Presumption that a disease is due to the nature of employment: the role of rebuttal in claims assessment

Report by the Industrial Injuries Advisory Council in accordance with Section 171 of the Social Security Administration Act 1992 reviewing the role of rebuttal in claims assessment and its relation to presumption that a disease is due to the nature of employment for the purposes of the Industrial Injuries Scheme

Presented to Parliament by the Secretary of State for Work and Pensions
By Command of Her Majesty
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This publication is available at **https://www.gov.uk/government/publications/presumption-that-a-disease-is-due-to-the-nature-of-employment-the-role-of-rebuttal-in-claims-assessment-iiac-report**

Any enquiries regarding this publication should be sent to us at **iiac@dwp.gsi.gov.uk**

Print ISBN 9781474115872
Web ISBN 9781474115889

ID 25021515 03/15

Printed on paper containing 75% recycled fibre content minimum

Printed in the UK by the Williams Lea Group on behalf of the Controller of Her Majesty's Stationery Office

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Dear Secretary of State

PRESUMPTION THAT A DISEASE IS DUE TO THE NATURE OF EMPLOYMENT: THE ROLE OF REBUTTAL IN CLAIMS ASSESSMENT

We present for your consideration the second of two linked papers concerning the regulation[1] governing presumption that a disease is due to the nature of employment.

As highlighted in Cm 8880 ('Presumption that a disease is due to the nature of employment: coverage and time rules', 2014), presumption is an essential feature of the Industrial Injuries Disablement Benefit Scheme, which underpins its administrative efficiency. In brief, it allows decision-makers to presume that a claimant's disease is due to occupation. The related prescription schedule[2] sets out the circumstances in which this is supported scientifically, on the balance of probabilities. The intention is to spare claimants the burden of gathering evidence to demonstrate occupational causation, especially where this could be slow, costly and difficult. Importantly, also, the provisions streamline the Scheme's administration, allowing it to be run in a simple, cost-efficient, consistent manner.

A feature of the presumption regulation on which this report focuses is that decision-makers have the power to rebut (refuse) a claim if proof is said to exist that the disease was not caused by a claimant's work. This provision allows flexibility to reject claims where it would clearly be wrong to pay benefit – for example, those involving trivial exposures. On the other hand, rebuttal risks sacrificing some of the gains in administrative efficiency and simplification that presumption offers. Importantly, also, rebuttal can be challenging to apply correctly.

This last concern arises particularly in respect of diseases which, when occupationally caused, are clinically indistinguishable from the same disease caused by factors outside work. Attribution to work in a claimant with both occupational and non-occupational risk factors rests then on an assessment of causal probabilities, rather than on clinical judgement, and may be liable to errors in causal reasoning.

The Council has considered whether the power of rebuttal should be removed or legally limited for diseases where contrary proof would be hard to muster reliably. However, various policy-related and legal arguments weigh against regulatory amendment. Instead, the Council proposes to strengthen guidance on how rebuttal should be applied within the Scheme. As a first step, an appendix to this paper identifies prescribed diseases for which the prescription schedule, with rare exception, should automatically apply; additionally, an accompanying technical information note ('Diseases due to multiple known causes and rebuttal', Position Paper 34) has been prepared. Finally, the Council proposes working with the Department's Medical Advisory Team to review the Medical Services Training Handbook used by the Scheme's medical advisors and to explore other forms of advice to decision-makers.

[1] Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985, Regulation 4.
[2] Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985, Schedule 1.

This policy report does not recommend a change in regulation. Through it, however, the Council wishes to draw to the attention of decision makers, medical advisors, policy advisors and other stakeholders, the challenge in applying rebuttal robustly. Very often, accepting the schedule as written will offer a fairer, more consistent and appropriate basis for deciding whether a disease is due to the nature of employment, with the added potential of being resource-sparing and simpler to enact.

Yours sincerely

Professor K Palmer
Chairman 5 March 2015

Summary

1. The Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985 set out certain criteria by which claims for Industrial Injuries Disablement Benefit (IIDB) must be tested. These include, among other things: whether the claimant has the prescribed disease defined in Schedule 1 of the Regulations (sometimes called the 'diagnosis' question); whether he or she has had the associated occupational exposure set out in the schedule (the 'occupational' question); and whether or not the development of the disease should be presumed to be "due to the nature of employment".

2. This last criterion concerns the 'causation' question: whether or not the disease arose from the scheduled exposure i.e. whether or not it was caused by that work.

3. Regulation 4 of the 1985 Regulations defines which prescribed diseases should be presumed to be "due to the nature of employment" and over what time frames relative to claimants' work histories. Recommendations in a recent Council report (Cm 8880, 2014) have led to amendments in the coverage and time rules of presumption.

4. However, even when Regulation 4 stipulates that a particular disease should be presumed due to the nature of employment, and the criteria in Schedule 1 are met in an individual claimant, provision exists for decision-makers to decide that a claimant's disease was not caused by their work and to rebut or refuse the claim. Rebuttal requires that "the contrary is proved", i.e. that proof on the causation question favours the claimant's disease **not** being caused by their work on the balance of probabilities.

5. The power of rebuttal carries with it certain advantages and disadvantages which are reviewed in this report. On the one hand, the provision for rebuttal in Regulation 4 allows flexibility to reject claims where it would be clearly inappropriate to pay the benefit – for example, claims involving trivial exposures or other exceptional and unforeseen circumstances which common sense would indicate should be non-qualifying.

6. On the other hand, presumption brings with it important gains in administrative efficiency and simplification, and, at least in principle, rebuttal risks sacrificing some of these advantages.

7. More importantly, the provision for rebuttal has the potential to lead medical assessors and decision-makers to attempt judgements about causal probabilities in circumstances where this is challenging.

8. This second concern applies particularly in relation to prescribed diseases which, when occupationally caused, are **clinically indistinguishable** from the same disease caused by factors outside work. In these circumstances, attribution to work in a claimant with both occupational and non-occupational risk factors rests on a detailed assessment of causal probabilities and on the research evidence base, rather than on clinical judgement.

9. It is counter-intuitive, but often the case, that a disease can be caused both by a factor outside work and by work itself in the same individual at the same time. Mistakes in causal reasoning can easily arise in this situation, as illustrated in this report and in a technical companion paper, *Position Paper 34, Diseases with multiple known causes and rebuttal*.

10. For prescribed diseases in which clinical judgement is not sufficiently informative to permit reliable attribution to work and where Regulation 4 accords the benefit of presumption, the terms in Schedule 1 identify the circumstances under which the causation question is answered affirmatively, on the average, to the civil standard of proof. Accepting the schedule as written should in general, therefore, offer a simpler, fairer, more consistent and appropriate basis for deciding whether a disease is due to the nature of employment. It may also be more sparing of medical resources. In any event, adjudication would have the prospect of being more scientifically robust than the alternative of individual assessment without access to the full requisite expertise.

11. Rebuttal features in relatively few decisions of tribunals and appears not to have caused major problems in practice (with one exception, the details of which are given and which has since been fully addressed). Nonetheless, the written reports of Judges of the Upper Tribunal indicate that Regulation 4 is closely read and observed, and that the Scheme's medical assessors have an obligation to give advice on causation and rebuttal. On these grounds, various options for clarification and change have been explored.

12. In particular, where rebuttal would be difficult to apply scientifically, evidence to the contrary hard to muster robustly, and erroneous reasoning on causal attribution is more liable to arise, the Council has considered the possibility of recommending its removal; or of requiring a higher than the present level of proof to the contrary (e.g. proof "beyond reasonable doubt" rather than proof "on the balance of probabilities"). Various policy-related and legal arguments weigh against regulatory amendments of this kind.

13. Nevertheless, the idea, effectively, of operating two schedules of prescribed diseases, one in which presumption that the disease is due to the nature of employment would follow directly from the prescription, and another that would allow further evidence gathering as necessary by the decision maker, has advantages. Although enacted only through guidance, it would raise awareness of the problem and would enable a clearer separation between diseases where rebuttal can be more safely applied and those where it should rarely be. For diseases whose causal attribution is particularly challenging, the task of answering the 'causation' question would also be simplified, and evaluation of the merits or otherwise of benefit award would be strengthened in all but rare and unusual circumstances.

14. To support clearer appreciation of which diseases lie in which camp, the Council has reviewed all of the currently scheduled diseases that are accorded presumption under Regulation 4 and commented on each in turn, as set out in Appendix 1 of this report.

15. Broadly speaking, diseases for which the causation question should ordinarily follow directly from the terms of prescription include: 1) the majority of the cancers covered by the Scheme; 2) conditions that develop gradually, like occupational deafness (Prescribed Disease (PD) A10), osteoarthritis of hip and knee (PD A13, PD A14), and chronic obstructive pulmonary disease (PD D12), all of which were prescribed with strong supporting epidemiological and population-based evidence; 3) the asbestos-related diseases (e.g. diffuse pleural thickening (PD D9), mesothelioma (PD D3)); and 4) disorders that are specific to occupation (e.g. pneumoconiosis (PD D1), byssinosis (PD D2) and chronic beryllium disease (PD C17)). For occupational asthma (PD D7), occupational allergic rhinitis (PD D4), and hand-arm vibration syndrome (PD A11) presumption should also be automatic in the sense that the terms by which these

diseases are defined within the Scheme require that they can and should **only** be diagnosed when they are occupationally caused.

