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The Industrial Injuries Advisory Council

Proceedings of the 8th Public Meeting

25 June 2009
Bristol

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Foreword

The eighth Public Meeting of the Industrial Injuries Advisory Council (IIAC) was held in Bristol on 25th June 2009. This event built on the success of the Public Meetings held around Great Britain over the past 7 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 stress, osteoarthritis of the knee and occupationally-related respiratory diseases. The eighth IIAC 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, its recommendations are not necessarily consistent with current legislation, and during the Public Meetings members may have expressed personal views which are recorded in this report. The report should not be used as guidance on current legislation, or current policy within the DWP.

Professor Keith Palmer
Chairman IIAC

Agenda

09:00 – 09:45	Registration
09:45 – 10:30	**Welcoming Remarks** Chair of IIAC – Professor Keith Palmer
	IIAC's approach to scientific decision making Chair of IIAC Research Working Group –Dr Anne Spurgeon and Professor Keith Palmer
	Work of the scientific advisor Dr Marianne Shelton
10:30 – 11:00	**Discussion and questions**
11:00 – 11:30	Break
	Presentations:
11:30 – 12:15	**Stress** – Dr Anne Spurgeon
12:15 – 13:00	**Mesothelioma and recent work on lung conditions** - Professor Mark Britton
13:00 – 14:00	Lunch
	Presentation and open forum:
14:00 – 14:45	**Osteoarthritic conditions** – Professor Keith Palmer
14:45 – 15:15	**Open forum** Facilitator – Mr Simon Levene
15:15	End of public meeting

Welcoming Remarks

Professor Keith Palmer
Chair of IIAC

1. Professor Keith Palmer welcomed everyone to the Bristol 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. Claimants can receive benefit from ninety days after the accident or onset of the prescribed disease; shorter periods of disablement are not compensated.

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 disablement needs to be greater than 14% (exceptions exist for pneumoconiosis where payment starts at 1% disablement, and occupational deafness where payment starts at 20%). Assessments of disablement for different accidents or diseases can be aggregated.

4. IIAC is a statutory body, established under the National Insurance (Industrial Injuries) Act 1946, to provide independent advice to the Secretary of State for the DWP 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 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's remit does not include advising on individual cases or on decision-making for 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, acid mists and laryngeal cancer, beryllium and lung cancer, shift work and cancer or heart disease, occupational cancer in painters and, pleural plaques.

10. The Council has completed seven reports over the past year covering a wide range of occupational health issues, including 'Cadmium and genitourinary cancers' (March 2009), 'Osteoarthritis of the knee in miners' (August 2008), Bronchiolitis obliterans and food flavouring agents' (July 2008), 'Testicular cancer in fire fighters' (June 2008), 'Asbestos exposure and retroperitoneal fibrosis' (June 2008), 'Pesticides and Parkinson's disease' (February 2008) and 'Laryngeal cancer and asbestos exposure' (July 2008).

IIAC's approach to scientific decision making

Dr Anne Spurgeon and Professor Keith Palmer
Chair of the IIAC Research Working Group and Chair of IIAC

11. This talk focussed on IIAC's approach to making scientific decisions in the context of the IIDB scheme, with Dr Anne Spurgeon outlining the principles and Professor Keith Palmer illustrating how it works in practice.

12. Dr Spurgeon began by discussing the legal framework in 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.

13. 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.

14. 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 of a disease in populations and IIAC applies epidemiological principles when considering prescription.

15. 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 a fraction greater than 50%. If one considers there are 50 cases of a disease in a given-sized group of unexposed workers, this represents the background risk, which is common to everyone in the population under consideration. For the disease to be attributed to occupation as 'more likely than not' (i.e. have an attributable fraction that is larger than 50%) there would have to be at least 50 additional cases in a

similarly-sized group of exposed workers, over and above the 50 'background' cases which occur as a matter of course. The benefit of the doubt that the disease is caused by occupational exposure is with the exposed workers, since only 50 cases in that group are actually due to occupational causes, but all the exposed cases get the benefit of the group's probability. Thus, 'more likely than not' equates to a more than doubling of risk in a given occupation compared with other occupations.

16. In order to establish whether there is a doubling of risk for a disease and attribution 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 study, ideally several of different design, since it is less likely that any decisions based on them will be due to error or overturned by future research. It is also important that the disease and the relevant exposures can be easily verified and that it is a cause of genuine disability.

17. 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.

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

19. 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.

20. 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 'volunteering' bias was limited since the comparisons were made among people who had not been selected on the basis of their care-seeking for hip disease.

21. 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.

22. Verification of OA of the hip is straightforward since there are well-defined diagnostic criteria. Dr 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.

23. 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.

