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The Industrial Injuries Advisory Council

Proceedings of the 10th Public Meeting

23 June 2011
London

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Foreword

The tenth Public Meeting of the Industrial Injuries Advisory Council (IIAC) was held in London on 23rd June 2011. This event built on the success of the Public Meetings held around Great Britain over the past 9 years.

The meeting allows members of the Council to hear from interested members of the public and for the public to get a much better understanding of the Council's work. Important issues were raised and discussed, including osteoarthritic conditions and respiratory conditions. The current economic climate and government spending cuts necessitated the Council holding a half day meeting this year, rather than the full day format we have had in previous years. Despite the shortened meeting the tenth Public Meeting was an informative occasion for the Council and we look forward to the next event. I would like to thank all members of the public who came to the meeting for contributing to the lively discussions which made the occasion so worthwhile.

IIAC is independent of the Department for Work and Pensions (DWP). It is supported by a Secretariat provided by the DWP and endeavours to work cooperatively with departmental officials to provide advice to the Secretary of State about the Industrial Injuries scheme. However, the report should not be used as guidance on current legislation, or current policy within the DWP, as members may have expressed personal views, recorded here for information.

Professor Keith Palmer
Chairman IIAC

Agenda

12:45 – 13:45	Registration and Lunch
13:45 – 14:20	**Welcoming Remarks** Chairman of IIAC – Professor Keith Palmer
	Followed by:
	IIAC's approach to scientific decision making Chair of the Research Working Group Professor Paul Cullinan and Professor Keith Palmer
	Presentations:
14:20 – 14:50	Prescribed occupational respiratory diseases – Professor Mark Britton
14:50 – 15:20	Legal aspects of the Industrial Injuries Benefit Scheme – Mr Simon Levene
15:20 – 15:45	Refreshments
	Presentation and open forum:
15:45 – 16:15	Osteoarthritic conditions – Professor Keith Palmer
16:15 – 16:45	**Open forum – Mr Richard Exell**
16:45	End of public meeting

Welcoming Remarks

Professor Keith Palmer
Chair of IIAC

1. Professor Keith Palmer welcomed everyone to the London Public Meeting and the IIAC members introduced themselves.

2. The Industrial Injuries Scheme provides a non-contributory, no-fault benefit which includes Industrial Injuries Disablement Benefit (IIDB). This is paid to people who become ill as a consequence of a workplace accident or an occupational or 'prescribed' disease. These terms have specific legal meanings and have been decided by case law. A workplace or 'industrial accident' is defined as "an unlooked for occurrence" or "mishap" arising "out of and in the course of employment". A prescribed disease is one that is listed as a disease in the Scheme's regulations that has been linked with an occupational cause. The Scheme compensates employed earners; the self-employed are ineligible to claim IIDB for work-related ill-health or injury. Claimants can receive benefit from ninety days after the accident or onset of the prescribed disease; shorter periods of disablement are not compensated. (For example, IIAC has recently reviewed pneumonia due to exposure to metal fumes but this condition was not finally considered for prescription as the effects would not generally last past the 91st day from the start of the illness). Certain prescribed diseases are given the benefit of 'presumption' – if a claimant is diagnosed with a disease then it is presumed that their occupation has caused the disease; the rule is complicated, however, and its application is being reiewed.

3. The scheme compensates for "loss of faculty" and its resultant "disablement", which is assessed relative to age- and gender-matched peers by medical advisors engaged by the Department. Assessments of disablement are based on functional, not vocational limitations, and are expressed as a percentage. Thresholds for payment are applied, such that in general, payments can be made if disablement is equal to or greater than 14%. The exceptions to this are pneumoconiosis and byssinosis where payment can be made if disablement is 1% or more, and occupational deafness where the threshold for payment is 20% disablement. Assessments of disablement for accidents and most diseases can be aggregated

4. IIAC is a statutory body, established under the National Insurance (Industrial Injuries) Act 1946, to provide independent scientific advice to the Secretary of State for the DWP and to the Department for Social Development (DSD) in Northern Ireland on matters relating to the IIDB Scheme or its administration. The members of IIAC are appointed by the Secretary of State after open competition, and consist of a Chairman, scientific and legal experts, and an equal number of representatives of employers and employees. Officials from the Health and Safety Executive (HSE) and relevant policy divisions of the DWP, Ministry of Defence and

DSD attend IIAC meetings to provide information and advice. There are four meetings of the full Council per year.

5. The majority of IIAC's time is spent providing advice to the Secretary of State on the prescription of occupational diseases. IIAC's other roles are to advise on proposals to amend regulations under the Scheme, to advise on matters referred to it by the Secretary of State, and to advise on general questions relating to the IIDB Scheme. The Council has no involvement in decision-making or individual claims.

6. A permanent sub-committee of the Council, the Research Working Group (RWG), monitors and reviews medical and scientific literature to identify developments in the field of occupational ill-health which are then brought before the Council. This work is supported by a Scientific Adviser. The RWG meets four times a year.

7. IIAC also investigates diseases following referrals from the Secretary of State, correspondence from MPs, medical specialists, trade unions, and others, including topics brought to its attention by its own members and by other stakeholders.

8. IIAC produces several different types of publication. IIAC Command Papers are produced at the 'command' of Her Majesty and are presented to Parliament by the Secretary of State for Work and Pensions, often forming the basis of legislation. Position Papers are published on important subjects that IIAC has considered, but where it does not recommend prescription or where the matter has not been referred by Ministers. Commissioned research reports are usually published once a year, and are instigated at the request of the Council. These reports are carried out by an independent third party, usually by an academic expert, and have direct relevance to the Council's programme of work. Finally, IIAC publishes an annual report and the proceedings from its Public Meetings.

9. IIAC's current and recent work programme includes by way of example reviews of osteoarthritis of the knee, coke oven work and lung cancer, lead and fertility, cancer in painters, exposure to radon, chromium and sino-nasal cancer and the presumption rule/assessments of disablement.

IIAC's approach to scientific decision making

Professor Paul Cullinan and Professor Keith Palmer
Chair of the IIAC Research Working Group and Chair of IIAC

10. This talk focused on IIAC's approach to making scientific decisions in the context of the IIDB scheme, with Professor Paul Cullinan outlining the principles and Professor Keith Palmer illustrating how it works in practice.

11. Professor Cullinan began by discussing the legal framework within which IIAC works and the process by which it recommends prescription of occupational diseases. The Council is bound by the legal requirements set out in the Social Security Contributions and Benefits Act 1992. The disease must be a risk of the occupation and not a risk common to all persons and attribution of the disease to the occupation in an individual case must be capable of being established or presumed with reasonable certainty.

12. Some occupational diseases are relatively simple to verify in that they have unique clinical features that can be measured and rarely occur outside work. Examples of 'easy' cases are specific poisonings and mesothelioma; also, occupational asthma and contact dermatitis, where challenge with the suspected occupational agent confirms the diagnosis. On the other hand, where a disease is common in the general population and has no clinical features that are unique to occupational cases, it is much more difficult to establish a link between the occupation and the disease. Both back pain and stress are examples of 'tough' cases for verification and attribution of occupational causation and judgements depend on probability rather than more direct tests and criteria.

