

Canadian Centre for Occupational Health and Safety

**Conference on the Recognition and Prevention of
Occupational Disease**

**RECOGNITION OF OCCUPATIONAL DISEASE
IN WORKERS' COMPENSATION**

by

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A. INTRODUCTION

It is often assumed that workers who sustain an occupational disease receive workers' compensation. Of course, some do, but it's close to certain that the majority do not.

When we compare the overall statistics relating to disease with workers' compensation statistics, we see some dramatic contrasts. The overall statistics show that among people of 20 to 64 years (typical working age), the overwhelming bulk of morbidity and death results from disease, not trauma. For example, the Canadian tables on *Causes of Death in 2002*¹, show that only 17% of deaths in the ages 20 to 64 resulted from an external cause. 83% resulted from disease. Disability statistics show a similar picture.

But workers' compensation statistics are the other way round. For example, of the claims allowed in Saskatchewan in 2003, only 3.66% of the total were for disease; and Saskatchewan is a jurisdiction in which the stated coverage of disease is the same as the coverage of injuries.

So the overwhelming bulk of disabilities and deaths sustained by people of normal working age are from disease, but the overwhelming bulk of successful compensation claims are for trauma. Of course many, and probably most, disabilities and deaths from disease are not occupational. But that does not explain the contrast, because the same is true of most disabilities and deaths from trauma. They are not occupational either. The most significant difference between the two is this. **Injuries** resulting from employment are usually **recognized** as resulting from employment. That is commonly not so for **diseases** resulting from employment.

This is the topic that I have been assigned today: the recognition of occupational disease in workers' compensation.

B. LEGAL LIMITATIONS ON RECOGNITION 1. History

1. Statistics Canada

In the creation of workers' compensation in Canada, the coverage of disease was controversial. So initially, there was some coverage of diseases, but it was more restrictive than for injuries. Gradually, there was increased recognition of disease in the Acts to the point where, in some jurisdictions, such as Ontario, the coverage became the same as for injuries.

Over the last 25 years, however, there has been a movement to contract the coverage. For example, Prince Edward Island specifically excludes “an ordinary disease of life”², even if the disease was caused by employment in the particular case.

2. Problems of language and definition

The diseases covered for compensation used to be called “industrial diseases”, and are still called that in a few jurisdictions. There are several problems with that phrase. For example, it can tend to create the impression that only the diseases of blue-collar workers are covered. That impression was correct in the beginning, but it became incorrect as the diseases of white-collar workers also came to be recognized.

Another problem was that “industrial” seemed to mean “appertaining to an industry”. This tended to give the false impression that a disease was covered if it was characteristic of an industry, but not if it resulted otherwise from an occupation. For example, I was once dealing with a claim for silicosis by a forestry worker. I doubt whether anyone would think of silicosis as a disease of the forest industry. But this particular worker was the one who crushed the rocks for making the forest roads. So silicosis was a disease of his occupation, rather than of his industry.

Those two problems with the word “industrial” were solved in most jurisdictions by changing to the phrase “occupational disease”. But this phrase introduced other problems. For example, suppose a claim is received for mesothelioma by someone who always worked as a bookkeeper. For 25 years, her office was in a factory where asbestos products were manufactured. Her office was on the same air circulation system as the factory floor. In her case, the disease might be seen as a disease of her industry, rather than of her occupation.

More serious problems relate to the use of either term, “industrial” or “occupational”.

2. S. 1. u (iii).

- i) Either term tends to create the impression that only a certain category of diseases is covered for compensation. That is appropriate in a jurisdiction where the coverage is confined to a limited category of diseases (such as PEI). But it is misleading in most jurisdictions, where any disease is covered if it resulted from employment in the particular case.
- ii) Related to this, either term tends to create the impression that diseases of the general community are not covered. Consider pneumonia, or tuberculosis. They would not usually come to mind when we hear the phrase “occupational disease”. But if a worker had been stranded without food for several days in temperatures below freezing, the disease might have resulted from employment in the particular case, and it would be compensable in most jurisdictions.
- iii) In many jurisdictions, the use of either term is poor statutory drafting; because it divides the causative criteria between the definitions section of the Act, and the substantive sections.