24. OA of the hip in farmers fulfilled the criteria necessary to be able to diagnose and 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).

25. 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 less 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 13.

Work of the scientific advisor

Dr Marianne Shelton
IIAC Secretariat – scientific advisor

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26. Dr Marianne Shelton outlined the work of the scientific advisor. The scientific advisor is a member of the IIAC Secretariat, who are DWP staff who support the Council in its work. The scientific advisor provides a range of scientific services. There has been a scientific advisor in post since 2002. At that time, the Chairman of the day, Sir Professor Anthony Newman Taylor, made a specific request to Minister to obtain funding for a dedicated scientific support role to help the Council in its work.

27. Part of the scientific advisor's role involves undertaking literature searches for the Council. This generally involves using the PubMed research database run by the National Institute of Health in the US. This is a free digital archive of biomedical and life sciences journal literature, containing over 1.5 million reports from over 450 journals.

28. The main reason literature searches are conducted is to provide evidence of increased risks for occupational diseases and their exposures for IIAC reviews. Searches may be done at the start of a review, to scope out what evidence is available, or to answer specific questions that arise during the course of a review. As a result of the literature search, a review may be expanded if the Council identifies a need beyond the initial terms of inquiry. For example, the recent cadmium and genitourinary cancers review was originally limited to bladder cancer, but was expanded to include renal and prostate cancer based on the results of the literature search.

29. Literature searches are also undertaken as horizon scanning exercises to see what new research is emerging.

30. Searches are also conducted in the production of the IIAC abstract booklet which is produced every 6 months for Council members. Abstracts are summaries of the research reports. The abstracts booklet is a literature search of occupational diseases in general and those specific to IIAC's interests. This helps members keep up-to-date with the literature relevant to the Industrial Injuries scheme and is a way in which IIAC can identify new evidence on topics it has undertaken to monitor in past reports, e.g. OA hip in occupations other than farming.

31. The scientific advisor also helps in producing IIAC reports, such as Command papers, position papers, the annual report and the proceedings from Public meetings. The support provided can be in the form of obtaining research papers, drafting parts of the report and liasing between Council members or external experts.

32. IIAC can apply for funding to commission literature reviews on various topics. The scientific advisor secures funding from the DWP, suggests research topics, helps put together project specifications, negotiates the contract and liaises with the chosen contractors during the course of the review.

33. Another key role for the scientific advisor is in IIAC's meeting work, drafting the agenda, recording minutes from meetings and following up action points. This involves close liaison with the Chairs of IIAC and the RWG and Council members.

34. Replies to correspondence from members of the public or MPs about scientific queries relating to IIACs work are also dealt with by the scientific advisor.

35. In summary, the scientific advisor role helps enable the Council in its scientific workload – providing a range of focused scientific support.

Comments, questions and answers from the morning session

36. *How does IIAC decide what to review and when to review it*? IIAC reviews items based on representations made by MPs, Council members, stakeholders or members of the public. Chronic bronchitis and emphysema was reviewed for surface coal miners following a suggestion at an IIAC Public Meeting. IIAC regularly re-consider emerging evidence in relation to past reviews.

37. *The number of surface coal miners being awarded chronic bronchitis and emphysema is low as the standards for qualifying are too high. What mechanism is there for change?* The qualifying exposures for the prescription for chronic bronchitis and emphysema for surface coal miners were recommended based on the evidence available from the Institute of Occupational Medicine. This suggested that exposures in surface work were lower than those underground. The data were used as a basis for calculating the aggregated exposures over a working lifetime of miners who worked in both settings. The Council will consider any evidence about qualifying exposures for surface coal workers which attendees or other parties wish to send to it.

38. *IIAC has recommended prescription for OA hip in farmworkers. Has IIAC considered whole body vibration, e.g. in forklift truck drivers, as a cause of OA hip?* Evidence is lacking at present that whole-body vibration is a cause of hip OA. Various other potential risk factors for hip disease (such as lifting) have been considered. One difficulty in applying evidence in this area is that there are few data by job title (an exposure that is easy for lay decision makers to verify) and those that relate to an occupational activity (e.g. lifting for a significant portion of the working day) are more difficult to verify.

39. *Has IIAC considered recommending a retraining allowance, similar to Reduced Earnings Allowance (REA)?* IIAC continues to be in support of REA or a similar benefit to provide a retraining supplement to workers who are unable to fulfil their current role due to certain exposures, but are able to undertake different work (e.g. worker with baker's asthma). The government's Pathways to Work initiative is active in helping people back to work. IIAC recommended introducing a retraining allowance in its advice to Ministers on IIAC reform in 2008 to further help IIDB claimants find new work, but the suggestion was not accepted.