16. By contrast, further evidence gathering and expert opinion may sometimes be appropriate in assessing claims relating to many prescribed infections and prescriptions whose exposure schedules are relatively open-ended. Further details are given in Appendix 1.

17. This report is issued so that decision-makers, medical advisors, tribunals, the Department and other stakeholders are alerted to the scientific challenges in applying rebuttal correctly, and have access to the Council's view on the role of rebuttal in policy and practice within the Scheme. Rebuttal is, and in the Council's view should only be, used sparingly.

Background

18. The Industrial Injuries Disablement Benefit (IIDB) Scheme provides no-fault compensation payments to employed earners in relation to disablement arising from occupational accidents or prescribed diseases.

19. The Industrial Injuries Advisory Council (IIAC) is an independent statutory body, established in 1946 to advise the Secretary of State for Work and Pensions in Great Britain and the Department for Social Development in Northern Ireland on matters relating to the IIDB Scheme.

20. For the most part its work involves reviewing and recommending changes to a list of prescribed diseases recognised for award of benefit. Prescription then takes the form of an entry in Schedule 1 of the Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985 which lists the diseases and their qualifying circumstances of exposure.

21. Additionally, the Council's statutory remit extends to advising on matters relating to the Scheme's administration. In the latter capacity the Council has been undertaking a review of the regulations governing the circumstances under which, when claimants apply for IIDB, their disease can be presumed due to the nature of their employment – a basic link in the decision-making chain which may lead to award or refusal of benefit. This paper is the second of two linked reports on 'presumption', the first being Cm 8880, 2014: '*Presumption that a disease is due to the nature of employment: coverage and time rules*'.

22. Herewith the Council sets out the legal background to the 'presumption' regulation (Regulation 4 of the Social Security (Industrial Injuries) (Prescribed Diseases) Regulation 1985), its rationale and its application in decision-making within the IIDB Scheme. Also, we describe the process of prescription and explore its relationship with presumption and that between presumption and claims assessment. Some of the scientific challenges that underlie assessment of claims and which relate to presumption are highlighted. Advice is given concerning the application of presumption and the role of rebuttal in the Scheme's administration.

Prescription

23. Under the Social Security Contributions and Benefits Act 1992 the Secretary of State may prescribe a disease through regulation where he/she is "satisfied that the disease:

    a) ought to be treated, having regard to its causes and incidence and any other relevant considerations, as a risk of the occupation and not as a risk common to all persons; and
    b) is such that, in the absence of special circumstances, the attribution of particular cases to the nature of the employment can be established or presumed with reasonable certainty."

24. In other words, a disease may be prescribed if there is a recognised risk to workers in an occupation, and the link between disease and occupation can be established or **reasonably presumed** in individual cases.

25. For some diseases attribution to occupation can flow from specific clinical features of the individual case. For example, the proof that an individual's asthma is caused by their occupation may lie in its improvement when they are on holiday and regression when they return to work, and in the demonstration that they are allergic to a specific substance which they encounter only at work. It can be that a particular disease occurs only as a result of an occupational hazard (e.g. coal workers' pneumoconiosis); or that cases of it rarely occur outside the occupational context (e.g. mesothelioma); or that the link between exposure and illness is fairly abrupt and clear-cut (e.g. several of the chemical poisonings and infections covered by the Scheme). In these circumstances attribution to work is fairly straightforward, with clinical acumen and the individual facts of the case playing a significant part in the judgement. In 1906 the initial prescription list comprised six such conditions, including poisonings by lead, mercury, phosphorous or arsenic, and infection by anthrax.

26. Increasingly, however, prescription has proved possible for diseases that are not only caused by occupation but are common in the population at large, and which, when caused by occupation, are **clinically indistinguishable** from the same disease occurring in someone who has not been exposed to the causal agent at work. Examples include lung cancer, chronic obstructive pulmonary disease and osteoarthritis of the knee. Other factors at play in the population (e.g. smoking, recreational knee injury) account for a proportion of such cases and no clinical features in the individual claimant allow reliable attribution to employment.

27. Early in the 20th century government advisors considered this an insuperable barrier to compensation for diseases like those described above. For example, in relation to chronic bronchitis, "a trade disease among flax-workers", the Samuel Committee wrote in 1907: "...a larger proportion of that class suffer from [bronchitis] than of other people; but it is not specific to the employment, for numbers of people who are not flax-workers contract it also. Unless there is some symptom which differentiates the bronchitis due to dust from the ordinary type, it is clearly impracticable to include it as a subject of compensation; for no-one can tell, in any individual case, whether the flax-worker with bronchitis was one of the hundreds of persons in the town whose bronchitis had no connection with dust irritation, or whether he was one of the additional tens or scores of persons whose illness was due to that cause".

28. Since then the objection of the Samuel Committee, that "no-one can tell" and so prescription is only possible for occupation-specific disorders, has been circumvented using a probabilistic approach. First, the Dale Committee (1948) argued that the legislative phrase "presumed with reasonable certainty" meant "more likely than not"; later, a minority report of the Beney Committee (1955) proposed that a disease could be prescribed when it was probable that more cases than not were occupational in origin, whether or not individual cases could be attributed to the nature of employment. Nowadays, in framing its recommendations to the Secretary of State on the prescription of diseases with the characteristics described in paragraph 26, the Council seeks out the circumstances in which epidemiological research evidence indicates that work in the prescribed job or with the prescribed occupational exposure, increases the average risk of developing the disease by a factor of two or more.

29. The requirement for at least a doubling of risk follows from the fact that if a hazardous exposure doubles risk, for every 50 cases that would normally occur in an unexposed population, an additional 50 would be expected if the population were exposed to the hazard. Thus, out of every 100 cases that occurred in an exposed population, 50 would do so only as a consequence of their exposure while the other 50 would have been expected to develop the disease, even in the absence of the exposure. Therefore, for any individual case occurring in the exposed population, there would be a 50% chance that the disease resulted from exposure to the hazard. Below the threshold of a doubling of risk only a minority of cases in an exposed population would be caused by the hazard; above it, a majority would be, allowing individual cases to be attributed to exposure on the balance of probabilities.

30. Thus, the condition in the Social Security Contributions and Benefits Act 1992 that "attribution of particular cases [should] be established or presumed with reasonable certainty" is met by defining the circumstances of exposure which favour attribution of a given disease to employment on the balance of probabilities. A full list of diseases are set out in Schedule 1 of the Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985.[3]

31. The required evidence on doubling of risks is ideally drawn from several independent scientific studies and should be sufficiently robust that further investigations at a later date would be unlikely to overturn it. The Council recommends prescription where evidence of a causal link to a given occupational exposure is sufficiently compelling to allow occupational attribution to the civil standard of proof in claimants meeting the prescription schedule's terms. Typically, Schedule 1 is amended and updated using this probabilistic approach. Searches are made for peer-reviewed research, probabilities are weighed and, where necessary, experts are consulted and extra calls for evidence made. The Council includes among its membership appropriately qualified, experienced, and professionally competent occupational epidemiologists and medical researchers equipped to make statistical assessments and dissect the strengths and weaknesses of complex biomedical reports, of which many are screened and assessed.

32. 'Presumption' as it applies to prescription offers a framework for compensating diseases of the "no-one can tell" type, as identified by the Samuel Committee (those in which clinical judgement is not sufficiently informative to permit attribution to work). An independent expert group, using a scientific evidence base, identifies circumstances in which attribution to work can reasonably be made and formulates decision-making criteria.

[3] A list of prescribed diseases and associated exposures can be found at www.gov.uk.

Claims assessment and presumption

33. ‘Presumption’ has a different (although related) meaning when applied to the assessment of individual claimants of IIDB. A claimant of a prescribed disease must meet four conditions before benefit can be paid: 1) they must have worked as an employed earner in an occupation listed in Schedule 1 in relation to the disease (the ‘employment’ question); 2) the disease suffered must be one that is prescribed and listed in Schedule 1 (the ‘diagnosis’ question); 3) the disease must be due to the nature of the claimant’s occupation (the ‘causation’ question); and 4) the disease must result in sufficient loss of faculty – generally a disablement of at least 14% (one of the ‘disablement’ questions). The principle of presumption is directed at answering the ‘causation’ question.

34. Its legal basis lies in Regulation 4 of the Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985, which has the basic rule that when an individual claimant meets the terms set out in the prescription schedule his or her disease can be presumed to be “due to the nature of the employment”. Decision-makers’ guidance gives further details (Appendix 2).