Most jurisdictions provide a causative criterion in a substantive section. In some, it is diseases that are “due to the nature of the employment”. In others it is “arising out of and in the course of the employment”. But if the disease must **also** be an “occupational” disease, then the word “occupational” needs defining. If that is done in the definitions section of the Act, the causative criteria are then split between two sections. Splitting the causative criteria in that way is bound to cause confusion, and probably also cause unintended restrictions on recognition.

To illustrate the point, suppose we found an Act saying that “**compensation is payable for any occupational injury arising out of and in the course of employment**”. Most of us would recognize immediately that the phrase is tautologous. The word “occupational” is surplus, unnecessary and confusing in that context. So it is in many contexts in relation to disease.

- iv) Use of either term is sometimes assumed to mean that, for a disease to be compensable, it must have been caused exclusively by employment. Of course that is not so, but this is another example of how unnecessary use of the word “occupational” can cause confusion.

In jurisdictions in which any disease is intended to be covered if it resulted from employment, the word “occupational” (or “industrial”) is superfluous, and misleading.

Just as there are problems with the words “industrial” or “occupational”, so there are also problems with the word “disease”. In jurisdictions where the coverage and the benefits in disease cases are the same as in injury cases, use of the word “disease” at all in the Act is unnecessary and misleading, except in the context of a presumptive schedule. It is bad statutory drafting, and bound to cause confusion when, as in Ontario, an Act provides for coverage of an occupational “disease”, subject to restrictions, and also provides that any “disablement” is covered without those restrictions.

Where the coverage of “disease” is intended to be different from the coverage of “injury”, use of the word “disease” is necessary, but there are problems in deciding which disabilities fit into each of those categories. In practice, these problems are resolved by following customary practice, rather than attempting definitions of “disease” and “injury”.

3. Other legal limitations in disease cases

For a disease to be compensable, some jurisdictions require that it must be “peculiar to or characteristic of” the employment, or it must be “due to the nature of” the employment. Some jurisdictions provide that no compensation, except medical aid (health care), is payable in a disease case unless there is both a physical impairment and a loss of earnings; even though a benefit would be paid for a permanent physical impairment in an injury case, regardless of any loss of earnings. Bearing in mind that a worker can usually obtain medical aid under a provincial health care plan, these restrictions limit the incentive to file a compensation claim in many disease cases.

Some jurisdictions also have notice requirements, or time limits, that apply only to disease cases. Some of these time limits are unrealistic, having regard to the latency periods that are common for some of the most serious diseases; and in practice, they are sometimes ignored.

C. ILLEGAL RESTRAINTS ON RECOGNITION

The **legal** limitations on recognition are not as constricting as the **illegal** restraints. Most of the illegal restraints arise in the process of medico-legal interaction.

1. Medico-legal interaction

This has not generally worked well in workers' compensation, particularly in disease cases. Many, perhaps even most, medical reports relating to the etiology of disease are counter-productive. This is not because of any scientific error, or lack of expertise. It is because the reports do not address the legally relevant medical question; often because nobody had told the advising physician what that question was.

When the legally relevant medical question has not been articulated **before** a medical opinion is sought, the legal criteria by which a case was decided may not appear anywhere in the case file, except as an explicit or implicit part of a "medical report", or the advice from a board doctor. When that happens, the "medical report", or advice, usually reflects the physician's own opinions or assumptions on questions of law.

Another problem relates to conclusions of non-medical fact, such as the circumstances of a worker's exposure to contamination. Conclusions of non-medical fact should be reached by an adjudicator before a medical opinion is sought, though a physician can often play a useful preliminary role in advising the adjudicator what facts it would be relevant to discover. That does not always happen. Sometimes, advising physicians are left to reach their own conclusions of non-medical fact, and so to decide their own standards of proof.

Conclusions about the etiology of disease contained in what **appears** to be a "medical report", are often simply adopted at a board or tribunal, without the report being first **dissected** into its component parts. Usually, these parts include:

- a) conclusions of medical fact (such as symptoms) — probably correct if the report was written by a physician who had examined the worker;
- b) an opinion on diagnosis — probably correct if the report shows that the opinion had an appropriate basis;
- c) conclusions or assumptions of non-medical fact — sometimes wrong;
- d) assumptions of law — usually wrong;
- e) medical opinion on etiology — often irrelevant because it does not address the legally relevant medical question.

