaluated

### **SYNDICATE SESSION FEEDBACK**

For clarity, the feedback from both workshop groups has been combined.

#### **Session 1**

##### ***Questions still to address***

- What is the occupational COPD burden in the UK –

Need to quantify problem in UK for credibility, benchmark required in order to assess success of interventions

- Is there a role for health surveillance as a tool for identifying workers at risk of COPD?

–  
Essentially, should be used as a mechanism for early detection, identification of precursor events. Need to determine merits of surveillance against costs.

- Is there a role for health surveillance as a tool for evaluating the success of the strategy?

- What form should any health surveillance take –

Need to address the issue of whether FEV1 is sufficiently sensitive to detect any improvements resulting from strategy implementation. In addition, need to reach agreement on the merits of health surveillance via use of symptoms questionnaires including the potential application of online questionnaires in the scoping of respiratory disease in worker groups. Alternatively, could existing routinely collected health data, for example that collected in primary care, be better made use of? If it is judged that health surveillance has a role, how frequently should it be carried out? For example, for workers exposed to silica, health surveillance is carried out every 2 to 3 years and a chest x-ray every 5 years. Is this adequate to distinguish significant drops in FEV1 from background noise? Drop of at least 200 ml would need to be demonstrated to achieve this.

### ***Options for communication***

Major challenge is effectively getting information across to SME's. However, even though 97% of businesses are SME's, bulk of UK workforce work for large employers therefore targeting these is essential. Large firms can help promote good practice to smaller businesses. Other groups to target include specific workforces, health professionals, inspectors, training providers such as Learn Direct (NVQ's), Business Link, insurance companies, trade associations and third parties who have access to SME's. In addition, perhaps could communicate central messages to workers before they enter employment.

#### *Workforce*

- Need to target workforce specifically, not just employers, therefore simple messages essential, central messages need to be delivered at all levels i.e. board level to factory floor
- Use COSHH Essentials approach
- Communicate risk to workers via local stories/case studies, real workers etc (no mention of regulations) highlighting health impacts of poor practices

#### *Health professionals*

- Need to communicate any agreed standards among health professionals, particularly amongst primary care
- Primary care is key in order to ensure cases are identified early enough to increase likelihood of good long term prognosis
- Primary care professionals would also benefit from training in the area of occupational health generally, e.g. to increase/improve occupational history taking and awareness of other clinical procedures of relevance in addressing occupational health problems among patients

#### *Inspectors*

- Communicate clearly defined solutions/best practice that inspectors can easily enforce

N.B. Changes to regulations and resources utilised in communication of best practice need to be proportional to the risks associated with work exposures

### ***How to overcome barriers***

Central to the success of any intervention is the raising of awareness of the issue of dust control in workplaces. This could be achieved via the use of HSE's website "Lungs at Work". Addressing the misnomer of the widely used term "nuisance/inert dust" in both workers and professionals would contribute toward this. A further major challenge is convincing stakeholders that addressing the possible 10-20% burden of COPD attributable to workplace is worthwhile, bearing in mind overwhelming importance of smoking. On a separate issue,

promotion of better reporting of occupational disease cases to SWORD, perhaps by reaching consensus agreement on common standards for diagnosis, would improve the quality of SWORD data and increase its usefulness as a resource for monitoring changes in disease occurrence in workforces.

### ***Important partnerships***

Employers, employees, central and local government, contractors and those determining contractor arrangements, insurance companies, training providers.

## **Session 2**

The actions documented below aim either to bring about reduced exposure to relevant pollutants in the workplace perhaps via the enforcement or promotion of good practice/exposure control or aim to document such practices and any resulting decreases in occupational disease burden. In evaluating the success measures aimed at reducing exposures or encouraging good practice there is a need to 1) demonstrate increased awareness/uptake by industry, 2) provide industry guidance to aid compliance (e.g. in the form of COSHH Essentials), and 3) provide guidance to regulators to aid enforcement. In addition, an important issue to consider in the establishment of health-based actions is that they inevitably require a long time horizon for possible success because of typically long latency period associated with disease onset.