40. *The models of work for modern work-related diseases, such as repetitive strain injury, are much less clear and harder to prescribe given the standards for ascribing the benefit of presumption rule.* Verification of an exposure can pose problems for modern work-related diseases. The definition of an exposure must be simple and pragmatic for a high volume, low (administrative) cost scheme such as IIDB. Verifying the physical exposures is challenging for musculoskeletal disorders, and this has

limited its opportunities for prescription. IIAC is aware of this problem and does try to encompass modern day occupational diseases where it can.

41. *Why was miners nystagmus removed from the list of prescribed diseases?* This disease was removed as there were no claims in recent history. Furthermore, the exposure conditions do not arise in industry these days and IIAC took evidence that the conditions had not occurred in many years. Diseases are removed from the list in exceptional cases. Generally diseases remain on the list in case exposures may occur in the future based on changing work practises.

42. *When will IIAC's report on pleural plaques be published? Has IIAC considered research from Japan suggesting a higher incidence of asbestos-related diseases in those with pleural plaques?* IIAC completed its review in September 2008. The report is with Ministers who have not announced their recommendations. In IIAC's Command paper 'Asbestos-related diseases' published in 2005, the Council did not recommend prescription for pleural plaques, but the Council is unable to comment on its recommendations in its latest report. The Chairman requested that the link to the Japanese research be forwarded to the Secretariat for IIAC's consideration. [Post meeting note: This report has since been published on 30 June 2009 and is available on the IIAC website].

43. *IIAC's Command paper 'Work-related upper limb disorders' did not contain a list of evidence referred to. Does IIAC include reference lists in its reports?* In the past IIAC reports tended not to cite the evidence underlying recommendations in great detail. In recent years reports have more explicitly cited the data and reference lists employed to be more accountable and clear on the evidence considered. The evidence considered in the report 'Work-related upper limb disorders' on specific disorders, such as carpal tunnel syndrome, was published in an IIAC commissioned review 'Work-related upper limb disorders' which is publicly available.

Stress

Dr Anne Spurgeon - Chair of the RWG

44. This presentation focuses on stress-related conditions and the difficulties that face IIAC in prescribing them under the IIDB Scheme. There are two categories of occupational stress which have been considered by IIAC: general stress-related illness and the more specific Post-Traumatic Stress Disorder (PTSD).

45. Prescription of any disease within the IIDB Scheme must meet criteria which are set down in law. This process involves identifying a health outcome (disease or condition), quantifying the exposure necessary to cause the disabling condition and attributing the illness to an occupation on the basis of research which describes epidemiological distributions or clinical features.

46. Defining a health outcome relies on assessing the disease, its severity and its clinical impact. The HSE define stress as 'the adverse reaction people have to excessive pressure or other types of demand placed upon them'. Thus stress is a sensation – an adverse response to pressure and not, in itself, a disease, although it may lead to ill-health.

47. Individuals may respond to stress with adverse physiological, psychological and behavioural reactions. An example of physiological responses would be an increased heart rate and elevated blood pressure. Psychological responses would include the development of conditions such as anxiety and depression, while changes in behaviour might include altered patterns of eating and sleeping or abuse of substances such as drugs and alcohol. Possible outcomes of these responses together or alone might be demonstrable effects on physical or mental health, effects on social behaviour or on performance at work.

48. Stress-related conditions pose a number of challenges for IIAC. There is poor consensus on case definition and on the assessment of severity of stress-related disorders. There is a general reliance on symptoms which makes independent verification of the conditions difficult. Two types of disorder, mental health problems and coronary heart disease, have been most often associated with exposure to stress. However, there is frequently disagreement between experts on diagnosis of mental health problems and, while coronary heart disease is verifiable, the evidence of a link between potential stressors is not firmly established and other risk factors have been identified.

49. The assessment of exposure is important when IIAC are considering whether a disease should be prescribed for the IIDB Scheme. In considering the question of exposure to stress, several sources of excess pressure have been identified:

i)	**Demands**	-	overload, time pressure, long hours, inadequate resources
ii)	**Control**	-	lack of participation in decision about the way work is organised
iii)	**Support**	-	lack of support from colleagues
iv)	**Relationships**	-	being subjected to unacceptable behaviours (e.g. bullying at work)
v)	**Role**	-	lack of understanding about roles and responsibilities
vi)	**Change**	-	lack of consultation or information when undergoing organisational change

50. However, various difficulties arise in identifying and confirming the sources of stress. These may be occupational or non-occupational and stress at work may affect stress at home, and vice versa. While a number of triggers have been identified, there is no agreement on a reliable method by which to confirm with consistency, the presence or absence of particular stressors, or the degree of exposure to these.