13. When considering a disease for prescription IIAC has to address the question of attribution, i.e. whether there is a link between the job and the disease that can be presumed with reasonable certainty. For the purposes of the Scheme, IIAC interprets reasonable certainty as meaning 'more likely than not'. Epidemiology is the branch of medicine that deals with the distribution and determinants of disease in human populations and IIAC applies epidemiological principles when considering prescription.

14. In epidemiological terms 'more likely than not' can be represented mathematically as an attributable fraction (i.e. the percentage of cases caused by an occupational exposure). 'More likely than not' means, for those with exposure, an attributable fraction greater than 50%. Imagine we have two groups of equal size, (for example 1000 in each group), an exposed group and a non-exposed group. Imagine there are 100 cases in the exposed group and 50 cases in the non-exposed group. Then it is clear that there is a doubling of risk in the exposed group. Also, the total risk in the exposed group can be split into two parts (i) the 50% that is due to the background risk common to all persons (ii) the 50% excess risk that is due

15. IIAC's task is to determine whether there is good evidence that the risk of a particular disease is more than doubled in a group with defined occupational exposure. If the answer to this question is yes, then IIAC would recommend that the disease is prescribed with the intention that exposed workers get the benefit of presumption on the basis of the group's probability.

16. In order to establish whether there is a more than doubling of risk of a disease attributable to a particular occupation, IIAC looks to scientific research and academic experts for evidence. It is important that the evidence comes from more than one independent, good quality study, ideally several studies of different design, since this reduces the likelihood of methodological problems resulting in error or bias, or of any decisions being overturned by the results of future research.

17. Practically speaking it is also important that the disease and the relevant exposures can be easily verified and that the disease is a cause of significant impairment.

18. The Council has already recommended prescription for several diseases where the process of attribution to occupation has been complex. These diseases include Vibration-induced White Finger (VWF), carpal tunnel syndrome, chronic bronchitis and emphysema and osteoarthritis (OA) of the hip in farmers.

19. Professor Keith Palmer then outlined IIAC's scientific decision making in practise, using OA of the hip in farmers as an example.

20. OA of the hip is common in the general population and has a similar clinical appearance in farmers to other people. An increased incidence of osteoarthritis in farmers was first suspected as this occupational group appeared on hip surgery waiting lists more often than expected given the relative frequency of farming in the population. This observation in itself was not proof that farmers were more at risk of OA of the hip, since the data could have arisen because farmers presented themselves to hospital for treatment more readily (their livelihood depends on their ability to perform physically demanding work). However, this observation was followed by additional research which concluded that the disease was more prevalent in farmers.

21. In one line of inquiry, researchers used X-rays which displayed the hip joints but which had been taken for other diagnostic purposes (e.g. to look for kidney disease). The frequency of farming was considered in those with and without hip OA. Studies from the University of Southampton and research groups in Sweden showed that there was a 2-10 fold increased risk of OA of the hip in farmers. In this research the problem of

22. The consistent demonstration of a greater than doubling of risk in multiple surveys from more than one country and across a range of study types allowed the attribution of OA of the hip in farmers to their occupation on the balance of probabilities.

23. Verification of OA of the hip is straightforward since there are well-defined diagnostic criteria. Professor Palmer showed pictures of X-rays of normal hips and an osteoarthritic hip. An osteoarthritic hip is characterised by a narrowing of the joint space between the socket (acetabulum) and the head of the femur, and roughened joint surfaces. Bony spikes and bone cysts may also be present. Thus the disease can be confirmed, is disabling, and has been shown to be at least twice as common in farmers as in other groups.

24. The Council then had to consider an exact definition of the occupational criteria for exposure – the definition of farming and whether particular types of farming carried special risks. No evidence was found on which to restrict prescription to a defined sub-category of farming activity; evidence was found on the necessary duration of exposure.

25. OA of the hip in farmers fulfilled the criteria necessary to attribute a disease that is common in the general population to a particular occupation. Thus, IIAC recommended that OA of the hip be added to the list of prescribed diseases for those a) employed for at least 10 years in aggregate as a farm worker or farm manager and b) having osteoarthritis of the hip* or having had it prior to hip surgery (*as diagnosed by a specialist and based on a painful hip with restricted movement and on a hip joint radiograph).

26. As part of the review, OA of the hip in other occupations, such as those involved in heavy lifting, was also considered, but the weight of evidence was much lower than for farming. IIAC regularly monitors emerging scientific literature on this and other issues and reviews the prescription where necessary. Future advances in research may enable the terms of prescription for OA of the hip to be widened. The case of OA in farmers illustrates the nature and level of evidence the Council needs in prescribing for the “tough” cases as defined in paragraph 12.

Comments, questions and answers

27. *How long does it take for IIAC to make its recommendations about which diseases should be prescribed?* The length of time taken for IIAC to conduct a review depends on the nature of the disease and its exposure. Diseases with unique clinical features are 'easy' cases and reviewing the evidence and recommending prescription can be relatively straightforward. For example, 'popcorn workers lung' due to exposure to diacetyl is a rare disease due to a specific occupational exposure and IIAC recommended prescription for this condition after only 8 months. The review of osteoarthritis of the hip in farmers took 2 years as it is a common disease in the general population and is an example of a case at the difficult end of prescription where epidemiological evidence needs to be assembled and appraised. Many of the difficulties faced by IIAC in considering prescription arise from lack of published research evidence.

28. *The National Union of Miners (NUM) has been in contact with Professor Robin Rudd about the terms of prescription and assessments for disablement for PD D12 (chronic obstructive pulmonary disease – COPD). The NUM asked Professor Rudd whether miners who don't smoke were being unfairly disadvantaged under the current criteria for assessments for PD D12. Professor Rudd did not believe this was the case the Cotes formula, used during assessments, included both smokers and non-smokers. The NUM has written to IIAC asking them to consider use of the European formula as the number of miners who smoke are decreasing. Miners can work 16 hours a day and so do not have the opportunity to be heavy smokers. Use of the Cotes formula (which includes smokers) disadvantages miners who do not smoke, or miners who smoke but do not smoke heavily. The European formula excludes smokers and is highly reputable, being used by many clinicians to assess lung function in COPD patients. The Institute for Occupational Medicine backs use of the European formula.* The Cotes data were produced from a group of the general population in the UK, including both smokers and non-smokers about 40 years ago. There are newer predicted values for lung function based on different formulae, but many such prediction formulae exist, each with their own advocates, and no group of predicted values is ideal for all purposes (the best for clinical care may not be the best for compensation). The Cotes formula reflects the type of claimants that the Scheme is compensating and has some other advantages (e.g. not requiring additional measurement of weight), while the European formula has some disadvantages, including the representativeness of the study populations and the weight given to small studies. The opinions of independent experts (Prof Newman-Taylor and Dr Leslie Rushton) have been sought in framing a response to the inquiry by Dr Rudd and the NUM. The European Thoracic Society is setting up a Commission to look at producing some new predicted values. IIAC will continue to closely monitor the evidence relating to the production of new predicted values for lung function for COPD.