These problems are less extensive than they used to be. In several jurisdictions nowadays, when a case reaches the final level of appeal, or goes to a medical review panel, the advising physician is informed of the conclusions of non-medical fact, and the legally relevant medical question(s), when an opinion is sought. But commonly, that does not happen at earlier levels of decision-making; and there are still jurisdictions in which it does not seem to happen even at the final level of appeal.

2. Erroneous assumptions of law

I will mention the most common errors.

a. The burden of proof

One area in which medico-legal interaction is generally weak is how to cope with uncertainty. Related to this, a mistake of law that usually underlies medical opinions on etiology is an assumption of the negative. On a question of whether a disease resulted from employment, it is common for medical reports to assume and conclude that it did not, unless it is proved that it did. Making that assumption has the effect of putting a burden of proof on the worker.

Placing a burden of proof on the worker may also reflect, to some extent, a history of greater reluctance to pay compensation in disease cases than in injury cases.

Prior to workers' compensation, one complaint about the earlier system of employers' liability was that it placed a burden of proof on the worker. This was unrealistic, particularly in disease cases. So claims were generally not pursued for diseases resulting from employment. To remedy that injustice, governments in Canada replaced employers' liability by a system of workers' compensation. This would be administered by a government board, having a duty of enquiry. The task of the Board is to "enquire into" the matter, to investigate and gather the evidence, as well as to adjudicate. Under the Acts, workers, employers and physicians usually have a duty to make reports to the Board, and to respond to questions. Beyond that, it is usually the duty of the Board to investigate and seek the evidence required to come to a conclusion.

This means that the proper starting point in deciding any claim is **not** an assumption of the negative. It is an open mind, with an equal willingness to reach a conclusion either way. The process is, or should be under the Acts, a search for the best available hypothesis.

It is clear that medical reports commonly do reflect an assumption of the negative. On a question relating to the etiology of disease, I have read hundreds of medical reports in which the physician clearly stated in the early paragraphs that he or she **does not know** the answer. But I have never read a single report in which the advising physician concluded, at the end of the report, that “I don’t know”. The conclusion at the end of the report is either negative, or uses language that invites the reader to **assume** the negative. This jump from “don’t know” to a negative conclusion shows the erroneous assumption of the negative in play.

Related to this, there sometimes seems to be a reluctance in the medical profession to allow for the answers to professional questions to be unknown. I found an example of this when I spent several months of research in a medical library on chronic pain. I found that about 90% of the articles that I read in medical journals recognized only two broad diagnostic/etiological categories.

1. **diagnosed** organic cause, and
2. psychological cause.

Only about 10% of the articles recognized any possibility of a third category; ie., **undiagnosed** organic cause.

There is often also a public expectation that, on any medical question, at least some physicians ought to know the answer. The workers’ compensation acts also rest on an assumption that physicians will know the answers. It would not be surprising if this expectation rubs off onto physicians, so that they feel that they should avoid concluding, in a report, that they don’t know the answer. It would be a great help if a physician who does not know the answer to a question would conclude the report simply by saying that: but I have never yet seen a report that does. In all the “medical reports” that I have read, uncertainty leads to an illegal assumption of the negative.

b. The standard of proof

Just as medical reports often reflect a misunderstanding about the burden of proof, so they also reflect a misunderstanding of the standard of proof. Examples of this misunderstanding can be found in such phrases as “...it has not been conclusively shown that...”, or “it is not clear that...”.

Related to this, the legal and medical professions differ in their uses of the word “proof”. In medical science, “proof” seems to be commonly understood to mean “demonstrated to a

certainty, or close to a certainty”. But, in most contexts, that is not the meaning of the word in law; and it is not the meaning of the word in the law of workers’ compensation.

Where there is a conflict of evidence, or otherwise an uncertainty, the general rule in workers’ compensation (as in other non-criminal proceedings) is that the matter be resolved according to the balance of probabilities. Some of the Acts also provide that where the evidence either way is about evenly balanced, the claimant should be given the benefit of the doubt.

So where there is uncertainty about any medical question, the role of an advising physician is to advise on the best available hypothesis. In the end, a proper conclusion of a physician might be that there is nothing in medical science to indicate a conclusion either way. The adjudicator should then fall back on common sense, and make the best guess possible.