51. The attribution of a stress-related condition to occupation is difficult, not least because these conditions are very common in the general population and are not unique to any particular occupation. In addition these conditions do not have distinctive clinical features when related to occupation; the causes are often multi-factorial; risk factors may be influenced by personal perceptions and most importantly from IIAC's point of view, there is no strong evidence to identify a doubling of risk for the condition in specific occupations.

52. IIAC have been unable to recommend that any adverse health outcomes ascribed to stress at work be included on the schedule of prescribed diseases.

53. Post-traumatic stress disorder (PTSD) is a recognised psychiatric disorder which can be compensated under the Accident Provisions of the IIDB Scheme. PTSD must have arisen as consequence of an identifiable accident (which can be a single event or a series of single events over a short period of time) arising out of their work for a claim to be eligible for IIDB. IIAC recommended in its Position Paper that a diagnosis of PTSD should only be made where the person has experienced, or witnessed at first hand, a life-threatening event (or series of single life-threatening events over a short period).

54. The definition of PTSD has two elements:

i)	**Condition**	ii)	**Exposure**
-	Response to event - intense fear, horror, helplessness.	-	Traumatic single event.
-	Avoidance of related situations.	-	Life threatening or potential to cause serious harm to self or others.

- Flashbacks.
- Persistent psychological distress & anxiety.
- Impaired social functioning.
- Outside realms of normal experience.
- Readily perceived as such by others.

55. In summary, at present PTSD can be compensated through the Accident Provisions of the IIDB Scheme. However, no adverse effects ascribed to occupational stress are included in the list of prescribed diseases for which IIDB is payable.

Comments, questions and answers

56. State occupational disease schemes in other countries similarly struggle with compensating stress and stress-related diseases.

57. *Mining is a stressful job, but many miners did not think about the stress of their jobs*. Dr Spurgeon stated that this attendee's comment illustrated the problems of prescribing for stress. What is stressful for one individual is not perceived as stressful to another even in similar jobs. What is stressful for an individual on one day, may not be at a different time.

58. 'Underload' and jobs not being sufficiently challenging can also be stressful.

59. *Has there been an analysis on stress in shift workers?* IIAC has recently considered shift workers and cardiovascular disease. Stress could be one of the mediating factors involved in this association. Shift work as an exposure is easily verifiable under the scheme. If there were an association between a stress-related disease which was capable of clear definition and diagnosis, such as depression, a case for prescription could be considered. The Council is currently preparing a position statement on shift working and health, including cardiovascular disease.

60. *Can PTSD occur about multiple traumatic events?* PTSD is covered under the accident provisions for a single identifiable traumatic event or a series of identifiable traumatic events, each of which are considered as accidents. The series of events can occur on the same day, or over period of time, but must be able to be identified. There was discussion about the House of Lords case (Chief Adjudication Officer v. Faulds), where a fire fighter was not eligible for coverage under the accident provisions as he was unable to identify specific incidents that had contributed to his PTSD.

61. *How many claims are there for PTSD?* The number of awards for PTSD is a small percentage of the total caseload for IIDB. It is unclear how many claims are made to the Department for PTSD. DWP officials attending the meeting agreed to investigate and pass this information on (Chris Kitchen, NUM) (Action point).

62. *Can claims for compensation prevent people from recovering?* There is evidence which suggests that impending compensation claims can adversely affect people's recovery from ill-health for a number of reasons, such as the stress of making a claim. IIAC has looked at lump sum payments for some diseases to alleviate stress and to aid recovery.

63. *Employers do not understand PTSD. Was IIAC put under pressure from employers not to prescribe for PTSD?* IIAC is an independent advisory body, which always looks at the merits of the available scientific evidence. The funds for IIDB come from the state, not employers' liability compulsory insurance – thus, lobbying by employers was not (and never appears to be) an issue impinging on the Council's deliberations. Similarly, the Council formulates its recommendations independent of Government. It is then up to Ministers whether or not to accept and implement IIAC's recommendations.

Mesothelioma and recent work in lung conditions
Professor Mark Britton

64. Professor Britton reviewed the Council's work programme on occupationally related lung disorders.

65. Asbestos fibres are a group of natural fibrous silicates whose strength, heat resistance, and chemical and electrical properties have been widely exploited since the late 1800s. The adverse health effects of asbestos were not at first apparent. Mesothelioma was first recognised in the 1960s. Molly Newhouse, in an early epidemiological study of mesothelioma deaths, observed that the majority occurred in dockyard workers with heavy asbestos exposure.

66. In August 2003 IIAC undertook a review of asbestos-related diseases, including mesothelioma. This involved analysis of IIDB and mesothelioma statistics, consultations with a variety of experts and DWP officials and reviewing scientific literature. The report was completed and published in 2005.