Prescribed occupational respiratory diseases
Professor Mark Britton

29. Professor Britton reviewed the Council's work on asbestos-related disease.

30. Asbestos is a naturally occurring fibrous silicate which is separated into two major types, serpentine and amphibole. In the serpentine group is chrysotile or 'white' asbestos, and in the amphibole group are crocidolite ('blue' asbestos), amosite ('brown' asbestos), tremolite and anthophyllite. These materials are mined in a number of countries including Russia, South Africa and Canada.

31. The exposure to asbestos has been quantified for a number of occupational job titles, since exposure will vary between practices. For practical purposes, asbestos exposure is defined as the number of fibres per ml of air (fibres/ml). For example, a person applying asbestos lagging would be exposed to approximately 60 fibres/ml, whereas a person involved in spraying asbestos would be exposed in excess of 50,000 fibres/ml. In addition to this, quantification of cumulative asbestos exposure may be defined which takes into account the number of years of exposure and expressed as an average fibres/ml years.

32. The asbestos fibres can be seen in lung tissue and in sputum. Some fibres may be encapsulated by cells of the body's defence system which try to digest them. These are called asbestos bodies. As such they may be counted. Asbestos body counts are a useful measure to determine exposure but there are some caveats to their interpretation. Some forms of asbestos such as chrysotile, are less likely to become coated which makes them more difficult to detect and count; inter-laboratory differences in counting methodology may give different results; sampling errors may lead to over- or underestimation of the number of fibres and there may be differences in fibre counts between the lobes of the lungs of the same person.

33. There are a number of prescribed diseases which relate to asbestos exposure. These are asbestosis (PD D1), mesothelioma (PD D3), lung cancer (PD D8) and pleural thickening (PD D9). These conditions were the subject of an IIAC review, published as Command Paper 6553, 'Asbestos-Related Diseases' (July 2005) which involved analysis of IIDB and population statistics for asbestos-related diseases, consultations with a variety of experts and DWP officials and reviewing scientific literature.

34. IIAC revisited the topic of pleural plaques in 2009 following a Ministerial request to do so. This was a result of the rulings on pleural plaques in the Scottish courts and the debates that stemmed from that decision.

35. The pleura comprise two thin membranes which line the lungs and chest wall. Fluid produced in the space between the layers facilitates breathing without causing friction. Exposure to asbestos causes pleural effects such as the development of pleural plaques (calcified pleural and diaphragmatic plaques), benign asbestos pleurisy, diffuse pleural thickening and round atelectasis.

36. Pleural plaques are the most common, but often the only, condition associated with asbestos exposure. Like other asbestos-related conditions, pleural plaques develop many years after asbestos exposure. They occur after low dose, intermittent exposure (similar to mesothelioma). Pleural plaques are areas of hyaline fibrosis, which are usually on the parietal pleura. The apices and costophrenic angles are spared. They tend to follow the line of the ribs and can be found in the paravertebral gutters and over central tendons of the diaphragm. It is not fully understood how fibres cross the pleural space but theories include fibres directly crossing the space, entering through the lymphatics against the normal direction of lymphatic flow or being transferred by mediators.

37. Pleural plaques do not normally cause symptoms but may have a minor effect on lung function which does not result in any disability. They are not pre-malignant, but are an indication of exposure to asbestos which may indicate an increased risk of associated diseases. They do not require treatment but may be a source of anxiety.

38. In IIAC's review of asbestos-related diseases in 2005, the Council recognised that symptomatic pleural plaques can occasionally occur but that there was a lack of evidence that they cause impairment of lung function sufficient to result in disability. The 2009 review of pleural plaques extensively considered the evidence available and concluded that the Council's position on pleural plaques had not changed since the 2005 review.

39. Benign asbestos pleurisy is associated with pleuritic pain and breathlessness but which may be symptom free. Effusions are often bloodstained. The condition may resolve but can result in diffuse pleural thickening.

40. Diffuse pleural thickening affects the visceral pleura, the costophrenic angle is often obliterated. The pleura may be several cm thick and the pleural layers may fuse together. This condition may produce a restrictive defect which causes disablement.

41. Prior to 2005 diffuse pleural thickening (PD D9) was prescribed for unilateral cases affecting at least 50% of chest wall or bilateral cases affecting at least 25% each side. To be eligible for prescription there had to be a minimum of 5mm thickness at one point within the pleural area affected, as measured on a plain chest radiograph. After examining the evidence in the 2005 asbestos-related diseases review, the Council recommended amending the prescription to remove the requirement for

measurements of pleural thickening and instead introduce the requirement for involvement of the costophrenic angle on plain chest radiographs. The occupational coverage remained unchanged.

42. The definition and guidance within the ILO system regarding the Costophrenic Angle Obliteration is as follows:

> *"The lower limit for recording costophrenic angle obliteration is defined by the Standard Radiograph I / I , t / t . If the pleural thickening extends up the lateral chest wall from the obliterated costophrenic angle, the thickening should be classified as diffuse pleural thickening. Costophrenic angle obliteration may occur without diffuse pleural thickening"*

43. Progress in diagnosis of early stages of diffuse pleural thickening using computed tomography (CT) scans has been made in recent years. Fibrosis involving the visceral pleura can be focal or diffuse as viewed by CT scanning. When focal, the visceral changes appear as small, pleuro-parenchymal fibrous strands, known as "crow's feet". When extensive, the pleural fibrosis is called "diffuse pleural thickening", usually accompanied by blunting of the costophrenic angles.

44. Rounded atelectasis is also known as folded lung or Blesovsky's syndrome. It is a pseudo-tumour and a consequence of retractile visceral diffuse pleural thickening/fibrosis.

45. Asbestosis has been defined as "fibrosis of the lungs caused by asbestos dusts which may or may not be associated with fibrosis of the parietal or pulmonary layer of the pleura" (Acheson ED, et al. Asbestos: Final report of the Advisory Committee. Vol 2: The ill effects of asbestos on health. HMSO, London 1979). Asbestosis can be defined clinically, radiologically, physiologically and histologically by a history of substantial asbestos exposure, clubbing, crackles, radiological changes on plain X-ray, restrictive defect with reduced KCO (transfer coefficient for carbon dioxide), HRCT (high resolution chest computed tomography) abnormalities and asbestos bodies seen in tissue sections.

46. The CT features of asbestosis involving the lung tissue include curvilinear sub-pleural lines, parenchymal bands, thickened interlobular (septal) and intralobular (core) lines and honeycombing. These CT features are non-specific as they may also be observed in pulmonary fibrosis due to other causes.

47. For asbestosis, PD D1 (pneumoconiosis), diagnosis is made based on a clinical and radiological diagnosis. Histological proof is not necessary. In IIAC's 2005 review of asbestos-related diseases it recommended that:

- Diagnosis of asbestosis should be based on clinical evidence of interstitial lung fibrosis and a history of substantial occupational exposure
- Absence or low numbers of asbestos bodies or asbestos fibres in the lungs should not exclude a diagnosis of asbestosis in claimants with a history of substantial occupational asbestos exposure.
- The list of occupational exposures in the terms of prescription should remain unchanged

48. The association between asbestos exposure and lung cancer has been suspected since the 1930s and was clarified in1955. The involvement of fibrosis in the development of asbestos-related lung cancer has been the subject of much debate. There are two hypotheses. First that asbestosis must be present because the fibrosis itself is necessary to increase the risk of cancer. The second hypothesis is that the asbestos "dose" necessary to produce cancer is at least equal to the dose necessary to produce asbestosis, but asbestosis need not be present. It is also unclear whether there is a threshold dose of exposure to asbestos necessary for the causation of lung cancer, or whether exposure and the risk of the disease proceed along a linear continuum.