I recall one case in which the worker had been diagnosed as having “chronic obstructive lung disease”. The Board accepted the diagnosis, and sought advice about etiology from a panel of three specialists in lung diseases. Their report concluded that “there is no evidence” of employment causation. That language seemed to invite a negative decision. But in earlier paragraphs, their report had stated that the worker’s 20-year history of substantial and continuous exposure to mining dusts could have been causative. Their report made no mention of any other cause. The worker had no significant smoking history, and no known hobbies or environmental exposures that were likely to have been causative. The Board properly concluded that, on the balance of probabilities (the best available hypothesis), the disease was caused by the employment, and the claim was allowed.

In relation to disease, some of the Acts, use the phrase “Where the Board is satisfied that...”. This phrase clearly relates to the standard of proof, not to the burden of proof. It is an unfortunate phrase, because it **implies** a standard of proof without stating what that standard is. Where that phrase is used, it is arguable that the issue to which the phrase relates must be proved to a standard higher than the balance of probabilities. But even if that argument were accepted, it is still unclear how much higher.

Where an Act also contains a “benefit of the doubt” clause, the best interpretation of “Where the Board is satisfied...” is probably that the matter should be decided according to the

balance of probabilities, but the “benefit of the doubt” does not apply to an issue that requires the board to be “satisfied”.

c. A threshold

It is sometimes **assumed** that a disease is not compensable unless the evidence of employment causation reaches a certain threshold of cogency. In most jurisdictions, there is no such rule.

A mere possibility of employment causation is not enough to allow a claim, but the lack of any identified alternative hypothesis can convert a possibility into a probability. The legally relevant question is whether the evidence of employment causation is more or less cogent than the evidence that the disease resulted from another cause. Or in other words, what is the best available hypothesis about the cause(s) of the disease?

d. “Objective” medical evidence

It is sometimes asserted that, to be valid, a medical opinion must be based on “objective” findings. One problem with that assertion is the difficulty of defining the word “objective” in this context. Perhaps if only for that reason, there is no such rule in the Acts.

Use of the word “objective” is often associated with erroneous assumptions about the burden or standard of proof, or the assumed need for evidence to reach a threshold of cogency.

Of course a medical opinion that is based on scientific testing might well be judged more cogent than an opinion that is simply impressionistic. But there is no rule that an impressionistic opinion should be rejected. Here, as elsewhere, the role of the Board is to seek the best available evidence, and to make comparative judgments on the evidence obtained.

e. Requirement of a diagnosis

It is sometimes **assumed** that a diagnosis is required as a condition of eligibility for compensation. In most jurisdictions, that is not so. The eligibility requirements relate to etiology, not diagnosis.

I was once at a conference in New York City on Asbestos-related Diseases. A sub-group meeting was composed of 35 specialists in lung diseases, and myself. We were provided with a series of case-studies of workers' compensation claims in fatal cases. For each case, we were given an exposure history, and we were shown a slide on a screen of the lungs of the deceased worker. The question to be discussed was whether the worker had died of an occupational disease. For most of the cases, there was an easy consensus. But I remember one case in which the disease site was unclear on the slide. About half the lung specialists thought it was in the lung, and about half thought that it was in the pleura. All the specialists were agreed that the disease would have resulted from the employment exposure of the deceased worker, and that it would have been fatal. But they engaged in an intense debate about whether the disease was lung cancer or mesothelioma. I interjected the question "Does it matter?" There was a stunned silence. The death was obviously compensable regardless of which diagnosis was accepted. But I could sense some resentment that an interesting professional debate should be disturbed by a question of relevance.

Of course, a diagnosis can often be useful.

- A diagnosis can trigger the application of a presumptive schedule (a schedule under which specified diseases are presumed to have resulted from employment if the worker had certain employment exposures);
- A diagnosis can help in showing the gravity level and functional significance of a disability; and
- A diagnosis can often **help** in establishing etiology.