35. This system of presumptions, first proposed by the Dale Committee in 1948 (Cm 7557), is a cardinal feature of the Scheme which underpins its administrative efficiency. An approved list allows decision makers evaluating individual claims to presume that a disease is due to occupation without the need for detailed fact gathering case by case. This has the policy advantage, on the one hand, of sparing claimants the burden of gathering detailed evidence to demonstrate occupational causation of disease and, on the other, of streamlining the Scheme’s administration, enabling it to be run in a simple, consistent manner with proportionate use of public funds.

36. The gains in administrative efficiency that flow from simplification are considerable. By employing a simple evidence-based list of approved circumstances and allowing presumption in individual claimants, rather than adopting a complex adversarial system of individual proofs, a far higher proportion of available funds (95%, versus 40-60%) are delivered to claimants and more speedily than in common law.

37. Presumption and prescription also spare decision-makers the considerable challenge of weighing causal probabilities for diseases of the “no-one can tell” type identified by the Samuel Committee (a point taken up below).

Regulation 4 and rebuttal

38. Regulation 4 is nuanced, however. Not all prescribed diseases are covered by the benefit of presumption, and that benefit is hedged by time restrictions that vary disease by disease. In its most common form (and with various exceptions) presumption applies only when a disease has its onset within employment in the causative work or within a month of leaving it. In the Council’s report Cm 8880, the coverage and associated time rules of Regulation 4 were reviewed and changes recommended that led to various amendments in the regulation.

39. A further nuance of the system – the focus of this report – is that decision-makers have the power to rebut (reject) a claim, even when the claimed disease is accorded presumption and the terms of prescription are met. Thus, Regulation 4 states that certain prescribed diseases, within certain specified timeframes, "shall, unless the contrary is proved, be presumed to be due to the nature of [the claimant's] employed earner's employment". This wording mirrors that of the Social Security Contributions and Benefits Act 1992 under which provision for presumption is made.

40. Decision makers' guidance (Appendix 2) stipulates that a prescribed disease must be due to the nature of a person's employment and clarifies Commissioners' advice on the meaning of 'proof to the contrary: "A presumption in the claimant's favour continues to apply unless the DM [decision-maker] is able to rebut it, that is, to show that the disease was not due to the nature of the employment. To do this the DM must have proof sufficient to establish the point on the balance of probabilities – that is, the DM 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".

41. Although causation questions feature also in the eligibility criteria of some other benefits, rebuttable presumptions are far less common. Thus, while Section 1(1) of the Vaccine Damage Act 1979 states that a person will be eligible for payment if severely disabled as the result of a vaccination, Section 3(5) of the Act provides for this question to be decided on the balance of probabilities with no provision for a presumption as to causation. Similarly, Section 2 of the Mesothelioma Act 2014, along with Regulation 16 and Schedule 3 of the Diffuse Mesothelioma Payment Scheme Regulations 2014, provide for payments to those diagnosed with mesothelioma who have been employed by a relevant employer and were exposed to asbestos during that employment from their employer's negligence or breach of statutory duty. However, again no rebuttable presumptions are provided for in this causative test.

42. The power to rebut a claim within the IIDB Scheme carries with it certain theoretical advantages and disadvantages. In considering these and the application of rebuttal in practice the Council has taken evidence from stakeholders, including members of the Department, Departmental legal advisers and representatives of the Tribunal Service. Anonymised case files of some individual claimants have also been reviewed, as have some decisions of tribunals, and the guidance that is issued to medical assessors and decision-makers.

Potential advantages and disadvantages of rebuttal

43. Although the Scheme has a certain inbuilt generosity to claimants, to an extent the rebuttal regulation requires the Department's policy makers to consider circumstances in which attribution to work might be questioned.

44. This requirement is understandable and appropriate when judged in terms of accountable use of taxpayers' funds: benefits should be targeted only to those with due entitlement; legally, where there is 'proof to the contrary' regarding the causation question, benefit ought not to be paid. Rebuttal is the counter-balance to presumption, which provides a mechanism for securing this outcome.

45. However, some of the administrative efficiencies that prescription and presumption bring risk being sacrificed when searches are made for alternative causes of disease. A trade-off necessarily exists between further inquiry of claimants and efficient decision-making in a high volume low cost adjudication system. Net benefit to the public purse will depend ultimately on the savings made by withholding benefit (where appropriate) exceeding the expense of providing this element of assessment, together with any follow-on costs relating to appealed decisions. No data have been identified on this, but it may be doubted that searching for rare causes of disease is cost-effective or compatible with the need to achieve economies of administration.

46. A second main consideration is whether rebuttal leads to more correct decision-making. This possibility exists particularly for prescribed diseases with less well-defined levels of occupational exposure (e.g. PDs A2, A4, A5, A6, A7, A8, A12, B11, B13[4]). The probabilistic approach outlined in paragraphs 28-32 has been applied explicitly to prescription for several decades; however, some older prescriptions which predate this period lack detailed definition of the qualifying exposures. For example, carpal tunnel syndrome has been prescribed in users of vibratory tools (PD A12(a)) since 1993, but the intensity, duration, and sources of hand-transmitted vibration are not specified in Schedule 1. Recent consideration by the Council has identified a gap in the underlying evidence base, so the prescription has not been updated. In principle, without recourse to rebuttal, claims could be entertained after a single day's employment and could not be disallowed. Rebuttal allows decision-makers the flexibility to disallow a claim in circumstances that common sense would dictate are non-qualifying, such as where exposures to hand-transmitted vibration are far too trivial to cause PD A12(a), or where the disease arises before, rather than after, any occupational exposure.

47. In other situations, there is sufficient leeway in Regulation 4 potentially to lead medical assessors astray such that they may attempt difficult judgements about causal probabilities in circumstances where the requisite epidemiological expertise is not available and would be wholly inefficient to provide. A concern, central to the Council's thinking on the matter, is that for diseases of the "no-one can tell" type, there is a danger that decisions may not always be grounded firmly in the science. As well as duplicating the work of the Council, rebuttal carries the potential to overturn evidence gathered, sifted and evaluated systematically for its causal probabilities.

48. Although claimants frequently have access to the valuable advice of a specialist medical consultant and a trained disability analyst will give medical advice, it should be stressed that for such diseases the required skills to address the 'causation' question are primarily epidemiological and statistical, rather than clinical. Making probabilistic assessments about causation requires skills and competences which are in short supply outside the research arena, as well as a detailed review of the available research literature – the experience of an individual's clinical practice will rarely suffice and nor are the necessary resources available case by case. In practice, Departmental guidance supports decision-makers, healthcare professionals and tribunals; such guidance should likewise fully reflect the epidemiological context and the difficulties inherent in robust rebuttal.

[4] A list of prescribed diseases and associated exposures can be found at www.gov.uk.

Proof to the contrary?

49. It should be stressed that the judgment as to whether attribution to work can be made on the balance of probability can be challenging and erroneous causal reasoning can easily arise.

50. Before considering wherein the difficulties lie, it should be noted that the phrase "unless the contrary is proved" in Regulation 4 refers to proof that an individual claimant's prescribed disease was **not caused by their work**.

51. It may seem that this is synonymous with demonstrating that a claimant's disease was **caused by a factor outside work**, and tempting to think that risk factors **compete** with one another as causes – that if 'Y' (a non-occupational risk factor) causes the disease this proves that 'X' (an occupational risk factor) is not the cause. In fact, this logic is flawed scientifically.

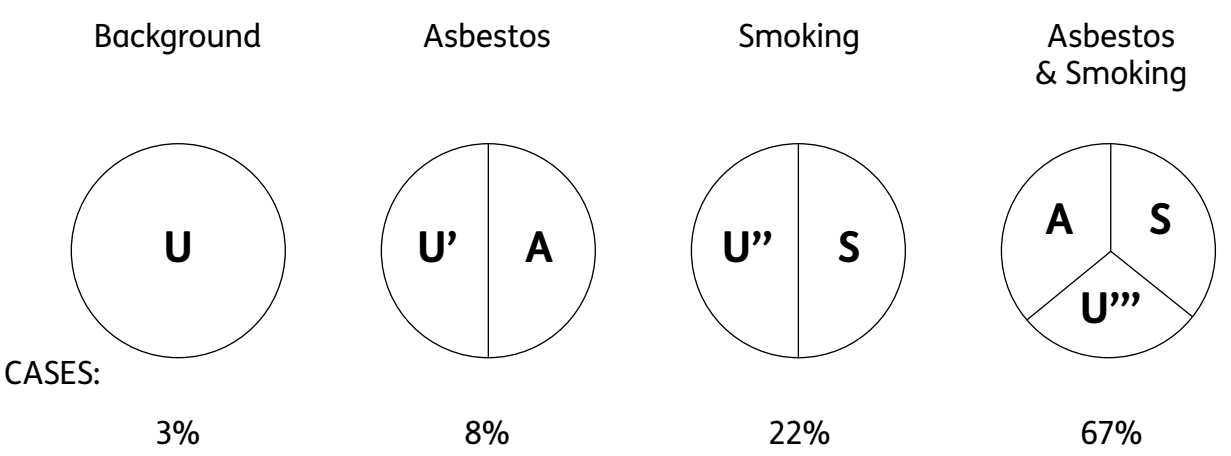
52. Although counter-intuitive, it is often the case that a disease can be caused both by a factor outside work and by the work itself **in the same individual at the same time** – i.e. arises from the combination of two exposures and would not have arisen if either exposure had not occurred.