49. Increased knowledge of the biology of carcinogenesis makes the hypothesis that fibrosis is a pre-requisite to developing lung cancer unlikely. There is also good evidence that there is an increased risk of lung cancer in the absence of asbestosis. The levels of exposure that are estimated to cause a doubling of risk are 25-100 fibres/ml years. These factors are also affected but not wholly explained by exposure to different fibre types.

50. The risk of lung cancer increases with exposure to asbestos but there is a smaller relative risk than for contracting mesothelioma. For example, a person subject to 'heavy' asbestos exposure may have a 1000-fold risk for contracting mesothelioma but only a 5-fold risk for developing lung cancer. A worker subject to 'light' asbestos exposure has a substantial increase in risk for mesothelioma but no significant increase in risk for lung cancer.

51. Different asbestos fibre types produce different risks of mortality from lung cancer, such that exposure to amphiboles doubles the risk of dying from lung cancer compared with exposure to chrysotile.

52. A meeting of experts, representing 8 countries which do not manufacture asbestos, was held in Helsinki in 1997 to discuss the attribution of lung cancer to asbestos. The Helsinki Criteria were derived from the discussion held at the meeting and were published as a consensus document in the 'Scandinavian Journal of Work and Environmental Health' (23: 311, 1997). The main criteria for attribution of lung cancer to asbestos exposure are:

i) radiological or pathological diagnosis of asbestosis.
ii) fibre count in asbestosis range in same laboratory.

iii) 5,000-15,000 asbestos bodies/gram of dry lung.
iv) more than 5 million fibres with more than 1 μm long per gram of dry lung, or more than 2 million fibres longer than 5 μm long as determined by electron microscopy.
v) Occupational history indicating exposure above 25 fibre/ml years.
vi) One year of heavy exposure, e.g. lagging, or 5-10 years of moderate exposure, e.g. shipbuilding, construction.

53. The outcome of the Helsinki meeting was considered carefully by IIAC. The Council's view was that after consulting the experts and the scientific literature that there was insufficient evidence on which to base prescription on the criteria of 25 fibre ml years.

54. With regard to the IIDB scheme, there was a good case for prescription of lung cancer on the basis of a cumulative asbestos exposure sufficient to give rise to risk of asbestosis. Therefore, IIAC recommended that primary carcinoma of the lung should be prescribed in relation to asbestosis. Despite lung cancer being common in the general population the evidence showed a 4-5-fold risk of the disease in the presence of asbestosis. The question that IIAC considered was whether the risk for lung cancer was at least doubled in those who have substantial exposure to asbestos without asbestosis.

55. The recommendations for prescription of primary carcinoma of the lung were made in the 'Asbestos-Related Diseases' report. These recommendations are:

i) Lung cancer should remain prescribed in relation to asbestosis and that no changes should be made to the occupational categories for asbestosis.
ii) Lung cancer in those without asbestosis but who have a history of substantial exposure to asbestos should be prescribed:
Exposure for at least 5 years before 1975 and 10 years after 1975 in the following occupations:
a) Asbestos textile manufacture.
b) Asbestos sprayers.
c) Asbestos insulation work.
d) Asbestos workers in shipbuilding, including those applying and removing asbestos containing materials.
iii) Claimants eligible for PD D8 should be assessed at 100%.
iv) Reference to pleural thickening should be removed from terms of prescription.

56. Malignant mesothelioma is a cancer of the pleura or peritoneum (the membranous lining of the abdomen) caused by asbestos exposure. In recent years we have seen an epidemic of mesothelioma deaths. Peto *et*

57. Unlike asbestosis and lung cancer, low doses of exposure are causative but the risk increases with increased exposure. Nowadays patients include people employed as carpenters, electricians and plumbers who have low dose exposure. In the past most cases of mesothelioma occurred in heavily exposed workers, such as laggers and shipyard workers

58. Mesothelioma presents with clinical symptoms, such as chest pain and breathlessness. The chest X-ray and the CT scan show either a pleural effusion or irregular pleural thickening, possibly resulting in a reduction in thoracic volume. Diagnosis is confirmed by biopsy often obtained by thoracoscopy; however diagnosis can be difficult and the recent availability of PET (positive emission tomography) scans has helped increase positive biopsy rates.

59. Mesothelioma (PD D3) first became a prescribed disease in 1966. In 1997, IIAC recommended amending the prescription by broadening occupational coverage to 'exposure to asbestos, asbestos dust or any admixture of asbestos at a level above that commonly found in the environment at large'. The 90 day waiting period was also removed due to the short life expectancy of mesothelioma sufferers. The prescription was amended further in 2002 so that all mesothelioma assessments were automatically awarded 100% disablement. A fast-tracking process for claims for terminally-ill claimants was also introduced to IIDB district offices with medical assessments no longer being necessary.

60. The review of mesothelioma, as part of the 2005 review of asbestos-related diseases, focused on examining why there was an apparent discrepancy between the number of people gaining benefit for IIDB and the number of mesothelioma deaths. Following analysis of the data, the discrepancy was found not to be due to claimants being refused benefit but because potential claims were not being made. It was surmised that the reasons for mesothelioma sufferers not claiming IIDB could be that people were too ill to claim, sufferers were self-employed or non-occupationally exposed and were aware of the scheme's exclusions, claimants had a belief that the DWP required medical assessments and extensive corroborative evidence for the claim to be successful or that there was a

61. As a consequence of this information IIAC recommended that the awareness of the scheme should be promoted. The British Lung Foundation has addressed this need by raising awareness of the IIDB scheme among lung cancer nurses in hospitals.

62. The 2005 review found that the occupational coverage for mesothelioma was broad and no amendments were recommended.

63. IIAC raised the problem of poor life expectancy in mesothelioma claimants who would receive a fraction of the total amount payable to those with less severe prescribed diseases who lived longer. IIAC also highlighted the problem of patients with no knowledge of any asbestos exposure or where the exposure was non-occupational.

64. In March 2005 the British Lung Foundation organised a Mesothelioma Summit to bring together healthcare professionals, policymakers and other interested stakeholders. The outcome of this summit was the production of a Mesothelioma Charter for patients, a Mesothelioma Framework produced by the government's cancer Tsar, published in November 2006, and the launch of a Mesothelioma Action Day, held every year at the end of February.

65. Other government initiatives have since been launched. The DWP in conjunction with the NHS released a leaflet to provide help and advice to mesothelioma sufferers about benefits available to them. These benefits include IIDB, the Pneumoconiosis, Byssinosis and Miscellaneous Benefit Scheme, Worker's Compensation (Supplementation) Act 1948 and the Pneumoconiosis (Worker's Compensation) 1979 Act. Mesothelioma patients in receipt of IIDB may also qualify for constant attendance allowance, exceptionally severe disablement allowance and reduced earnings allowance.