But in some cases, etiology can be clearer than diagnosis, and a claim can properly be accepted without a diagnosis.

f. Identification of the causative agent

Similarly, it is sometimes **assumed** that identification of a causative agent is required for a disease to be compensable. Again, there is generally no such rule.

g. Regulatory exposure limits

It has sometimes been **argued** or assumed that a claim should be denied because the exposure of a worker never exceeded a regulatory exposure limit. Because of the rarity of continuous individual monitoring, that can rarely be shown to be so. But even if it is so, it is not a bar to a claim. Such evidence, if accepted, is consistent with alternative hypotheses. Eg.,

- the exposure limits may have been set too high in the regulations,
- the worker may have been unusually susceptible,
- - the worker may have been exposed to another contaminant that combined with the one being monitored to cause the disease, or
- the worker may have been exposed to a contaminant elsewhere that caused the disease.

Although evidence that the exposure of a worker did not exceed a regulatory limit does not bar a claim, it can sometimes be relevant. In some cases, it could be part of the evidence showing that an alternative non-employment cause of the disease was more likely.

D. PRACTICAL OBSTACLES TO RECOGNITION

The legal and illegal restraints mentioned above are significant limitations on the recognition of occupational disease; but their impact is far exceeded by the practical problems of recognition.

1. The etiological requirement

Most workers who sustain a disease do not receive workers' compensation. In most cases, this is not because the disease did not result from employment. It is because the causes of the disease are unknown. Thus the disease cases that are not compensated include those that did not result from employment, plus those that did result from employment, but where that cannot be shown to be so. This is the primary reason why most occupational disease cases are not compensated. For example, it has been estimated that:

This requirement is the major reason why some 19 out of every 20 severely disabled victims of occupational disease in the U.S. are not receiving workers' compensation benefits.[this requirement] demands that medical science do something which it lacks the capacity of doing, ie, to discriminate between lung diseases that are occupational and those that are non-occupational in origin.³

The same comment could just as well have been made in Canada, and the validity of the comment is not limited to lung diseases.

3. G. Perkel, "Evaluating Work Relatedness of Byssinosis for Workers' Compensation Purposes", (1981) 79 *Chest* 131S.

Take cancer for example. There is enough epidemiological evidence to know that a substantial proportion of cancer results from employment exposures, though not enough to state exactly what proportion. Yet workers' compensation is paid only in a tiny number of cancer cases.

2. Multiple etiology

The system works best when a disability results from a single cause. But that is often not the case. Even if a worker is disabled by only one disease, there may be multiple contributing causes.

The traditional legal position is that a disability is compensable if employment was a significant contributing cause. In recent years, there has been pressure to confine compensation to cases where employment was “the dominant” cause. That has now been enacted in PEI. But the Act does not explain how one cause, among two or more, should be classified “dominant”.

This is another example of unrealistic demands being made on the medical profession. For example, suppose the medical evidence is that a worker died from the combined effect of two contaminants, one of which was absorbed in the course of employment, and the other in a recreational activity. Suppose the medical opinions also conclude that the worker would probably not have been significantly impaired by either contaminant on its own. It was the combined impact of both that caused the disability and death. Since each contaminant was essential to the cause, one cannot possibly be classified as “dominant”, and the other as subordinate, by any process of medical science, or by any process of reasoning. Classifying one of those contaminants as “dominant” could only be a political decision (unless it was done by the toss of a coin).

The initial process of advising on the etiology of the disease is one for medical science. But the final step of classifying one of the contributing causes as “dominant” would often be political. It is a major problem with this type of provision that conclusions will be portrayed as “medical”, when they are essentially political.

The difficulties of dealing with multiple etiology are among the greatest problems of any cause-based system of compensation. Often a person has been exposed over the years to many contaminants, sometimes concurrently, sometimes consecutively, and sometimes in mixtures. The combined, and possibly synergistic, impact of the total is usually unknown. WHMIS and

improvements in content labelling have mitigated this problem slightly, but only slightly. There is no automatic transfer of WHMIS data to individual medical records. So WHMIS data sheets can only help if someone has taken the initiative to investigate the etiology of a disease, a particular contaminant is suspected, and the data sheets for that contaminant are obtained. Even then, and even with WHMIS and the best of content labelling, it is never possible to construct a complete history of the toxic exposures of any person.