53. A supplementary technical report of the Council (Position Paper 34, *Diseases with multiple known causes and rebuttal*) considers this more formally. However, Figure 1 (p15), which is adapted from that report, illustrates how this can happen. The case used is represented by claimants of PD D8A (primary lung cancer following high exposure to asbestos), all of whom also smoke cigarettes. The figure depicts four groups of claimants with lung cancer, subdivided according to causation. Some cases have arisen from neither of the two risk factors, some from exposure to asbestos but not from smoking, some from smoking but not from asbestos, and some from both. (Other as yet unknown risk factors also act in the background.) The proportions of cases belonging to each group can be estimated from observational research, and in this example are 3%, 8%, 22% and 67% respectively. In practice, no reliable means exists to decide the group to which a particular claimant belongs; but the data indicate that 89% of cases overall were attributable to smoking (22%+67%) – i.e. could be avoided by not smoking, and 75% (8%+67%) were caused by asbestos. The causal proportions sum to more than 100% because some two-thirds of the cases arose from both factors acting together (i.e. might be avoided by avoidance of either factor). Importantly, from the perspective of a medical advisor or decision-maker assessing a claimant with lung cancer who has incurred both exposures, it would be reasonable to conclude that both risk factors caused the claimant's disease on the balance of probabilities.

54. This example also demonstrates that it can be unsound to reason that, because a non-occupational risk factor is a more **potent** cause of a particular disease than the scheduled occupational one, work did not cause the disease on the balance of probability.

55. Similarly, an exposure incurred at work but more so at leisure can still be occupationally caused on the balance of probability. Specifically, a sufficient occupational exposure will remain causal, **irrespective** of the level of exposure incurred outside work. Thus, for example, in assessing the causation of PD A11 (hand-arm vibration syndrome), the test should concern the scheduled occupational exposure, rather than whether hand-held vibratory tools have been used more extensively outside work than during work.

Figure 1: Numbers and proportions of lung cancer cases occurring through background factors, exposure to asbestos, cigarette smoking, and their combination among cases with both types of exposure (reproduced from Position Paper 34: *Diseases with multiple known causes and rebuttal*).



Key:
A –substantial exposure to asbestos;
S – cigarette smoking; U, U', U'', U''' – unknown background risk factors that either act on their own to cause lung cancer (U), or with asbestos (U'), or with cigarette smoking (U''), or with both asbestos and cigarette smoking (U''').

56. More generally, the mismatch between simple expectations of causation and the science illustrates the pitfalls that can arise if drawn into attempting to apply individual probabilities in the individual circumstances of a claim.

57. Given these challenges, for prescribed diseases of the "no-one can tell" type, where Regulation 4 accords the benefit of presumption, the terms in Schedule 1 should generally offer a fairer, more appropriate, simpler, basis for deciding whether a disease is due to the nature of employment. Such an approach would potentially be more sparing of medical resources. In any event, adjudication would have the prospect of being more consistent and scientifically robust than the alternative of individual assessment without access to the full requisite expertise.

58. The former Chair of IIAC, Professor Sir Anthony Newman-Taylor, has commented on this matter as follows: "*I have always considered 'benefit of presumption' to be a cardinal feature of the Industrial Injuries Scheme. In the civil courts the onus of proof is on the claimant to provide evidence that his/her condition has, on the balance of probability, been caused by the putative agent or exposure. The Industrial Injuries Scheme overcomes this need by having done the work for the claimant in identifying (1) the agents, or exposure encountered at work, which increase the risk of a disease and, crucially, (2) the circumstances where this risk is more than doubled. As a logical consequence this should provide the claimant who fulfils these criteria with the benefit of presumption and obviate the need for medical and legal representation*."

Problems in practice with rebuttal

59. Shortly after the Council first identified these theoretical shortcomings in Regulation 4, the National Union of Mineworkers (NUM) raised various practical concerns about the assessment of the newly introduced prescribed disease PD A14 (osteoarthritis of the knee in coal miners), some of which bore on the application of Regulation 4.

60. The NUM cited cases in which claimant ex-miners seemingly meeting the scheduled terms of prescription were not awarded benefit because they had a history of a prior knee injury, or because osteoarthritis affected only one knee and not both, or because symptoms occurred several years after leaving coal mining.

61. The Council confirmed the existence of examples of such judgements by inspecting a small sample of anonymised assessment records of former miners claiming IIDB around the period of concern. These were supplied by a Council member and were chosen as cases perceived to be problematic; they were not in any sense representative of the experience of all such claimants and may have been at an extreme.

62. Moreover, the Council accepts, and stresses, that the Department recognised initial teething problems in the assessment of a new prescribed disease and has since taken steps to fully address them. An internal audit of disallowed claims of PD A14 before October 2009 identified cases in which the doctor advised that the osteoarthritis was not due to their occupation as a miner, some of which were subsequently judged incorrect. The DWP issued new guidelines to medical advisers and the case files of all potentially affected claimants were re-checked and individuals re-contacted as necessary, with further checks of reviewed decisions applied by the Department. A further small independent audit of anonymised case files by members of the Council, in July 2013, suggests that this modified advice to medical assessors has led to appropriate handling of the causation question in claims for PD A14.

63. Paragraph 60 illustrates, however, how problems in the application of rebuttal can arise in practice. Some cases were adjudged ineligible for benefit because decision-makers held that trauma or constitutional "wear and tear" were more probable causes of the claimant's knee osteoarthritis than their work as underground coal miners, and therefore that their disease could not be presumed due to the nature of their work.

64. The Council has become aware of at least one tribunal case in which a similar argument surrounding the causation question weighed against a claimant: he was held not to have PD A14, despite having knee osteoarthritis, because his condition was attributed to "degenerative changes" rather than to occupation. Similarly, in 2009 a representative of the Tribunal Service also reported that he had encountered problems with claims that had been refused owing to claimants' co-morbidities. In the legal hearing the Judge of the Upper Tribunal expressed concern that a lower court had assumed a binary choice of possibilities – either that [the appellant's] osteoarthritis of the knee was due to degenerative changes or to his former occupation, rather than considering that both factors may have been in play.

65. The case of a miner with previous knee injury is explored in Position Paper 34. Suffice it to say that refusal of a claim on these grounds amounts to assuming that previous knee injury **reduces** the risk of arduous physical work in mining causing knee osteoarthritis, whereas in reality it is likely to raise it further. A similar argument can be applied to many other prescribed diseases covered by presumption.

66. By contrast, more reasonable proofs that a disease is not caused by the scheduled work include evidence that the prescribed disease first developed **before** the scheduled exposure, or evidence that exposures have been too brief and trivial (or in the case of many cancers, too recent) to be a plausible cause of disease. Where definitions of exposure in Schedule 1 are less specific and detailed (paragraph 46), this second criterion will be somewhat arbitrary and difficult to apply, in which case rebuttal should be reserved for circumstances where there is a strong case that it is safe to do so.

The case for review

67. Although scientific misunderstandings have arisen among decision-makers and tribunals, notably concerning the causal probabilities of one prescribed disease of the "no-one can tell" type, the Department has put it to the Council that the impact of Regulation 4 is likely to be small in practice. Teething problems with PD A14 have now been addressed; more generally, the Council has taken steps to assure itself that claims for prescribed diseases are being adjudicated in a common sense and appropriate way. The Council is further assured by the Department that in most cases the decision-maker will make arrangements to seek evidence, rather than putting an extra burden on the claimant to obtain it; presumption has featured in relatively few rulings of Judges of the Upper Tribunal on contested decisions within the Scheme; and the Council's own audit of some 50 anonymised case files (referred to in paragraph 62) did not find evidence that the causation question was leading to refusal of benefit.

68. However, the Medical Services Training Handbook[5] notes a requirement on the Scheme's medical assessors to consider the causation question and explore, for every prescribed disease, whether occupational exposures are sufficient and whether alternative causes of disease (e.g. genetic predisposition, exposures during hobbies) are present. Particularly for diseases in which clinical judgement is not sufficiently informative to permit reliable attribution to work, there is the potential therefore, at least in principle, to apply rebuttal incorrectly through misunderstandings about causal probabilities. Moreover, the written reports of Judges of the Upper Tribunal indicate that the presumption rule is closely read and observed. On these grounds the Council has explored various options for clarification and for change.

[5] Training & Development Industrial Injuries Handbook 2 for Medical Advisers. The Prescribed Diseases. MED-IIDBHB~002, v4, July 2010: p12-14, 21-23, 25-26.