66. New mesothelioma provisions have been introduced since October 2008 in the Child Maintenance and Other Payments Act. Under this scheme (separate from IIDB) a mesothelioma sufferer can obtain a single lump sum payment for asbestos exposures that do not have to be occupational. In the first 6 months of operation of the scheme there were 318 claims, with average lump sum payments of £16,000 each.

67. Professor Britton went on to discuss asbestos and retroperitoneal fibrosis (RPF) which was the subject of an IIAC review in 2007. The cause of RPF is currently unknown but a number of possible risk factors have been identified. There was limited evidence suggesting that some cases of RPF may arise as part of an asbestos-induced fibrotic process. The

Council concluded that the current evidence was insufficient to support a case for prescription. However, IIAC strongly encourages further high quality research in this area and will continue to closely monitor new research reports.

Legal aspects of the IIDB Scheme

Mr Simon Levene

68. . Mr Simon Levene presented an overview of legal aspects of the IIDB Scheme to include a) the differences between employers and contractors and b) the rules of presumption. The presentation on the differences between employers and contractors was originally due to be given by Professor Diana Kloss who was unfortunately unable to attend the Public Meeting due to unforeseen circumstances.

Employers and contractors

69. The IIDB Scheme covers employed earners. An employed earner is defined in the Social Security Contributions and Benefits Act 1992 as a person who is gainfully employed in Great Britain either under a contract of service or as an office holder (for example a company director) and is liable to pay income tax under Schedule E on their salary, wages or fees. The following qualifications apply:

- Claimants need not have paid, or indeed be liable for, Class I National Insurance contributions, as they may be exempt from contributions by reason of low earnings and still be covered by the Scheme
- Special constables and agency staff are included; they are self-employed under a contract for services but still liable to pay Class I National Insurance contributions

70. Trainees on work-based training programmes are excluded from the Scheme, but are eligible for a similar compensation Scheme run by the DWP. Those serving in the Armed Forces are also not covered, but may claim under the War Pensions Scheme or the Armed Forces Compensation Scheme. The most important economically active group to be excluded is the self-employed.

71. What is the difference between an employee and a self-employed person? Does a worker have a contract of service or a contract for services? This is an important point in several other areas of law, including employment rights and personal injury.

72. Some employers may believe it is in their interest to have a self-employed status for their workers to make a national insurance saving. However employers who use self-employed contractors must still take out insurance.

73. There are several tests to determine the employment status of a worker:

- The control test – the employer stipulated what was to be done and how it was to be done.

- The integrational or organisational test (intended to cover professional and skilled workers who have a large degree of personal autonomy in their work but whose work is an integral part of the business).
- The economic reality test: is the worker 'in business on their own account'?
- The multiple test – takes all factors considered in the above tests and considers whether the evidence overall points to the person being an employee or self-employed.

74. The tests for deciding employment status are clearly set out in the key cases of Lane v Shire Roofing Ltd [1995] IRLR 493, Commissioners of Inland Revenue v Post Office Ltd [2003] ICR 546 and Carmichael v National Power plc [2000] IRLR 43.

75. Autoclenz v Belcher [2010] IRLR 70 was a decision regarding employment status regarding whether a self-employment contract is a 'sham agreement' where the worker is actually an employee. A employed B as a car valeter. B took A to an employment tribunal for a declaration that he was an employee. The original contract described B as a self employed sub-contractor. Several years later, A gave B a new document to sign which contained new clauses. *Held*, the new documents were a sham, and did not reflect the reality of the bargain between the parties. (This decision is currently on appeal to the Supreme Court.)

76. The only route to compensation for the self-employed worker is therefore the fault-based tort action where the worker must prove on the balance of probabilities that they were employed and not self-employed.

77. IIAC issued a report in 1993 (Cm 2177) suggesting that the self-employed working in **construction** and **agriculture** be brought within the Scheme. These workers suffer the majority of accidents which occur to the self-employed. However this recommendation was rejected by the government of the day.

78. Employers are required by Employer's Liability (Compulsory Insurance) Act 1969 to carry insurance for the benefit of their employees, but this Act does not extend to the self-employed.

<u>Presumption</u>

79. According to the Social Security Contributions and Benefits Act 1992 s.108(2)(b), Annex 1 a disease can only be prescribed "if the ***attribution*** of particular cases to the nature of employment can be ***established or presumed with reasonable certainty***" The rules for presumption are laid out in the Social Security (Industrial Injuries)(Prescribed Diseases) Regulations 1985 where a "disease shall, unless the contrary is proved, to be presumed to be due to the nature of his employed earner's employment" "and was so employed on, or at any time within one month immediately preceding, the date on which" "he is treated as having developed the disease".

80. For the rules of presumption to apply, the Applicant has to demonstrate that the occupation has caused the disease in question by showing *on the balance of probabilities* that i) he has developed a particular medical condition, ii) he has been involved in a defined occupation and that iii) the condition came on during his work, or within a month of leaving it. Provided the Applicant can prove those three things, it is presumed that there is a connection, and he is entitled to IIDB.

81. The intention of presumption is to simplify the Decision Maker's [DM] task. If the Applicant proves certain facts, the DM can presume that his disease is due to the nature of his job. He does not have to prove anything more. The alternative would be decision making on a case-by-case basis, which would be much more complex and expensive and might well introduce inconsistencies between DMs, leading to more appeals.

82. The Decision Maker must be satisfied that, "taking into account all the relevant evidence, it is more probable that the disease was not due to the nature of the employed earner's employment than that it was."

83. Once the presumption applies, it continues to apply unless the DM can show that the disease was *not* due to the nature of the employment – that is, unless the DM can **rebut** it. To rebut the presumption, the DM must have "proof sufficient to establish the point on the balance of probabilities." For example, the DM would probably consider the presumption rebutted if an Applicant had a disease which started before she commenced work with the relevant occupational exposure.

84. When the presumption does *not* apply, the Applicant has to prove that his condition is down to his job. ***A presumption is not proof***. A claimant can establish everything required by the Scheduled Terms of Prescription in the Regulations, but the DM can still decide that his disease does not arise from his work.

85. However, many prescribed diseases take a long time to develop. For example, most people who develop mesothelioma do so after retirement age. The disease can take 40 years to develop. The science shows that there is *more* likely to be an occupational causation in late-occurring (long latency) diseases, not *less*. Furthermore, there are many prescribed diseases which occur commonly in the population as a whole, and often do not have an occupational cause, e.g. osteoarthritis of the hip, lung cancer, hearing loss and cataracts.

86. An example of a disease where the presumption works is glanders, where the infection is due to contact with horses and develops soon after exposure. There is evidence of a greater than doubled risk of glanders due to contact with horses; therefore, if you have worked with horses and contracted glanders whilst in the job or within a month of leaving the job the disease is presumed to have been caused by the employment.

87. The DM decides what is necessary to rebut the presumption based on Departmental guidance. Recent problems in the case of PDA14 (osteoarthritis [OA] of the knee in miners) have revealed a potential problem with the current rules for presumption. Presumption was rebutted for a variety of reasons such as “X-ray evidence [of knee OA] not being work related”; “Some acceptance of OA but not attributed to work”, “[OA knee] must be apparent in both knees” and “The disease (date of onset) occurs after the individual has concluded work in the coal mining industry”. The Department resolved these issues and provided additional guidance for DMs, but this highlighted to IIAC the need to review the rules of presumption.