3. The roles of workers and physicians

In trauma cases, etiology is often clear, even without a medical opinion. At least the worker usually knows when, where and how the injury happened; and often there are other witnesses. In disease cases, it can be very different. If a disease is common in the industry, it might be recognized by the worker concerned, or by an advising physician. But in most cases of disease, the possibility that the disease may have been caused by employment is never raised.

In the majority of disease cases, a claim for compensation is unlikely to be filed unless the disease is recognized by an attending physician as resulting from employment. Because the possibility of a disease being caused by employment is not usually raised by anyone else, the system depends on attending physicians for the initiation of claims. But when a physician sees a patient with a disease, it is not a normal practice to take an occupational history, or an employment history.

This is understandable. When a disabled worker sees a physician, both the worker and the physician are usually focussed on whether anything can be done by way of treatment. Even if the possibility of employment etiology is raised, the worker often does not know the contaminants, or other circumstances, to which he or she has been exposed. That information may not reach an advising physician in any other way; and the possibility of an employment etiology may never be explored.

The financing of medical services is another impediment. Taking an employment history and an occupational history is not usually a remunerated item of work for a family physician. Union officials and others who might help on this often do not do so because they see the gathering of information for a medical opinion as a matter requiring competence in medicine.

4. Medical education

The limited role that attending physicians play in the recognition of occupational disease is also reflects the place of occupational health in medical education. Courses on occupational health, or on toxicology, are not usually part of a basic medical curriculum. Most medical schools have something on these subjects, but usually in an optional diploma program that is not taken by the majority of medical students.

5. Medical literature

Concerns have been expressed in recent years about the control of, and influence on, medical literature, particularly by the drug industry. The body of literature generated or sponsored by the drug industry usually focuses on treatment. There is no medical literature focussing on the etiology of diseases that has the same level of support, promotion and distribution.

There is also a quality problem in the literature on occupational health. On so many questions, no research has been done. Perhaps inevitably, statements in medical literature on a point are often accepted without questioning the source, or credibility, of the statements. Much of medical literature is the product of experience. Sometimes that is a solid basis for a proposition, but only sometimes. When experience has not been tested by research, it can sometimes be merely experience in making the same erroneous assumptions.

Medical literature sometimes relies for its authority only on conventional wisdom, and sometimes, on circular reasoning. For example, when looking at a book on occupational diseases, we can find a proposition stated, followed by a footnote reference. But when we look at the footnote, we sometimes find that the reference is not to any research, or any other evidence in support of the proposition. It is only a reference to some other medical literature in which the same proposition was stated.

I found an illuminating example of this some years ago when I was looking at the “Medical Guidelines” of what was then the Workers’ Compensation Board of Ontario. There was a page or two for each of several diseases. When looking at the page for a particular disease, I read that a diagnosis of this disease requires an exposure period of 20 years, and a latency period of 20 years. I met with the Board doctor responsible for the guidelines, and I asked him where the numbers in this proposition came from. He told me that they could be found in the medical literature. So I

went to the medical library, and took down what was then the leading textbook on occupational diseases. I read the pages dealing with the particular disease. There, sure enough, I found the statement that a diagnosis of this disease requires an exposure period of 20 years, and a latency period of 20 years. There was then a footnote number. I felt that I must now be close to the source of this proposition. But then I read the footnote. It said “See the Medical Guidelines of the Workers’ Compensation Board of Ontario”.

E. POLITICAL CONSTRAINTS ON RECOGNITION

The recognition of occupational disease in compensation systems cannot be understood without considering the political realities. Governments have adopted market theory as the primary basis for public policy. Market theory depends for its validity on the internalization of costs — the proposition that every product should bear the cost of its own production. But we live in a political reality that allows industries to externalize their costs to a large extent. Occupational disease is part of that context. The lack of compensation for occupational disease is part of the externalization of cost; and that is the background to some of the difficulties of recognition.

I will mention a few of the political realities.

1. The pressure on assessment rates

The strongest pressure usually operating on workers’ compensation systems is the pressure to curtail assessment rates (premiums). Inherently, that pressure is also a pressure to curtail the recognition of occupational disease. Injuries are usually seen to result from exceptional events, whereas diseases often result from the normal work environment. Allowing a disease claim might mean that many similar claims would need to be allowed. So it is usually in disease cases that we find the “fear of opening the floodgates”. For these reasons, the negative pressure on assessment rates can be much greater in relation to disease cases than injury cases.