Options considered by the Council

69. For certain prescribed diseases, the Council has considered the possibility of removing the power of rebuttal altogether. When applied in circumstances where evidence to the contrary would be difficult to muster robustly within the constraints of the adjudication, this course of action would preclude rebuttal.

70. The option would require the Council to define those prescribed diseases outwith rebuttal, effectively splitting Schedule 1 of the Social Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985 into two lists: a list where rebuttal can reasonably be applied, as now, on individual and clinical grounds, and a list where causal probabilities are more complex, such that the prescription as written should routinely be accepted.

71. To explore the potential for amending the secondary legislation, members of the Council met with a representative from the DWP's Legal Services Team.

72. The Department's legal services team have made the following points on the question of whether the words "unless the contrary is proved" could be removed from Regulation 4 of the Social Security (Industrial Injuries) Prescribed Diseases Regulations 1985 – for certain prescribed diseases defined by the Council:

    a. Sections 109 (2) and 109 (3) of Social Security Contributions and Benefits Act 1992 should be read together with section 175 of that Act and in particular section 175(3).
    b. Section 175(3) allows regulations to provide the full or any lesser provision to which a power in the Social Security Contributions and Benefits Act extends. At one extreme this has supported the exclusion of certain prescriptions from the presumption rule altogether and at the other section 175(3) has allowed differential provision for different cases and classes of case, which would seem to permit regulations to be made in particular cases to operate with the presumption rule but without a limitation allowing the contrary to be proved.

73. The Council has therefore been advised that "existing primary legislation would, in principle, allow Regulation 4 to be amended by removing the limitation on the presumption rule that it applies "unless the contrary is proved". The issue appears therefore to be essentially a matter of policy, rather than of law.

74. Another option, consistent with the aim of discouraging case by case adjudication in circumstances where this is scientifically challenging, would be to require a higher than present level of proof to the contrary for some diseases – for example, proof "beyond reasonable doubt" for some diseases and proof "on the balance of probabilities" for others, also where the list is defined by the Council.

75. Two objections were raised to this by the Department and its legal advisors. Firstly, it would introduce a threshold that does not apply elsewhere in the benefit scheme, where medical adjudications are always on the balance of probabilities (although in this case the application of a higher standard of proof would be in relation only to refusal of benefit, and would therefore be to a claimant's potential advantage rather than their detriment). The Council has been advised that there could be difficulties in policy, if not in law, in lay adjudicators operating different standards of proof within the IIDB Scheme from those operating elsewhere in the welfare system.

76. Secondly, stipulating a higher level of proof may place the secondary and the primary legislation in conflict. The latter refers in Section 108(2)(b) of the Social Security Contributions and Benefits Act 1992 to the Secretary of State for Work and Pensions needing to be satisfied that "in the absence of special circumstances, the attribution of particular cases to the nature of the employment can be established or presumed with reasonable certainty": the Department's Legal Services Team interprets this as implying a particular standard of proof in the primary legislation – the normal civil one.

77. On balance, these potential difficulties rule out the option raised in paragraph 74. Considering the option outlined in paragraph 69, the Department has expressed a strong policy preference for retaining the power of rebuttal.

78. The main arguments behind this position are cited as those in paragraph 46. Chief among these is the possibility that exceptional and unforeseen circumstances could lead to automatic entitlement to benefit when common sense would dictate otherwise. There is concern that this could damage the reputation of the Scheme. The Department has sought assurance that in no circumstances would withdrawal of rebuttal lead to inappropriate award of benefit. No absolute guarantee can be given, however.

79. Discussions between the Council and Department have identified additional reasons for favouring a degree of flexibility rather than a legal straitjacket. Notably, these include the ease with which guidance (but not legislation) can accommodate new and changing evidence; also, the limits on present evidence that inevitably exist.

80. Another consideration concerns the Department's experience of other regulations. The Council understands that in the past overly prescriptive regulations have required frequent review and amendment, with a greater burden on the legislature and Department, and higher attendant costs.

81. The Council would wish to stress that at various points in the Scheme's administration reasonable practical trade-offs (and constraints) exist. Not infrequently, the scientific evidence base is less complete than would be ideal – current terms of prescription allow for this but are limited by it; the Scheme's legal framework has a long history over which scientific thinking has changed – legislation may not fully reflect modern scientific thought and will in any event be limited by imperfect scientific knowledge; as highlighted in this report, in assessing individual claimants a trade-off exists between detailed fact-gathering in individual claimants' cases and providing a cost-effective service – to support this requirement, prescription focuses on the average claimant with the average risks of occupation. Arguably, rebuttal is a further area in which a trade-off should exist in terms of administrative efficiency: it may be seen that in its current practice it does not provide an alternative guarantee that assessments will always be error free. However, the case for retaining a degree of flexibility is accepted and this rules out the option of regulatory change mentioned in paragraph 69.

Treating Schedule 1 as two lists

82. Nevertheless, the idea of having two schedules of prescribed diseases, one in which presumption that the disease is due to the nature of employment would follow directly from the prescription, another that (as now) would allow further evidence gathering as necessary by the decision- maker, has much to commend it. Even if enacted through guidance, it would raise awareness of the problem and would enable a clearer separation between diseases whose causal attribution is straightforward and diseases where it is difficult.

83. If the approach were to be noted by all stakeholders, the Council believes that, particularly for diseases accorded presumption, the task of answering the causation question would be simplified and the prospect of reaching a robust scientific evaluation of the merits or otherwise of benefit award would be strengthened, rather than diminished in all but rare and unusual circumstances.

84. In the interests of promoting a clearer appreciation of which diseases lie in which camp, the Council has prepared two lists covering all of the currently scheduled and presumed diseases (Appendix 1). Prescribed diseases A12a, C1, C2, C4-C16, C19-C22, C23 c and d, C25-C30, and D5 are excluded from consideration as these are not covered by presumption.

85. Among the remaining prescribed diseases, the Council considers that 19 should receive the benefit of presumption automatically, other than in very exceptional circumstances (such as trivial ("de minimis") exposure), whereas for 29 others there are more foreseeable circumstances in which rebuttal could be appropriately and soundly applied. In the case of two prescribed diseases, defined in several ways (PD C3 and PD D10), automatic presumption should apply in part – to PD C3a but not to PD C3b, and to PD D10b, D10c, and D10d, but not to PD D10a.

86. The first list includes 1) the majority of the cancers covered by the Scheme; 2) long latencies conditions like occupational deafness (PD A10), osteoarthritis of hip and knee (PD A13 and PD A14), and chronic obstructive pulmonary disease (PD D12), all of which were prescribed with strong supporting epidemiological and population-based evidence; 3) the asbestos-related diseases (e.g. diffuse pleural thickening (PD D9), mesothelioma (PD D3)); and 4) disorders that are specific to occupation (e.g. pneumoconiosis (PD D1), byssinosis (PD D2) and chronic beryllium disease (PD C17)).

87. It also includes occupational asthma (PD D7), occupational allergic rhinitis (PD D4), and hand-arm vibration syndrome (PD A11), which (like pneumoconiosis, byssinosis and chronic beryllium disease) bear a specific relationship to work. PD D7 can only be diagnosed when, on the basis of the medical evidence, asthma is confirmed as **due to** a scheduled exposure (and not merely coincidental with it); similarly, the label PD A11 can only be applied if its manifestations are "caused by vibration"; and PD D4 only if allergic rhinitis is diagnosed as **due to** an occupational sensitizer. Confirming these diagnoses can be challenging, but logically, since the causation question is integral to each diagnosis, once this is accepted presumption should follow without rebuttal.

88. The second list largely comprises prescribed infections, together with prescriptions whose exposure schedules are less specific and detailed.

89. The Council has given consideration to potential impacts that would arise if the Scheme's policy explicitly embraced a two-list solution. In practice they are likely to be small, given the Department's reassurances and evidence to hand that the causation question only seldom leads to claims being disallowed. Under these circumstances a proportionate low-cost solution would be to strengthen guidance to stakeholders in this area, rather than to amend the legislation.

90. The Council therefore proposes working with the Department's Medical Advisory Team to review and revise the Medical Services Training Handbooks used by the Scheme's medical advisors, and to explore other forms of advice to decision-makers.

Regulation 4 and decision-making within the Scheme

91. Regulation 4 deals in the facts of a particular case and not the general probability in groups. Hence, according to the Council's understanding, there is no corresponding requirement in law for the operational 'doubling of risk' test, drawn from the Social Security Contributions and Benefits Act 1992 in respect of prescription, to be applied to presumption when individuals are assessed under Regulation 4. However, for many prescribed diseases, decisions about causation in claimants will rest on probabilities rather than clear proofs, in which case a danger exists, since problems in causal reasoning can easily arise, that some facts are given a salience that they do not merit scientifically. Where decision-makers and their medical advisors weigh the merits of rebuttal in such cases, and need to explore whether there is 'proof' that a disease was not caused by the work, very often the balance of probabilities will favour presumption under Regulation 4 on the same basis that they favour prescription – scientifically, there will be no better way of making the determination than to employ the group probability. Thus, at the scientific level, there will be a clear direct link between the case for prescription and the case for presumption without rebuttal.