### ***Short term actions***

#### ***Dust limits***

- Review the COSHH position on dust levels of  $10/4 \text{ mg m}^{-3}$  for inhalable/respirable dust
- Address misnomer of nuisance/inert dust in both workers and professionals
- Raise awareness of issue of dust control in workplaces using new HSE website “Lungs at Work”
- Promote industry specific information and guidance on exposure control

In order to achieve, will need to:

- Determine what levels of reduction in dust are reasonably achievable by industry
- Liaise with HSE’s WATCH/ACTS system
- Carry out a regulatory impact assessment

Evaluation of success:

- Need to show dust controls are being implemented and they’re having the desired effect of reducing dust exposure
- Also need to show change in level of awareness with respect to perceived risk of respiratory disease attributable to dust exposure (carry out in a sample of high risk workplaces)

#### ***Literature Review***

- Review of current evidence base regarding associations between priority exposures and diseases identified in strategy review document with a view to filling in knowledge gaps highlighted in strategy review document
- Review should include quantitative component where possible, i.e. quantification of any dose-response relationships between exposure and disease
- Review will aid the identification of where potential gains are in terms of potential for reductions in disease burden

In order to achieve, will need to:

- Define existing knowledge gaps (taking into account recent and current ongoing work e.g. IEH have recently completed such a review for welding fumes)

Evaluation of success:

- Completion of peer reviewed literature review paper as final deliverable

### ***Guidance for health surveillance***

- Evaluate merits of use of spirometry in COPD surveillance (i.e. practicalities of documenting significant drops in FEV1)
- Development of guidelines for use by physicians

In order to achieve, will need to:

- Instigate appropriately designed clinical study, recruit physicians via GORDS network, determine/define clinical best practice and develop appropriate guidance literature

Evaluation of success:

- Completion of research study
- Evaluation of uptake/application of guidelines

### ***Longer term actions***

#### ***UK COPD serial survey***

- To demonstrate any interventions aimed at reducing disease incidence are having the desired effects

In order to achieve, will need to:

- Carry out serial population surveys combining documentation of any changes in disease occurrence with measurement of any changes in attributable risk.
- Consider changing impacts of other disease risk factors beside work related factors including increased weight, increased allergy, decreased smoking etc.

Evaluation of success:

- Successful commissioning and completion of appropriately designed analytic epidemiological study

#### ***Communication plan***

- To develop a communication plan to relay central messages of strategy to workplaces/workforces

In order to achieve, will need to:

- Develop broad messages to be communicated, taking into account modes of communication, in collaboration with industry, trade associations etc. as well as HSE communications resources and perhaps external professional communicators

Evaluation of success:

- Documentation of raised industrial awareness of key messages communicated via survey of relevant industries

## APPENDIX

### Syndicate Sessions

Workshop delegates were divided into two groups for each of the two syndicate sessions, specifically:

#### Session 1

<b>Syndicate Group 1</b>	<b>Syndicate Group 2</b>
Andrew Curran (Chair)	Anne Wilson (Chair)
David Fishwick	Andy Phillips
Paul Blanc	Steve Naylor
Nerys Williams	Barry Wilkes
John Osman	Michael Topping
Chris Stenton	Clive Brooks
Tony Pickering	Steve Coldrick
Raymond Agius	Alaister Hay
Colin Soutar	Francis Morrall
Ray Quinlan	Ian Carney
Roger Rawbone	Lesley Rushton
Sherwood Burge	Paul Oldershaw
Keith Prowse	Car Kirby
David Coggan	Bud Hudspith
Maureen Meldrum	Simon Pickvance
Daphne Barton	Amy Holmes
Andy Garrod	Colin Davey

#### Session 2

<b>Syndicate Group 1</b>	<b>Syndicate Group 2</b>
Andrew Curran (Chair)	Anne Wilson (Chair)
David Fishwick	Andy Phillips
Barry Wilks	Steve Naylor
Nerys Williams	Paul Blanc
Paul Oldershaw	Keith Prowse
Alaister Hay	Maureen Meldrum
Tony Pickering	Steve Coldrick
Simon Pickvance	Chris Stenton
Daphne Barton	Colin Soutar
Ray Quinlan	Ian Carney
Amy Holmes	Lesley Rushton
Sherwood Burge	John Osman
Michael Topping	Carl Kirby
David Coggan	Bud Huspith
Clive Brooks	Raymond Agius
Francis Morrall	Roger Rawbone
Andy Garrod	Colin Davey