67. In recent years we have seen an epidemic of mesothelioma deaths. Peto *et al.* (1995) estimated that the peak of the UK epidemic of mesothelioma caused by asbestos exposure will not be reached until 2020, with two thirds of the cases yet to occur. Different asbestos fibre types (amosite, crocidilite, etc.) produce different risk estimates for mesothelioma. Most occupational exposures were to mixed fibre types. Risks are also dose-dependent and time-dependent. In the past mesothelioma cases were associated with heavy asbestos exposures (e.g. ship-building, asbestos cement manufacture), nowadays more cases are seen in people with less asbestos exposure, such as plumbers, electricians and carpenters.

68. Mesothelioma presents with clinical symptoms, such as chest pain and breathlessness. The Chest X-ray and the CT scan shows 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 scans has helped increase positive biopsy rates.

69. 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.

70. 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 lack of awareness of the scheme. IIAC recommended that the Department highlight the availability of the PD D3 mesothelioma IIDB provisions to potential claimants. The Department consulted with claimants groups, the British Lung Foundation and lung cancer nurses and updated the Departmental website for doctors.

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

72. 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.

73. 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.

74. 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.

75. 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 scheme there were 318 claims, with average lump sum payments of £16,000 each.

76. Professor Britton went on to discuss diffuse pleural thickening (PD D9).

77. Prior to IIAC's 2005 review, to fulfil the terms of prescription for PD D9 that the diffuse pleural thickening had to cover at least 50% of chest wall for unilateral cases or at least 25% each side for bilateral cases, and have a minimum 5mm thickness at one point within the area affected, as measured on a plain X-ray. IIAC took evidence from experts which suggested that the terms of prescription should be amended to remove the requirement for measurements of pleural thickening and to introduce the requirement for involvement of the costophrenic angle on plain chest radiographs.

78. The definition and guidance within the ILO system regarding obliteration of the costophrenic angle has been reviewed and clarified.

79. Pleural plaques are areas of fibrosis, usually found on the inner lining of the chest wall. Plaques tend to follow the line of the ribs and are also common over the diaphragm. In its 2005 review, IIAC recognised that symptomatic pleural plaques can occur but found a lack of evidence that they cause impairment of lung function sufficient to cause disability. Thus, IIAC did not recommend pleural plaques for prescription in its 2005 review. IIAC has since revisited the issue of pleural plaques following a Ministerial request last year. IIAC's report is currently with Ministers [Post meeting note: This report has since been published on 30 June 2009 and is available on the IIAC website].

80. Extrinsic allergic alveolitis (EAA) is a potentially serious, rare respiratory disease caused by exposure to a variety of sensitizing agents (agents that promote an allergic response). It is often encountered in occupational settings. EAA is already a prescribed disease in relation to several occupational exposures (Prescribed Disease [PD] B6).

81. Examples of EAA and their associated exposures are:

• Farmer's lung	Mouldy hay, straw and grain
• Bagassosis	Mouldy maltings
• Ventilation pneumonitis	Contamination of air conditioning units

82. EAA can present in an acute or a chronic form.

83. Acute EAA is caused by exposure to high concentrations of the antigen, (allergic entity) typically provoking breathlessness and flu-like symptoms. These symptoms usually develop within 6 to 8 hours of exposure and resolve without further exposure in 48 hours, although lung function can take weeks to improve and months to recover.

84. Chronic EAA develops when the outcome of repeated episodes of acute disease or of long term exposure to lower levels of exposure to the sensitising antigen, by themselves insufficient to cause acute EAA. The condition is characterised by development of irreversible pulmonary fibrosis (scarring), which causes breathlessness on exertion. Symptoms do not resolve with avoidance of further antigen exposure. Early diagnosis with avoidance of exposure can prevent progression to chronic EAA.

85. Three outbreaks of EAA were reported in Birmingham, South Yorkshire and Nottinghamshire at factories where workers were exposed to mists of metalworking fluids (MWF). This prompted IIAC to conduct a review to consider extending occupational coverage for PD B6 (EAA) to work involving exposure to mists generated during metalworking.

86. The Birmingham outbreak was identified and investigated by the Birmingham Occupational Lung Disease Unit, which is part of the NHS resource for managing occupational diseases. The researchers identified several cases of EAA in workers at the Powertrain factory, where car engines were manufactured.

87. Twelve cases of EAA were identified. All the cases were male, age 36-59 (median 46.5) and there were no current smokers (6 were ex-smokers, 6 had never smoked). Four of the cases had been directly referred to the Occupational Lung Disease Unit from their occupational health unit, their GP or by a solicitor. Six had been referred by other clinicians in five hospitals.