88. For long-latency diseases such as various occupational cancer, OA hip and OA knee, the presumption rule is out of step with the science. Occupational causation becomes more probable in late-occurring cases and not less. Complex questions of probability about attribution to occupation in the individual case come in to play, requiring expert evaluation of the research literature. IIAC has already undertaken the process of evidence gathering, sifting and expert evaluation. We believe that transferring the burden of proof to the claimant in such circumstances is unsatisfactory.

89. One expert, Professor Coggon gave evidence that “From a scientific perspective, it is quite reasonable to attribute a case of disease to each of several exposures. To give a specific example, the fact that a man's lung cancer is attributable to his smoking does not mean that it may not also be attributable (on the balance of probabilities) to his asbestos exposure.”

90. IIAC is considering whether the benefit of presumption should apply to *all* diseases and whether time-limits should be removed. IIAC is also reviewing whether the words “unless the contrary is proved” should be amended and whether different levels of proof should apply to different diseases

Osteoarthritic conditions

Professor Keith Palmer

91. Professor Palmer's presentation focussed on two recent reviews of osteoarthritic conditions – back and neck disorders and knee osteoarthritis.

92. According to the HSE's Self-reported Work-related Illness (SWI) survey, 1 million musculoskeletal disorders are caused or made worse by work, with just under half of those disorders being due to back pain. Back and neck disorders are clearly an important occupational health problem, but ones which pose a tough challenge for prescription.

93. Spinal pain is common. The exact frequency of back pain depends on the definition of the condition - where it is felt and how long you feel it for. The prevalence of ever having had low back pain is 60-80%, compared with a prevalence of 17-31% of having current low back pain. For neck pain, the prevalence is greater than 60% for ever having had the condition, with 14% having had greater than a week of neck pain in the past month.

94. For most people spinal pain is episodic. If one considers a cross-section of individuals attending their GP with low back pain, most cases will be new episodes, a small number will be persisting ones and some will have acute and chronic episodes. After three months, the back pain in many individuals will have improved or gone away, but around half will have got worse or remained the same.

95. The traditional concept of back pain is that there is a larger proportion of individuals with acute low back pain ('the mountain') compared to a small proportion of individuals with chronic low back pain ('the molehill'). In practise, low back pain follows a less defined path, with individuals having back pain that fluctuates over time, sometimes being worse, sometimes better along a continuum. This poses a challenge to prescription as back and neck pain are transient problems.

96. Most people with back pain who go off work recover relatively quickly. However, a small fraction develop chronic health problems, remaining off work for a significant period of time. It is a challenge clinically and in compensation to identify those individuals likely to develop long-term problems among the many with more minor illness.

97. There has been an epidemic of back pain disability nationally, with an 8-fold increase in the number of days of sickness and invalidity benefits claimed for back pain in the last 50 years. Paradoxically, the physical demands of work have fallen over this period. The current back pain epidemic cannot be explained by physical risk factors alone, and seems due in part to psychosocial and cultural differences.

98. The sensation of pain, or nociception, is felt by the brain. According to Loeser's model of chronic pain, personal factors such as pain behaviour, suffering and the degree of pain all alter the experience of pain.

99. There are personal and cultural predisposing factors to the experience of pain. Personal factors include gender, personality traits, and mental health. Cultural factors include an individual's beliefs about illness, media publicity and the availability of compensation schemes.

100. These influences can be quite strong. A one-year follow-up study looked at the psychosocial predictors of back pain in patients registered with GPs in South West England. The study found that the worse the state of distress observed at the beginning of the study, the greater the risk of new pain or old persistent pain occurring by the end of the study.

101. In the same study, individuals with pessimistic views about the long-term outlook of their back pain were more than twice as likely still to have problems with their backs in 12 months time. The excess risk of persistent back pain remained after the data were adjusted statistically to allow for mental health beliefs and pattern of pain at the start of the study.

102. Psychosocial factors are clearly an important part of the experience of back pain. But spinal pain is multi-factorial and it is well recognised that physical risk factors can also make things worse.

103. The National Institute of Occupational Safety and Health in the USA has reviewed evidence relating to back pain and concluded that there was strong evidence that lifting/forceful movements and whole body vibration were causal risk factors.

104. As outlined in an earlier talk, when considering the case for prescription for any occupational disease, IIAC looks for a workable and robust diagnosis, a disease that causes genuine and lasting impairment, exposures that can be verified within the Scheme by lay administrators, and sufficient evidence to make occupational attribution likely in the individual case.

105. The scientific evidence should come from several independent studies. There are numerous studies on spinal pain, and this criterion for prescription is readily satisfied.

106. Although many cases are acute and resolve by themselves, back pain is sometimes a cause of genuine permanent and disabling impairment and so for some people this condition is also met.

107. Certain exposures, such as increased load, repetition and posture, have been associated with increased back pain. It would be difficult for the IIDB Scheme decision maker to verify those exposures. However, prescription for back pain could be based on job titles, if there were

evidence that any specific jobs were associated with a sufficiently increased risk of back pain, so this criterion might be achievable.

108. For diseases with no unique clinical features and with both occupational and non-occupational causes, IIAC seeks epidemiological evidence of a greater than doubled risk that the disease occurs in exposed compared to non-exposed individuals to fulfil the attribution question. However, for very common definitions of the outcome it is difficult to demonstrate a greater than doubled risk. (More than 60% of the general population have experienced back and neck problems by certain definitions. It is not possible to have a greater than doubled risk in a worker subgroup as it is impossible to have 120% affected). For less common outcomes (e.g. very severe back pain), a doubling of risk might be possible; but this consideration sets a limit on the range of outcomes where a 'balance of probabilities' attribution can be made.

109. To fulfil the criteria for prescription back and neck disorders must also be diagnosable. However, back and neck pain are symptoms and not diseases. To corroborate their existence, a patient might be examined by a doctor for local tenderness or painful/restricted movement or asked to undertake a 'functional capacity evaluation' (e.g. shuttle walk test, '1 minute of standing' test) or to fill out a standardised disability questionnaire. But none of these methods provide a truly independent measure of the outcome; they are semi-objective, all requiring the co-operation and input of the claimant.

110. Could X-rays and CT or MRI scans be used to provide independent corroboration for back and neck disorders? In many cases, the amount of pain and disability felt does not correlate well with degenerative changes observed on X-rays and CT or MRI scans. For example, X-rays of several thousand people showed significant lumbar disease (grade 3-4) in 18% of men and 12% of women, and diseases of any grade in 74% of men and 59% of women. The people recruited for this study were not patients with back pain but ordinary members of the general population. Similar results were observed with X-rays for cervical disease in the general population. After a certain age most people will have some degree of degenerative changes observed by X-rays.

111. MRI scans of patients without back pain also show up a broad range of back conditions and are poor in corroborating the presence of active back problems. Disc bulging, disc protrusion and annular tears are observed in 73%, 50% and 37% respectively of MRI scans of patients *without* back pain at the time of investigation.