2. Funding

The Acts provide for compensation costs to be fully or partly funded. These provisions reflect the principle that each generation of employers should pay the costs of the disabilities and deaths that arise out of its operations. But the funding for each claim is established **after** a claim has been **allowed**, not when a disease was **caused**. So when a claim is allowed for a disease with a long latency period, the current generation of employers pays for a disease that was caused by an earlier generation. That can be another explanation for negative pressure on disease claims.

3. Diseases of political etiology

For many diseases, political decisions may be among an array of indirect contributing causes. But for some diseases, a political decision is more directly, and more profoundly, a contributing cause. Occupational stress, and diseases resulting from stress, are examples.

The demands of “free trade”, “globalization”, “competitiveness” and “deregulation”, create pressures to cut corporate costs, to compel overtime, to increase workloads, and to make life harder for workers in other ways. Responding to these pressures, governments have weakened the constraints on overtime, and allowed hours of work to be extended. They have also given up the use of tariff policy to promote full employment, and healthy conditions of work. A predictable consequence has been a rise in the incidence of occupational stress, and diseases resulting from stress. It is also no surprise that we have seen legislative changes to make stress disabilities non-compensable. Political realities require that diseases of political etiology not be recognized as occupational.

4. The invocation of “science”

When political pressures militate against the recognition of occupational disease, those pressures sometimes invoke a call for “science”. An example is the demand, sometimes heard, for “scientific guidelines” for the adjudication of disease claims. As well as accommodating the external political pressures, “scientific guidelines” can also accommodate any internal yearnings for bureaucratic normalcy (rather than adjudication). “Scientific guidelines” can be seen to minimize the use of judgment in deciding claims, thereby making the process more bureaucratic, and less judgmental.

The objections to “scientific guidelines” are many.

- i) Though they are usually expressed as rules of inclusion, “scientific guidelines” usually operate in practice as rules of exclusion.
- ii) They tend to put a burden of proof on the worker, a burden which a worker disabled by disease does not have the resources to fulfil. In this way, “scientific guidelines” tend to defeat one of the rationales for establishing our systems of workers’ compensation in the first place.
- iii) They tend to create a standard of proof higher than the balance of probabilities.

- iv) Commonly, they assume that an exposure history will be available for the worker.
That is seldom the case, particularly when a worker has been exposed to mixtures, or to multiple contaminants, perhaps at multiple locations.
- v) “Scientific guidelines” are often much too confined. For example, a guideline might relate to one contaminant and one disease. Such guidelines can hinder, rather than assist, an enquiry into whether a disability or death resulted from employment. For this reason, as well as others, “scientific guidelines” are more likely to be arbitrary than scientific.
- vi) Above all, “scientific guidelines” **distract** the adjudicator from the legally relevant questions: i.e., “what is the best available hypothesis about the cause of the worker’s disability or death in this case?” or “what are the best available hypotheses about the contributing causes of the worker’s disability or death in this case?” In this way “scientific guidelines” enable a Board to evade its statutory duty to select and train adjudicators for the role of enquiry into, and judgment on, the facts of each case.

Even when there are no “scientific guidelines” (which is the usual position in most jurisdictions), there are sometimes political demands that disease cases be decided only by reference to “science”. Invoking the word “science” in this context is **not** politically neutral. Such demands would, in effect, create an assumption of the negative, and allow claims for compensation only when there is proof of the affirmative coming close to a certainty. Such demands would further inhibit the recognition of occupational disease.

5. Medical research

Another political change militating against the recognition of occupational disease is the shift over the last few decades in the funding of research. We have seen the curtailment of funds from government for medical research, and a consequential increase in reliance on funds from corporate sources. The primary concern here is not so much the influence that funding providers may have on the results of research, or even control over the publication of results. The primary concern is the control that the funding sources have over what research will be done. One aspect of this is the shift that has taken place in the human resources of epidemiology, away from the etiology of diseases to studies of treatments.

Also related to this, not much seems to be done at places of treatment to generate statistics that could be invaluable for epidemiological research on etiology. For example, some years ago, I enquired at a cancer treatment centre in Toronto about the admission forms that they were using. I found that incoming patients were asked only one question that might be relevant to etiology. That question related to the patient's smoking history.