88. The outbreak cases in Birmingham, South Yorkshire and Nottinghamshire shared similar clinical features, typical of EAA, such as breathlessness on exertion, improvement of respiratory symptoms after time away from the exposure (e.g. at the weekend) and worsening of symptoms upon return to work (e.g. at the start or during the working week). Other symptoms included shortness of breath, weight loss, cough, wheeze, influenza-like symptoms, chest tightness and/or pain and production of sputum.

89. Diagnosis of EAA is relatively straightforward, relying on lung function tests, CT scanning, immunological tests and occasionally bronchoscopy with biopsy.

90. The Health and Safety Executive (HSE), together with the Birmingham Unit began an occupational survey in April 2004 and identified 22 cases of EAA, 80 cases of occupational asthma and 7 cases of humidifier fever in the total Powertrain workforce. The investigation concluded that exposure to MWF mists was responsible for the Birmingham outbreak. Several studies of different research design reported in the scientific literature provide further evidence to support the association of exposure to aerosolized MWF with the development of EAA.

91. IIAC published its report of EAA and MWF in July 2006, eight months after it began its review. IIAC recommended extending prescription for EAA due to mists from MWF. EAA due to MWF represents the easy end of prescription. IIAC's recommended prescription based on the clinical features of the disease due to its rare nature together with the evidence of clusters of work-related cases with similar exposures and the ability to diagnose the condition in a straightforward manner. It was not necessary to accumulate elaborate epidemiological evidence.

92. Chronic bronchitis and emphysema is prescribed disease PD D12. Diagnosis of chronic bronchitis is clinically based upon a history of coughing up sputum every day for 3 months, with episodes occurring once every two years. Emphysema is essentially a pathological diagnosis – i.e. related to changes in the lung's structure. In November 2007, IIAC published its latest review of chronic obstructive pulmonary disease (COPD) – chronic bronchitis and emphysema. In this report IIAC recommended that the terms of PD D12 be extended from covering underground coal workers only, to including work on the surface of a coal mine as a screen worker for a period or periods amounting in the aggregate to at least 40 years before 1983, or a combination of underground and screen working, such that 2 years working as a surface screen worker before 1983 is equivalent to 1 year working underground, amounting in the aggregate to at least the equivalent of 20 years working underground.

93. In July 2008, IIAC published 'Bronchiolitis obliterans and food flavouring agents', reviewing prescription for bronchiolitis obliterans, otherwise known as 'popcorn workers lung' or BOOP (bronchiolitis obliterans organising pneumonia). Bronchiolitis obliterans affects the small airways, which causes these parts of the lung to become partially obstructed.

94. Various ingested agents have been shown to cause BOOP, such as paraquat, Spanish 'cooking' oil, and drugs. BOOP can also occur following acute chemical injury (toxic pneumonitis), exposure to nylon, rayon, polypropylene (Flock worker's lung) or after lung transplantation.

95. IIAC became aware of literature relating to BOOP associated with exposure to diacetyl, a food flavouring agent producing a buttery flavour. Cases of BOOP had been reported in workers exposed to diacetyl in industries manufacturing microwave popcorn, flavoured oil and flavourings, candy, potato chips and in manufacture of diacetyl itself.

96. IIAC recommended prescription for bronchiolitis obliterans (PD C31) for work involving production of diacetyl or use or manufacture of food flavourings containing diacetyl.

Osteoarthritic conditions

Professor Keith Palmer

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

98. 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 one which poses a tough challenge for prescription.

99. 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.

100. 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.

101. 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.

102. 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.

103. 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.

104. 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.

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

106. 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.

107. 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 was adjusted statistically to allow for mental health beliefs and pattern of pain at the start of the study.

108. A prevalence study of workers undertaking similar jobs in the UK compared to Mumbai in India showed that back pain was reported less often in Mumbai than in the UK, suggesting that cultural factors may influence perceptions about back pain.

109. 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.

110. 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.

111. 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.

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

113. 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.

114. 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 increased back pain, so this criterion might be achievable.

115. For diseases with no unique clinical features and with both occupational and non-occupational causes, IIAC seek 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. It is not possible to have a greater than doubled risk 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.

116. 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 an independent measure of the outcome; they are semi-objective, all requiring the co-operation and input of the claimant.

117. 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 in Wales showed significant lumbar disease (grade 3-4) in 18% of men and 12% of women, but any grade changes were noted 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.

118. 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.

119. 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.

120. In July 2007, IIAC published its position paper 'Back and neck disorders'. IIAC were unable to recommend prescription for back and neck pain due to inherent difficulties with case definition and diagnosis at present.