92. There may, nonetheless, be unusual individual circumstances which make the application of a group's probability and presumption highly unlikely. For this reason, decision-makers should continue legally, as now, to be able to exercise rebuttal for all diseases to which presumption applies.

93. This report does not include a recommendation for regulatory change. However, it is published in the format of a Command Paper to ensure that decision-makers, medical advisors, tribunals, and the Department are alerted to the scientific challenge of rebuttal, and so they have access to the Council's advice concerning its application in policy and in practice within the Scheme. Rebuttal is, and should only be, used sparingly.

Assessing the extent of disablement

94. This report concerns the 'causation' question and the application of Regulation 4 of the 1985 Regulations when several causes of a disease co-exist. It should be noted that separate legislation, the Social Security (General Benefit) Regulations 1982, governs the 'disablement' question, including how the extent of disablement from a prescribed disease or injury should be assessed when another "effective cause" is also present (Regulation 11). Different considerations arise, which may be the subject of a future report.

Diversity and equality

95. IIAC seeks to promote equality and diversity as part of its values. The Council has resolved to seek to avoid unjustified discrimination on equality grounds, including age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, gender and sexual orientation. During the course of the review of the rules for presumption in relation to rebuttal no matters related to diversity and equality were apparent.

References

Beney Committee Report of the Departmental Committee appointed to review the Diseases Provisions of the National Insurance (Industrial Injuries) Act 1955. Parliamentary papers. Cm 9548. HMSO London.

Dale Committee Report of the Departmental Committee on Industrial Disease 1948. Cm 7557. HMSO London.

Industrial Injuries Advisory Council. Presumption that a disease is due to the nature of employment: coverage and time rules. Cm 8880. Department for Work and Pensions, London, 2014.

Samuel Committee. Report of the Departmental Committee on Compensation for Industrial Diseases 1907. Cm 3495. HMSO London.

Appendix 1: Arguments regarding the application of rebuttal by prescribed disease

The prescribed diseases A12a, C1, C2, C4-C16, C19-C22, C23c and C23d, C25-C30, and D5 do not (and will not) have the benefit of presumption. They are excluded from the table that follows. For the remainder, the pros and cons of right to presumption and the role of rebuttal are considered. In the table, "automatic" means likely to apply other than in very exceptional circumstances – e.g. where exposures are trivial (e.g. employment only for a few days); it assumes that disease has arisen during or after employment and not before it.

Prescribed disease	Any occupation involving:	Presumption "automatic"?	Arguments for/against rebuttal?
A. Conditions due to physical agents			
A1. Leukaemia (other than chronic lymphatic leukaemia) or cancer of the bone, female breast, testis or thyroid	Exposure to electro-magnetic radiations (other than radiant heat) or to ionising particles where the dose is sufficient to double the risk of the occurrence of the condition	Yes	Expert evidence determines whether the occupational exposure is sufficient; if the scheduled exposure terms are met, there would be sufficient epidemiological support for presumption without rebuttal. Collecting further evidence on non-occupational risk factors would not alter the assessment of occupational attribution.
A2. Cataract	Frequent or prolonged exposure to radiation from red-hot or white-hot material (for 5 or more years in aggregate)	No	"Frequent" and "prolonged" are not explicitly defined in the schedule. There should be flexibility to exclude claims relating to exposures that are trivial and clearly non-qualifying.
A3. (a) Dysbarism, including decompression sickness and barotrauma; or (b) osteonecrosis	Subjection to compressed or rarefied air or other respirable gases or gaseous mixtures	Yes	Acute decompression sickness will often arise from a discreet identifiable event. If this is occupational in nature, then presumption should follow. Osteonecrosis is believed to arise only rarely from recreational diving.
A4. Task-specific focal dystonia	Prolonged periods of handwriting, typing or other repetitive movements of the fingers, hand or arm	No	"Prolonged" and "repetitive" are not explicitly defined in the schedule. There should be flexibility to exclude claims relating to exposures that are trivial and clearly non-qualifying.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
A5. Subcutaneous cellulitis of the hand	Manual labour causing severe or prolonged friction or pressure on the hand	No	"Severe" and "prolonged" are not explicitly defined in the schedule. There should be flexibility to exclude claims relating to exposures that are trivial and clearly non-qualifying.
A6. Bursitis or subcutaneous cellulitis arising at or about the knee due to severe or prolonged external friction or pressure at or about the knee	Manual labour causing severe or prolonged external friction or pressure at or about the knee	No	As for PD A5
A7. Bursitis or subcutaneous cellulitis arising at or about the elbow due to severe or prolonged external friction or pressure at or about the elbow	Manual labour causing severe or prolonged external friction or pressure at or about the elbow	No	As for PD A5
A8. Traumatic inflammation of the tendons of the hand or forearm, or of the associated tendon sheaths	Manual labour, or frequent or repeated movements of the hand or wrist	No	"Frequent" and "repeated" are not explicitly defined in the schedule. There should be flexibility to exclude claims relating to exposures that are trivial and clearly non-qualifying.
A10. Sensorineural hearing loss amounting to at least 50 dB in each ear, being the average of hearing losses at 1,2 and 3 kHz frequencies, and being due in the case of at least one ear to occupational noise (occupational deafness)	The use of, or work wholly or mainly in the immediate vicinity of [various specified machines and tools as listed at www.gov.uk]	Yes	The regulations as drafted make rebuttal of PD A10 very unlikely. In any event, the exposure schedule has been chosen to identify important causes of occupational deafness. The occupations in question have tended to have a high prevalence of disease. These factors make attribution to work likely.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
A11. (a) Intense blanching of the skin [defined in extent and nature]; (b) significant, demonstrable reduction in both sensory perception and manipulative dexterity with continuous numbness or continuous tingling [defined] .... where the symptoms in paragraph (a) or paragraph (b) were caused by vibration	Exposure to [variously defined sources of hand-transmitted vibration as listed at www.gov.uk]	Yes*	* PD A11 is defined in such a way that the prescribed disease is only diagnosed if caused by vibration. It follows that where PD A11 is diagnosed following medical assessment, presumption should automatically follow since the causal question has been answered by the medical assessor.
A12. Carpal tunnel syndrome	... or (b) repeated palmar flexion and dorsiflexion of the wrist for at least 20 hours per week for a period or periods amounting in aggregate to at least 12 months in the 24 months prior to the onset of symptoms, where "repeated" means once or more often in every 30 seconds	Yes	The exposure schedule has been chosen to identify circumstances in which attribution can be made on the balance of probabilities. If the schedule is met, repetitive activity outside work would not make occupational causation less likely in exposed workers. Other uncommon causes of the disease can safely be ignored.
A13. Osteoarthritis of the hip	Work in agriculture as a farmer or farm worker for a period of, or periods which amount in aggregate to, 10 years or more	Yes	The exposure schedule has been chosen to identify circumstances in which attribution to work can be made on the balance of probabilities. Attribution can be soundly applied independent of other risk factors for the disease.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
A14. Osteoarthritis of the knee	Work underground in a coal mine for a period of, or periods which amount in aggregate to, at least 10 years in any one or more of the following occupations: (a) before 1st January 1986 as a coal miner; or (b) on or after 1st January 1986 as a – i. face worker working on a non-mechanised coal face; ii. development worker; iii. face-salvage worker; iv. conveyor belt cleaner; or v. conveyor belt attendant. Work wholly or mainly as a carpet fitter or as a carpet layer or floor layer for a period of at least 20 years in aggregate	Yes	The exposure schedule has been chosen to identify circumstances in which attribution to work can be made on the balance of probabilities. Attribution can be soundly applied, independent of other risk factors for the disease.
B. Conditions due to biological agents			
B1. (a) Cutaneous Anthrax; or (b) pulmonary anthrax	(a) Contact with anthrax spores, including contact with animals infected by anthrax; or (b) handling, loading, unloading or transport of animals of a type susceptible to infection with anthrax or of the products or residues of such animals	Yes	This is a rare disease; work attribution would be very likely with a relevant occupational history.
B2. Glanders	Contact with equine animals or their carcasses	No	This is a very rare disease, but the exposure schedule is relatively open ended; there could be circumstances in which non-occupational exposure should also be considered.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
B3. Infection by leptospira	(a) Work in places which are, or are liable to be, infested by rats, field mice or voles, or other small mammals; or (b) work at dog kennels or the care or handling of dogs; or (c) contact with bovine animals or their meat products or pigs or their meat products	No	The exposure schedule is relatively open ended; there could be circumstances in which in which the possibility of non-occupational exposure should also be considered.
B4. (a) Cutaneous larva migrans; or (b) iron deficiency anaemia caused by gastrointestinal infection by hookworm	Contact with a source of ankylostomiasis	No	The exposure schedule is relatively open ended; there could be circumstances in which in which the possibility of non-occupational exposure should also be considered.
B5. Contact with a source of tuberculosis (TB) infection	(a) work in or about the hospital, laboratory or mortuary	No	The pattern of TB is changing in the community; thus, estimates of relative risk in healthcare workers (HCW) could change. The situation is complicated also by immigration from TB endemic areas and by the potential of TB acquired many years ago to reactivate. The current balance of evidence favours presumption in hospital-based HCW, but this could change. Also, future technological advances might enable genetic fingerprinting, offering a means of proof to the contrary.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
B6. Extrinsic allergic alveolitis (including farmer's lung)	Exposure to moulds or fungal spores or heterologous proteins by reason of employment in:- (a) agriculture, horticulture, forestry, cultivation of edible fungi or malt-working; or (b) loading or unloading or handling in storage mouldy vegetable matter or edible fungi; or (c) caring for or handling birds; or (d) handling bagasse; or (e) work involving exposure to metal working fluid mists	No	The exposure schedule is relatively open ended, specifying the agents but not their doses. There could be circumstances in which non-occupational exposure should also be considered.
B7. Infection by organisms of the genus *Brucella*	Contact with – (a) animals infected by *Brucella*, or their carcasses or parts thereof, or their untreated products; or (b) laboratory specimens or vaccines of, or containing *Brucella*	Yes	The exposure schedule requires evidence that materials in the workplace were *Brucella*-containing. If the schedule is met, there is a good case for automatic presumption – an uncommon disease with an established occupational source of infection.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
B8A. Infection by hepatitis A virus	Contact with raw sewage	No	Hepatitis A is prevalent in the population at large, and the extent of exposure is not defined in the prescription. Presumption appears likely in, say, a sewage worker with the disease, but there may be other circumstances in which the possibility of non-occupational exposure should also be considered.
B8B. Infection by hepatitis B or C virus	Contact with – (a) human blood or human blood products: or (b) any other source of hepatitis B or C virus.	Yes	Presumption is supported by the epidemiological literature, although these diseases occur in the general population.
B9. Infection by *Streptococcus suis*	Contact with pigs infected by *Streptococcus suis*, or with the carcasses, products or residues of pigs so infected	Yes	The disease is uncommon; known transmission from pig to human and professional exposure make occupational attribution likely.
B10. (a) Avian chlamydiosis	Contact with birds infected with *Chlamydia psittaci*, or with the remains or untreated products of such birds	No	The exposure schedule is not tightly defined. There should be flexibility to exclude claims relating to exposures that are trivial and likely to be non-qualifying.
B10. (b) Ovine chlamydiosis	Contact with sheep infected with *Chlamydia psittaci*, or with the remains or untreated products of such sheep	No	As for PD B10(a)
B11. Q fever	Contact with animals, their remains or their untreated products	No	As for PD B10(a)
B12. Orf	Contact with sheep, goats or with the carcasses of sheep or goats	No	As for PD B10(a)
B13. Hydatidosis	Contact with dogs	No	As for PD B10(a)