112. Objective disease verification would be difficult within the IIDB Scheme. Ongoing research may identify subgroups in which an objective diagnosis can be supported but this lies in the future. Back and neck pain are examples of tough cases for prescription.

113. In July 2007, IIAC published its position paper 'Back and neck disorders'. IIAC was unable to recommend prescription, mainly due to inherent difficulties with case definition and diagnosis at the time.

114. Professor Palmer went on to discuss the Council's review of knee osteoarthritis (OA) in miners as an example where prescription has proved possible despite some obstacles.

115. Traditionally, mining involves heavy work involving miner's using their knees, e.g. when stooping, crawling and heavy lifting. Former members of the Council asked IIAC to consider evidence relating to OA knee in miners.

116. Diagnosis of OA knee is straightforward using X-rays. In contrast to back pain, there is good correlation between symptoms (knee pain) and the appearance of osteoarthritic changes on an X-ray (such as narrowed joint space, bone spurs). OA knee satisfies the criteria for prescription in that the disease is verifiable within the scheme.

117. OA knee is also a cause of genuine impairment as it can cause significant pain, stiffness, disability. Some patients with severe OA knee require knee joint replacements.

118. There have been only a few high quality studies which have investigated OA knee in miners, all published in the 1950s. Lawrence (1955) showed that miners were 2.5 - 5 times more likely than office workers to have OA knee, and 2-3 times more likely than manual workers. Kellgren and Lawrence (1952) showed that miners were six times more likely to have severe osteoarthritic changes than office or manual workers and twice as likely to have mild changes.

119. Greinemann (1997) published a study of knee OA in miners in Germany. The knee joint is a complex joint composed of several different areas, all of which can be affected by 'wear and tear'. This study showed that OA of the retropatellar part of the knee joint (i.e. behind the knee cap) was 3 times more common in miners compared to non-miners. Arthritis affecting all of the knee joint compartments (panarthrosis) was 9 fold more common in miners compared with non-miners. However there were technical limitations to this study.

120. IIAC concluded that the risks of OA knee were greater than doubled, fulfilling the scientific requirements for prescription. However, IIAC generally seeks evidence of a doubling of risk in a greater number of independent studies than have been conducted. The direct evidence of an association between OA knee and mining is rather limited.

121. IIAC therefore sought indirect evidence to complement the direct evidence, considering research about OA knee due to activities typically undertaken by miners. There was a body of evidence relating to OA knee due to kneeling and squatting under heavy load, most of which shows the risks were greater than doubled in those undertaking both of the activities

in question. Coggon (2000) and Cooper (1994) reported a 2.9 fold and 5.4 fold increase respectively in OA knee in those undertaking *both* squatting *and* heavy lifting. The Framingham study (Felson, 1991) showed that the *combination* of knee bending and strength demands doubled the risk of developing mild or severe OA knee. Typical exposures common in mining are the kinds of exposures leading to OA knee.

122. A second form of indirect evidence concerned knee cartilage injury in miners. It is well known that injuries to the knee cartilage markedly increase the risk of developing OA knee. One study in North Yorkshire by Sharrad showed that the job title of miner appeared on surgical lists for removal of the knee cartilage four and five times more often than on lists for surgical removal of the appendix. Greinemann showed that miners were four times more likely to have knee cartilage injuries compared with controls.

123. The direct evidence together with the indirect evidence was deemed sufficient in sum to satisfy the scientific requirements for prescription.

124. IIAC was aware that mining practises had changed considerably over time, with exposures to kneeling, squatting, and heavy lifting becoming less as mechanisation of the mines progressed. IIAC consulted with the HSE Mines Inspectorate, mining unions and various mining experts and mine owners to identify a suitable time period for qualifying exposures.

125. In August 2008, IIAC published its Command paper 'Osteoarthritis of the knee in miners' where the Council recommended that OA of the knee be added to the list of prescribed diseases for work for 10 years or more in aggregate as a) an underground coal miner before 1986 and/or b) in certain qualifying jobs (such as a faceworker on a non-mechanised coal face) from 1986. (The Council has since been asked to consider the cut off point of 1986 and the list of qualifying occupations after this date, which is in the current workplan).

126. OA of the knee in miners is an example of a tough case for prescription. Prescription was possible in this instance due to the combination of limited but high quality direct evidence and a volume of good quality indirect evidence showing a greater than doubled risk of an association. The use of direct and indirect evidence is a new approach for IIAC. IIAC has recently given consideration, using this new principle, to widen the prescription of OA of the knee to construction workers. IIAC found strong direct evidence of an excess risk in one sub-group of construction workers - carpet fitters and carpet and floor layers and recommended to Minister that these workers be eligible for PD A14.

Open Forum
Facilitator: Mr Richard Exell

127. The members of IIAC thanked the attendees for their participation in the Public Meeting.

128. *In the Durham area we have a problem where the ATOS Dr's examining the claimant are different from those completing the medical form for PD A14. Mr Alan Cummings – Durham Miners Association.* This query about the operation of the IIDB Scheme lies outwith the immediate remit of IIAC but Departmental representatives asked Mr Cummings to write to them with his concerns.

129. *We have tribunal cases where claimants have had a knee replacement and then been unable to claim PD A14 as they no longer have osteoarthritis of the knee. A prosthetic knee only lasts for 10-15 years and then must be replaced. There should be a percentage assessment for claimants for PD A14 who have had a knee replacement. Mr Alan Cummings – Durham Miners Association*. IIAC defined the severity of osteoarthritis of the knee, including knee replacement, required to be eligible for PD A14 in its Command paper. Reference to knee replacement was not in the prescription but IIAC was assured that heed would be given to IIAC's guidance in the report. If this is not the case, then IIAC would be interested to hear about it as soon as possible and would encourage those with issues surrounding PD A14 to write to IIAC with their concerns.

130. *Is there asbestos in aertex*? Professor Britton stated that asbestos was not in all aertex, but could be in aertex from the 1950s and 60s. If a worker was in doubt, a sample of the aertex should be sent for analysis prior to work commencing.

131. *Why are the assessments for disablement for PD A14 received by many Durham miners much lower than the 14% threshold for payment? How do the assessments for disablement compare with those in Yorkshire?* Assessments take into consideration the loss of function in the claimant compared to someone of the same age and sex. Osteoarthritis is common in the general population, especially at advanced age. The amount of loss of function from osteoarthritis of the knee that a similar person of the same age and sex might suffer will be subtracted from the claimant's assessment for disablement, which can make the assessment seem low. Statistics on assessments for disablement are split into broad geographical locations, but data are not available at the level of detail requested..

132. *What steps are taken to make potential claimants aware of changes to the list of prescribed diseases, such as the availability of IIDB for osteoarthritis of the hip in farmers?* IIAC publishes its reports to Minister, which are available on its website. Departmental representatives stated

that changes to the IIDB scheme are highlighted to the relevant trade unions. The steps taken to increase awareness are proportionate to the expected scale of claims. For osteoarthritis of the knee where there were 14,000 claims, the Department liaised with the main miners unions. For osteoarthritis of the hip fewer claims were anticipated as many farmers are self-employed and trade union representation is smaller than for miners; there have been 10 claims in total since it was first prescribed in 2005. There must be a proportionate response to advertising.