121. 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.

122. Traditionally, mining involves heavy work using miner's knees, such as stooping, crawling and heavy lifting. Former members of the Council asked IIAC to consider evidence relating to OA knee in miners.

123. 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 an 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.

124. 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.

125. 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.

126. 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 (panarthrosis) was 9 fold more common in miners compared with non-miners. However there were technical limitations to this study.

127. IIAC concluded that the risks of OA knee were greater than doubled, fulfilling the scientific requirements for prescription. However, IIAC generally seek evidence of a doubling of risk in a number of independent studies. The direct evidence of an association between OA knee and mining was limited.

128. 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 the activity 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.

129. A second from of indirect evidence concerned knee cartilage injury in miners. It is well known that injuries to the knee cartilage increase the risk of developing OA knee. One study by Sharrad showed that North Yorkshire miners were between four and five times more likely to come forward for knee surgery compared to other types of surgery. Greinemann showed that miners were four times more likely to have knee cartilage injuries compared with controls.

130. The direct evidence together with the indirect evidence was sufficient in sum to satisfy the scientific requirements for prescription that evidence be based on several independent studies showing a greater than doubled risk of an association.

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

132. 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.

133. 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's work programme in the future will give consideration to using this new principle, where possible, to widen the prescription of OA of the knee to other occupations, perhaps including construction workers.

Comments, questions and answers

134. *Eligibility for prescription is based on severe OA of the knee according to the Kellgren-Lawrence scale 3 to 4. This standard is too high. Why was this chosen?* The terms of prescription do not formally specify the severity of OA of the knee, but a grade is included in guidance to decision makers based on IIAC's suggestions. All research evidence considered by IIAC related to severe OA, correlating to Kellgren-Lawrence grade 3 to 4. Most orthopaedic consultants would not give a diagnosis of osteoarthritis unless there was evidence of grade 3 to 4 knee changes according to the Kellgren-Lawrence scale (this defines the stage at which the joint space becomes narrowed, which is an important factor in disability).

135. *Certain miners may still have had exposure to heavy lifting after 1986. Mechanisation of coal mines lead to fewer miners. Those that were left had to work much harder in multi-changeable roles. Why was this date chosen?* It was complicated to pick a specific cut off date. The combination of kneeling and squatting under load are associated with OA of the knee if undertaken for most of the working day (each of the factors separately carries a lesser risk). After 1986 most coal mines were mechanised reducing the potential for exposure. IIAC gathered evidence from a variety of sources (see paragraph 131 overleaf) about which jobs would have continued exposure to kneeling and squatting under load for most of the working day after 1986. These jobs were included in the terms of prescription. IIAC would welcome any evidence of relevant exposures in other job titles after 1986.

136. *Will assessments for disablement take into account whether a claimant has had a knee joint replacement?* Assessments are based on how the claimant can function compared to a similar person of the same age and sex. In the case of OA knee in miners an assessment cannot begin until the 91st day after diagnosis. Claimants can be awarded split assessments. For example a claimant may be awarded two different assessments of disablement before and after a knee operation. Assessments can go up, down or remain the same.

137. *What training is given to medical assessors for IIDB?* IIDB medical assessors are appointed by the Department, rather than the Council. IIAC has been advised that all are specifically trained to undertake IIDB assessments and most have a Diploma in Disability Assessment Medicine and/or Occupational Medicine. All assessors are registered medical practitioners prior to undertaking IIDB assessments and are competent to diagnose prescribed diseases. IIAC understands that all assessors have yearly internal audit reviews, targeted audits, independent quality audits, undergo continuing medical education and work to written guidance on specific topics. Medical assessors must have a proven track record in deciding other benefits before they are considered for IIDB assessments. These quality controls ensure that IIDB is the least appealed social security benefit.

138. *Will a claim fail if X-ray evidence relating to a claim for OA of the knee is not available?* If medical evidence is not available, the assessor will

make a clinical decision based on symptoms. The DWP does not require claimants to undergo invasive medical procedures for the purposes of deciding benefits. Any medical evidence available should be given to the decision maker.

139. *Attendees discussed notification letters which stated that claims for PD A14 had been rejected due to lack of X-ray evidence.* The DWP has recently standardised the letters of notification following a medical assessment. No letter should state that a claim was rejected based on lack of X-ray evidence. It is possible that the claim was rejected as the X-ray showed no evidence of the condition.

Open Forum
Facilitator: Mr Simon Levene

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

141. *Are the self-employed covered under the new mesothelioma scheme?* This scheme is not part of IIAC's remit. However, the government framed the scheme so that it would cover those with asbestos-related diffuse mesothelioma.