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
B14. Lyme disease	Exposure to deer or other mammals of a type liable to harbour ticks harbouring *Borrelia* bacteria	No	As for PD B10(a)
B15. Anaphylaxis	Employment as a healthcare worker having contact with products made with natural rubber latex	No	Latex allergy can be acquired under circumstances other than work in healthcare.
C. Conditions due to chemical agents			
C3. (a) Phossy jaw; or (b) Peripheral polyneuropathy or peripheral polyneuropathy with pyramidal involvement of the central nervous system, caused by organic compounds of phosphorus which inhibit the enzyme neuropathy target esterase	The use or handling of, or exposure to the fumes, dust or vapour of, phosphorus or a compound of phosphorus, or a substance containing phosphorus	(a) Yes (b) No	(a) Is specific to occupation (although extremely rare). For (b), expert toxicological advice will determine whether the exposure is relevant – the prescription cannot be tightly defined, which argues for flexibility.
C17. Chronic beryllium disease	Inhalation of beryllium or a beryllium compound	Yes	The pattern of exposure and the disease are occupation-specific.
C18. Emphysema	Inhalation of cadmium fumes for a period of, or periods which amount in aggregate to, 20 years or more	Yes	The exposure schedule has been chosen to identify circumstances in which attribution to work can be supported on the balance of probabilities, irrespective of other risk factors such as cigarette smoking.
C22. (a) Primary carcinoma of the mucous membrane of the nose or paranasal sinuses	Work before 1950 in the refining of nickel involving exposure to oxides, sulphides or water-soluble compounds of nickel	Yes	The disease is comparatively rare in the population. Relative risks of disease are very high under the scheduled exposure conditions. Therefore, occupational attribution is very likely indeed.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
C23. Primary neoplasm of the epithelial lining of the urinary tract	(a) The manufacture of 1-naphthylamine, 2-naphthylamine, benzidine, auramine, magenta or 4-aminobiphenyl (also called biphenyl-4-ylamine); (b) work in the process of manufacturing methylene-bisorthochloroaniline (also called MbOCA) for a period of, or periods which amount in aggregate to, 12 months or more; .... (e) exposure for a period of, or periods which amount in aggregate to, 5 years or more, to coal tar pitch volatiles produced in aluminium smelting involving the Soderberg process (that is to say, the method of producing aluminium by electrolysis in which the anode consists of a paste of petroleum coke and mineral oil which is baked *in situ*) [For full list see www.gov.uk]	Yes	The scheduled exposures carry high risks of the disease in question – occupational attribution is likely, irrespective of other risk factors such as cigarette smoking.
C24. (a) Angiosarcoma of the liver; or (b) osteolysis of the terminal phalanges of the fingers; or (c) sclerodermatous thickening of the skin of the hand; or (d) liver fibrosis, due to exposure to vinyl chloride monomer	Exposure to vinyl chloride monomer in the manufacture of polyvinyl chloride	Yes	Apart from liver fibrosis, the health effects in this prescription are rare. Strong associations have been found with the defined pattern of work, and this suggests a high probability of causation in individuals meeting the terms of the schedule

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
C24A. Raynaud's phenomenon due to exposure to vinyl chloride monomer	Exposure to vinyl chloride monomer in the manufacture of polyvinyl chloride before 1st January 1984	Yes	There is limited epidemiological evidence on this disease in workers with this rare exposure, but a clinical view that associations are strong (such cases will be very rare indeed)
C31. Bronchiolitis	Any occupation involving: The use or handling of, or exposure to, diacetyl (also called butanedione or 2,3butanedione) in the manufacture of– (a) diacetyl; or (b) food flavouring containing diacetyl; or (c) food to which food flavouring containing diacetyl is added	Yes	This is a rare disorder. If the diagnosis is confirmed (the main differential diagnosis being chronic obstructive pulmonary disease), causation may be strongly presumed with the relevant employment in the absence of very rare alternative causes (e.g. post lung transplantation).
C32. Nasal carcinoma	(a) The manufacture of inorganic chromates or (b) work in hexavalent chrome plating	Yes	This is a rare tumour. Epidemiological evidence supports attribution on the balance of probabilities and without the need to consider alternative causes of the tumour, such as use of snuff.
D. Miscellaneous conditions			
D1. Pneumoconiosis	Various defined exposures during the course of mining, quarrying , sand blasting, breaking, crushing/grinding of flint, certain foundry operations, grinding of mineral graphite , dressing of granite, manufacture of china or earthenware, use of a grindstone, manufacture or repair of asbestos textiles, the sawing, splitting or dressing of slate, boiler scaling etc. [For full list see www.gov.uk]	Yes	The disease is occupation-specific: presumption should be automatic (and normally is, provided that the 2 years of qualifying employment have been incurred).