133. *What does IIAC do to increase awareness of prevention of occupational diseases and injuries?* The focus of the IIDB Scheme is compensation. However, IIAC is aware of the importance of prevention. A section on prevention is now included in every Council report. A representative from the Health and Safety Executive (HSE) attends IIAC and RWG meetings.

134. *The success rate at some Tribunals seems to depend on the quality of the argument rather than the strength of the evidence. It is a particular problem in certain circuits/with certain judges? This acts as a deterrent to claimants wishing to appeal.* Concerns about Tribunal success rates need to be raised with the Ministry of Justice.

135. *Repetitive strain injury (RSI) is a collective term for a number of conditions. RSI is a diagnosis in itself. In 2006 IIAC published its review 'Work related upper limb disorders' where it considered that RSI meant different things to different people and that a consensus on what it was and how it was defined was ambiguous. Research is needed to provide clarity to enable compensation to be provided to sufferers through the IIDB scheme and the courts of law. IIAC agree that more evidence is needed but does not itself perpetuate or originate any research – Mr Stephen Fisher, RSI Action.* The diagnostic criteria for RSI depend on the interpretation of the expert; there is no consensus within the medical community. It is also difficult to distinguish between relevant exposures at home and in the workplace. Analogously, stress is difficult to prescribe due to problems with defining the diagnostic criteria and measuring and verifying the exposure. The diseases which are problematic in the modern workforce differ significantly from those in traditional heavy industry, which were easier to prescribe. However, IIAC has shown that despite difficulties prescribing for 'harder' cases, prescription osteoarthritis of the knee, a common disease in today's workforce, has proved possible. IIAC will continue to monitor evidence and encourages research activity in its report's where a specific need is required; it has no budget, however, to conduct research of its own.

136. Professor Keith Palmer thanked all those attending for their input to a highly constructive and useful meeting.

List of delegates

Surname	First name	Organisation
Blenkinsopp	Robert	National Vice President Union of Democratic Mineworkers Nottingham
Britton	Mark	Industrial Injuries Advisory Council
Cambridge	Peter	Health and Safety Trade Union Representative London Metropolitan University
Campbell	Stewart	Occupational Health Advisor Health and Safety Consultant
Cardill	Steven	Union of Democratic Mineworkers South Derbyshire
Claughan	Lawrence	Executive Member Durham Miners Association
Cullinan	Paul	Industrial Injuries Advisory Council
Cummings	Alan	Executive Member Durham Miners Association
Darnton	Andrew	Health and Safety Executive
Elliott	Rebecca	Senior Lecturer/Course Leader Leeds Metropolitan University
Evans	Keith	Branch Secretary Department for Transport
Exell	Richard	Industrial Injuries Advisory Council
Faupel	Paul	Industrial Injuries Advisory Council
Fisher	Stephen	Chairman of Trustees RSI Action
Flanders	Nikki	Occupational Health Practitioner Occupational Health Alliance
Flanders	Ian	Occupational Health Practitioner Occupational Health Alliance
Garvey	Carmel	Occupational Health Manager CIGNA Healthcare
Gay	Thomas	Union of Democratic Mineworkers South Derbyshire
Gill	Ian	Union of Democratic Mineworkers
Ginn	Urmilla	Occupational Health Advisor Home Office
Gladders	Richard	Union of Democratic Mineworkers South Derbyshire
Goodman	Rose	HCA
Green	Nicky	Occupational Health Advisor Kingston University Health and Safety Team
Guy	David	President Durham Miners Association

Haddow	Clare	Occupational Health Nurse Specialist Federation of Small Businesses
Hajee	Zarina	IIAC Secretariat
Harris	Nick	Trade Union Official National Union of Mineworkers
Hegarty	Catherine	IIAC Secretariat
Hopper	David	Secretary Durham Miners Association
Houghton	Carl	Trade Union Official National Union of Mineworkers
Hykin	Ruth	Occupational Health Advisor Kingston University Health and Safety Team
Johnson	Alan	Executive Member Durham Miners Association
Kelly	Jimi	Trade Union Official National Union of Mineworkers
Lamb	Keith	Welfare Officer Durham Colliery Mechanics Trust
Lawson	Ian	Industrial Injuries Advisory Council
Leris	Clare	Health Work and Wellbeing Directorate
Levene	Simon	Industrial Injuries Advisory Council
Mace	Steve	Trade Union Official National Union of Mineworkers
Mansell	Lorna	Occupational Health and Safety Manager Royal Borough of Kingston
McCowliff	Jack	Tribunal Representative Durham Miners Association
McElvenny	Damien	Industrial Injuries Advisory Council
McGarry	Dave	Branch Secretary Union of Democratic Mineworkers South Derbyshire
McGowan	Siew Li	Commercial Director Premier Occupational Healthcare Limited
Meehan	Paul	Solicitor O.H. Parson's & Partners
Mercer	Margaret	Occupational Health Manager TESCO PLC
Meuse	David	Secretary Union of Democratic Mineworkers South Derbyshire
Morley	Sue	Occupational Health Nurse University of Kent, Occupational Health Service
Newman	Ann	Health Work and Wellbeing Directorate
Norwood	Stephen	Branch Secretary Thoresby Colliery Union of Democratic Mineworkers Nottingham

Page	Sarah	Research Officer Prospect Union
Palmer	Keith	Industrial Injuries Advisory Council
Pearce	Stan	Tribunal Representative Durham Miners Association
Pennycook	Martin	Committee Member Union of Democratic Mineworkers South Derbyshire
Perry	James	Administrator Durham Colliery Mechanics Trust
Roach	Gareth	IIAC Secretariat
Schofield	Michael	Occupational Health Strategy and Wellbeing Manager AA Corporation Limited
Scott	Lesley	Occupational Health Advisor Home Office
Shalom	David	Medical Advisor Atos Healthcare Services
Shears	Dan	Health, Safety and Environmental Research & Policy Officer GMB National Office
Shelton	Marianne	IIAC Secretariat
Smith	David	Union of Democratic Mineworkers South Derbyshire
Smith	Anthony	Union of Democratic Mineworkers South Derbyshire
Stacey	Christine	Senior Lecturer, Health and Safety Representative University of Greenwich
Sullivan	Claire	Industrial Injuries Advisory Council
Timpson	Pauline	Unite
Todd	Hilary	Chief Executive The Society of Occupational Medicine
Turner	Andrew	Industrial Injuries Advisory Council
Ujah	Elizabeth	Occupational Health Specialist Inspector Health and Safety Executive
Ward	Jacqueline	Occupational Health Advisor HM Prison Service - Greater London
Ward	Rob	Jobcentre Plus Products and Transformation Division
Watkin	Terry	Chairman Durham Colliery Mechanics Trust
Whitty	Fergus	Industrial Injuries Advisory Council
Whitworth	Joe	Tribunal Representative Durham Miners Association
Wigley	Lyn	Health and safety policy officer The Society and College of Radiographers
Wileyman	David	Jobcentre Plus Products and Transformation Division

Yardley	Adam	Coal Liabilities Unit Department for Energy and Climate Change