142. *The new mesothelioma scheme is cost neutral to the DWP as it is funded through claw back via the Compensation Recovery Unit (CRU). Compensation under the 1979 Act is untouched by the CRU. Is IIAC able to change this discrepancy?* This scheme is outside IIAC's remit.

143. *Requests for bulk numbers of claim forms for OA of the knee have been rejected by the DWP. Could distribution and information relating to OA of the knee been handled better?* The printers have been inundated with requests for claim forms for OA of the knee. However, the Castleford office has been sending out large volumes of claim forms to different organisations. The DWP is holding 2,000 claim forms awaiting enactment of the OA of the knee regulations in July 2009. Information about OA of the knee in miners and how to claim was disseminated to all miners unions with Departmental communication sessions.

144. *Following Professor Britton's expert presentation of occupational lung diseases, there is great benefit in using experts with clinical knowledge of effective treatments and patient interaction to provide input to IIAC reviews. Is this something IIAC should consider?* The Council is limited in the number of members it can accommodate. However, IIAC routinely invites topic experts to give evidence at Council meetings, consults with experts by correspondence, issues calls for evidence in the scientific press and sometimes hold expert workshops. Necessarily the main focus is on compensation, rather than treatment; but reports do refer to these matters and always include a section on prevention.

145. *Does the FEV_1 test for chronic bronchitis and emphysema disadvantage older, shorter claimants?* This is a problem with using predicted values. There is a debate about which predicted values should be used. IIAC recommended that to qualify for chronic bronchitis and emphysema there must be a 1L reduction in lung volume. The tables for predicted values take into account age, sex and height. Clinical judgement may be used in instances where a person is significantly shorter than average.

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

List of delegates

Surname	First name	Organisation
Bartlett	Simon	National Industrial Injuries Disablement Benefit Manger Llanelli BDC
Britton	Mark	Industrial Injuries Advisory Council
Claughan	Lawrence	Executive Committee Member Durham Miners Association
Cooper	Angela	Jobcentre Plus
Cooper	Steven	National Union of Mineworkers, Yorkshire
Cullinan	Paul	Industrial Injuries Advisory Council
Cummings	Alan	Executive Committee Member Durham Miners Association
Darnton	Andrew	Health and Safety Executive
Fisher	Steve	Chairman of Trustees, RSI Action
Garlant	Nicola	Assistant Manager, Bristol City Council
Gaskell	Joseph	National Union of Mineworkers, Yorkshire
Guy	Stephen	Principal Welfare Rights Officer, Adult and Community Services
Haddow	Clare	Occupational Health Nurse Specialist , CHOHS Ltd.
Hadfield	David	National Union of Mineworkers, Yorkshire
Hajee	Zarina	IIAC Secretariat
Hardman	Kathryn	Industrial Injuries Benefits Manager Hartlepool Jobcentre
Hegarty	Catherine	IIAC Secretariat
Hopper	David	General Secretary Durham Miners Association
Johnson	Alan	Executive Committee Member Durham Miners Association
Killian	James	Voice Care Network. UK
Kitchen	Chris	Secretary, National Union of Mineworkers, Yorkshire
Kloss	Diana	Industrial Injuries Advisory Council
Lamb	Keith	Trustee, Durham Mechanics
Lawson	Ian	Industrial Injuries Advisory Council
Levene	Simon	Industrial Injuries Advisory Council

Loach	Stephen	Thompsons Solicitors, Bristol
McElvenny	Damien	Industrial Injuries Advisory Council
Mills	Thomas	National Union of Mineworkers, Yorkshire
Oldale	Brian	Barnsley Metropolitan Borough, Council, Senior Welfare Officer
Palmer	Keith	Industrial Injuries Advisory Council
Perry	Jim	Durham Mechanics
Phillips	John	Independent Occupational Physician
Reed	Susan	Health Work and Wellbeing Directorate, DWP
Roach	Gareth	IIAC Secretariat
Saunders	Howard	National Union of Mineworkers, Yorkshire
Shears	Daniel	GMB , Health and Safety Environmental Research & Policy Officer
Shelton	Marianne	IIAC Secretariat
Skidmore	Chris	President, National Union of Mineworkers, Yorkshire
Smith	Peter	National Union of Mineworkers, Yorkshire
Smith	Helen	Head of Nursing, Atos Healthcare, Occupational Health, Rolls- Royce plc
Spurgeon	Anne	Industrial Injuries Advisory Council
Sullivan	Claire	Industrial Injuries Advisory Council
Turner	Andrew	Industrial Injuries Advisory Council
Watkin	Terry	Durham Mechanics
Whitty	Fergus	Industrial Injuries Advisory Council
Wills	Irene	Sweet Charity, Confectioners Benevolent Fund