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
D2. Byssinosis	Work in any room where any process up to and including the weaving process is performed in a factory in which the spinning or manipulation of raw or waste cotton or of flax, or the weaving of cotton or flax, is carried on	Yes	The disease is occupation-specific: presumption should be automatic.
D3. Diffuse mesothelioma (primary neoplasm of the mesothelium of the pleura or of the pericardium or of the peritoneum)	Exposure to asbestos, asbestos dust or any admixture of asbestos at a level above that commonly found in the environment at large	Yes	The disease is almost specific to occupation: attribution to work is highly likely and no further evidence would alter this assessment of causal probabilities.
D4. Allergic rhinitis which is due to exposure to any of [a specified list of sensitizing] agents [Full list of sensitizing agents can be found at www.gov.uk]	Exposure to any of the agents set out in column 1 of this paragraph	Yes*	*PD D4 is defined in such a way that the prescribed disease is only diagnosed when the claimant has occupational allergic rhinitis (not merely rhinitis in someone with a relevant exposure, but rhinitis *due* to that relevant exposure). It follows that where D4 is diagnosed following medical assessment, presumption should automatically follow, since the causal question has been answered by the medical assessor.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
D6. Carcinoma of the nasal cavity or associated air sinuses (nasal carcinoma)	(a) Attendance for work in or about a building where wooden goods are manufactured or repaired; or (b) attendance for work in a building used for the manufacture of footwear or components of footwear made wholly or partly of leather or fibre board; or (c) attendance for work at a place used wholly or mainly for the repair of footwear made wholly or partly of leather or fibre board	Yes	This tumour is rare. High relative risks have been described in the occupations listed in schedule – attribution to such work is very likely. Further evidence would be unlikely to alter this assessment of causal probabilities. No need exists to consider alternative causes of the tumour, such as use of snuff.
D7. Asthma which is due to exposure to any of [a specified list of sensitizing agents] or (x) any other sensitising agent [Full list of sensitizing agents can be found at www.gov.uk]	Exposure to any of the agents set out in column 1 of this paragraph	Yes*	*PD D7 is defined in such a way that the prescribed disease is only diagnosed when the claimant has occupational asthma (not merely asthma in someone with a relevant exposure, but asthma due to that relevant exposure). It follows that where PD D7 is diagnosed following medical assessment, presumption should automatically follow, since the causal question has been answered by the medical assessor.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
D8. Primary carcinoma of the lung where there is accompanying evidence of asbestosis	(a) The working or handling of asbestos or any admixture of asbestos; or (b) the manufacture or repair of asbestos textiles or other articles containing or composed of asbestos; or (c) the cleaning of any machinery or plant used in any of the foregoing operations and of any chambers, fixtures and appliances for the collection of asbestos dust; or (d) substantial exposure to the dust arising from any of the foregoing operations	Yes	Epidemiological evidence allows attribution on the balance of probabilities in workers with evidence of asbestosis (and therefore of substantial exposure to asbestos). Smoking and asbestos are considered independent risk factors for lung cancer. Further evidence would be unlikely to alter this assessment of causal probabilities.
D8A. Primary carcinoma of the lung	Exposure to asbestos in the course of:- (a) the manufacture of asbestos textiles; or (b) spraying asbestos; or (c) asbestos insulation work; or (d) applying or removing materials containing asbestos in the course of shipbuilding, where all or any of the exposure occurs before 1st January 1975, for a period of, or periods which amount in aggregate to, five years or more, or otherwise, for a period of, or periods which amount in aggregate to, ten years or more	Yes	Epidemiological evidence allows attribution on the balance of probabilities in workers with the exposures defined in the schedule. (These were chosen to be substantial.) Smoking and asbestos are considered independent risk factors for lung cancer. Further evidence, such as an assessment of smoking habits, would be unlikely to alter this assessment of causal probabilities.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
D9. Unilateral or bilateral diffuse pleural thickening with obliteration of the costophrenic angle	(a) The working or handling of asbestos or any admixture of asbestos; or (b) The manufacture or repair of asbestos textiles or other articles containing or composed of asbestos; or (c) the cleaning of any machinery or plant used in operations and of any chambers, fixtures and appliances for the collection of asbestos dust; or (d) substantial exposure to the dust arising from any of the foregoing operations.	Yes	This condition is a well-recognised and fairly specific consequence of the scheduled exposures: occupational attribution would be sufficiently secure to spare the need for collecting further evidence.
D10. Primary carcinoma of the lung	(a) Work underground in a tin mine; or (b) exposure to bis(chloromethyl) ether produced during the manufacture of chloromethyl methyl ether; or (c) exposure to zinc chromate calcium chromate or strontium chromate in their pure forms (d) Employment wholly or mainly as a coke oven worker i) for a period of, or periods which amount in aggregate to, 15 years or more; or ii) in top oven work for a period of, or periods which amount in aggregate to, 5 years or more; or iii) in a combination of top oven work and other coke oven work for a total aggregate period of 15 years or more where one year working in top oven work is treated as equivalent to 3 years in other coke oven work.	No (a) Yes (b, c, d)	(a): The balance of evidence favours attribution on the balance of probabilities only after a relatively long employment period (estimated as a guide to be about 15 years). (b), (c), (d): Epidemiological evidence allows attribution on the balance of probabilities in workers with the exposures defined in the schedule. Further evidence, such as an assessment of smoking habits, would be unlikely to alter this assessment of causal probabilities.

Prescribed disease	Any occupation involving:	Presumption “automatic”? Arguments for/against rebuttal?	
D11. Primary carcinoma of the lung where there is accompanying evidence of silicosis	Exposure to silica dust in the course of- (a) the manufacture of glass or pottery; (b) tunnelling in or quarrying sandstone or granite; (c) mining metal ores; (d) slate quarrying or the manufacture of artefacts from slate; (e) mining clay; (f) using siliceous materials as abrasives; (g) cutting stone; (h) stonemasonry; or (i) work in a foundry	Yes	Epidemiological evidence allows attribution on the balance of probabilities in workers with the exposures defined in the schedule and with silicosis on their chest x-ray. Further evidence, such as an assessment of smoking habits, would be unlikely to alter this assessment of causal probabilities.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
D12. Except in the circumstances specified in regulation 2 (d), chronic obstructive pulmonary disease where there is evidence of a forced expiratory volume in one second (measured from the position of maximum effort) which is- (i) at least one litre below the appropriate mean value predicted, obtained from the following prediction formulae which give the mean values predicted in litres – For a man, where the measurement is made without back-extrapolation, (3.62 x Height in metres) – (0.031 x Age in years) – 1.41; or, where the measurement is made with back-extrapolation, (3.71 x Height in metres) – (0.032 x Age in years) – 1.44;	Exposure to coal dust (whether before or after 5th July 1948) by reason of working – (a) underground in a coal mine for a period or periods amounting in aggregate to at least 20 years; (b) on the surface of a coal mine as a screen worker for a period or periods amounting in aggregate to at least 40 years before 1st January 1983; or (c) both underground in a coal mine, and on the surface as a screen worker before 1st January 1983, where 2 years working as a surface screen worker is equivalent to 1 year working underground, amounting in aggregate to at least the equivalent of 20 years underground. Any such period or periods shall include a period or periods of incapacity while engaged in such an occupation.	Yes	Epidemiological evidence allows attribution on the balance of probabilities in workers with the exposures defined in the schedule. Such effects have been shown to apply to non-smokers as well as smokers, thus, smoking history is not relevant in deciding occupational attribution – further evidence would be unlikely to alter the assessment of causal probabilities.

Prescribed disease	Any occupation involving:	Presumption "automatic"? Arguments for/against rebuttal?	
For a woman, where the measurement is made without back-extrapolation, (3.29 x Height in metres) – (0.029 x Age in years) – 1.42; or, where the measurement is made with back-extrapolation, (3.37 x Height in metres) – (0.030 x Age in years) – 1.46; Or (ii) less than one litre. (The value of one litre in (i) and (ii) above shall be construed as fixed, and shall not vary by virtue of any treatment or treatments taken for chronic obstructive pulmonary disease)			
D13. Primary carcinoma of the nasopharynx	Exposure to wood dust in the course of the processing of wood or the manufacture or repair of wood products, for a period or periods which amount in aggregate to at least 10 years	Yes	This is a rare tumour. High relative risks of disease were found in this industry. Attribution to occupation is highly likely in individual claimants meeting the prescription schedule. No need exists to consider alternative causes of the tumour, such as use of snuff.

Appendix 2: Decision Makers Guidance on Presumption (Decision Maker's Guide Volume 11, Chapter 67)

67191 Most PDs are presumed to be due to the nature of a person's employment. The presumption does not apply[6] to PDs A12, C1, C2, C4, C5A, C5B, C6, C7, C12, C13, C16, C19, C20, C21, C22, C25, C26, C27, C29, C30 and D5. The presumption applies in different ways to PDs A10, B5, C23, D1, D2, and D12[1] (see DMG 67305).

[1] SS (II) (PD) Regs, reg 4

67192 The presumption applies when a person who has contracted a PD

1. was employed in a prescribed occupation **and**
2. was so employed on, or at any time within one month immediately preceding, the date of onset of the disease.

67193 A presumption in the claimant's favour continues to apply unless the DM is able to rebut it, that is, to show that the disease was not due to the nature of the employment. To do this the DM must have proof sufficient to establish the point on the balance of probabilities. That is, the DM 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[1].

[1] R(I) 38/52

67194 If the presumption does not apply, the onus is on the claimant to establish on a balance of probabilities, that the disease was due to the nature of the employed earner's employment. This would be the case, for example, where the claim was for PD A8 and the employed earner was not in employed earner's employment in the prescribed occupation on, or within one month immediately preceding, the date of onset.

67195 – 67200

[6] Cm 8880, 2014, proposed amendments to this list.

This publication can be accessed online at:
https://www.gov.uk/government/publications/presumption-that-a-disease-is-due-to-the-nature-of-employment-the-role-of-rebuttal-in-claims-assessment-iiac-report

For more information about this publication, email: **iiac@dwp.gsi.gov.uk**

Copies of this publication can be made available in alternative formats if required.

ISBN 978-1-4741-1587-2

Department for Work and Pensions

March 2015

www.gov.uk