We have seen substantial improvements in the reduction of disease as a result of medical research. Examples are smoking, and the use of asbestos. But the increasing complexity of the modern world, and the accelerating pace of change, bring with them rapid changes in the use of chemical and biological mixtures, rapid changes their circumstances of use, and in the combinations of their uses. With the decline in resources, medical research on the etiology of disease cannot keep up at the same pace. So the recognition of occupational disease is unlikely to become any easier.

6. A consolidated database for research in epidemiology

Another major political impediment to the recognition of occupational disease is the failure of governments to establish a **comprehensive** database for research in epidemiology. There is an almost total separation between two types of databases.

- i. the databases that record **exposures** to pollution, or other contamination, or proxies for exposure;
- ii. the databases that record **diagnoses**, disablement, treatment or death.

This separation is commonly created, or aggravated, by the location of the various databases in different ministries, different governments or agencies, with different budgets, different histories, different goals, and different constituencies. Overcoming this separation of databases is only possible if a researcher has the substantial amounts of time and money, and the necessary permissions, to undertake record linkage. There is no **comprehensive** database in which a researcher can look for associations that might indicate a relationship of cause and effect. There is no broadly available and quick way of identifying, and to some extent testing, etiological hypotheses.

A great deal of epidemiological research could be facilitated by a database that would include, in respect of each individual, a record of at least:

- (a) residential history,

- (b) employment history,
- (c) occupational history,
- (d) perhaps some items of consumption history,
- (e) diagnoses, and
- (f) medical treatments.

Confidentiality and privacy could be protected more efficiently than at present, because researchers would generally need only anonymized data.

Just as a comprehensive database would link exposures and diagnoses, so it would also span a time dimension. Individual histories would be recorded contemporaneously; including recorded exposures, and proxies for exposure, as well as diagnoses and treatments. The history recorded in that way would be available instantly as required. It would no longer have to be reconstructed by individual researchers when the needs arise.

The design of existing databases resulted from their creation at different times, by different people, in different places, and for different purposes. But the result is much the same as if they had been designed deliberately to impede research on the etiology of disease.

Unfortunately, the facilitation of epidemiological research through a comprehensive database would conflict with the political realities.

F. CONCLUSION — IMPROVING RECOGNITION

Because of the impediments to recognition that I have mentioned, the majority of workers who sustain an occupational disease do not receive compensation. Nor will they ever receive compensation under a system that depends on etiology being established case by case.

The greatest improvement in the recognition of occupational disease for compensation purposes would only come if workers' compensation, and all other systems of compensation for disability and premature death, were to be replaced by a comprehensive plan for the compensation of all disabilities and premature deaths. Under such a plan, etiology would be irrelevant to eligibility for compensation, but it would be part of the formula for cost distribution. Costs could

be distributed by reference to cause, but it could be done by using aggregated data, rather than by a costly enquiry into etiology in each case.⁴

There is no political prospect of such a system being adopted. But unless it is, the recognition of occupational disease will be an increasing problem, and most cases of occupational disease will remain uncompensated.

But there are some improvements that would **be within** the range of political feasibility. These relate to the improvement of medico-legal interaction. For example:

- a) Any board that has not already done so could make it a rule, in primary adjudication, that a file does not go to a Board doctor until the adjudicator has noted on the file the legally relevant medical questions on which medical advice is required.
- b) Where this is not already the practice, when a board or appeals tribunal is seeking an opinion from an outside physician, the request to that physician should be accompanied by:
 - i) a statement of the non-medical facts; and
 - ii) the legally relevant medical question(s) on which an opinion is needed.
- c) When a representative of a party is seeking a medical opinion, the same information should be provided to the advising physician.

The relevant questions should be worded to show that an opinion being sought on the etiology of a disease is one that identifies any alternative hypotheses, estimates the relative probabilities, and concludes with an estimate of the probability that the employment exposure(s) was a significant contributing cause.

Where any board, tribunal, or party representative has not already adopted these practices, the improvement of medico-legal interaction is the most significant improvement that can easily be made to the recognition of occupational disease in workers' compensation.

4. See "Compensation for Injury and Disease: the Policy Choices", T. G. Ison, 1994, Butterworths, Toronto, ch. 8.