USE OF EPIDEMIOLOGY IN ASBESTOS CLAIMS

IVAN BOWLEY

SAMUEL CUTHBERT

Overview

- What is epidemiology?
- What is the role of epidemiology in medico-legal litigation?
- How has the use of epidemiology been applied in disease litigation?
- What are the limitations of epidemiology for disease litigation?
- *Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore* [2011] UKSC 10
- *Bannister v Freemans Plc* [2020] EWHC 1256 (QB)
- Practical problems with epidemiology evidence in asbestos litigation
- Extrapolating from cohorts
- Where do we go from here?

What is epidemiology?

- The study of health effects in populations

- The use of epidemiology in disease litigation has gained traction in recent years: for :
  1) the purpose of demonstrating causation, and
  2) most recently for limiting the circumstances in which causation can be proved.

- In litigation epidemiology is used for a different purpose, as a tool to look backwards for the purpose of proving causation.

What is the role of epidemiology in medico-legal litigation?

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- To demonstrate a causative relationship between a putative agent and a particular injury or disease.

- Two stages of using epidemiology evidence:
  1. Does the evidence show a relationship between an agent and a health effect?
  2. Has that agent caused the health effect in a given individual?

How has the use of epidemiology been applied in disease litigation?

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- ***Novartis Grimsby Ltd v Cookson*** [2007] EWCA Civ 1261
- **British Coal Respiratory Disease Litigation** (BCRDL)
- **Phurnacite Litigation: -** ***Jones & Ors v Secretary of State for Energy and Climate Change*** [2012] EWHC 2936
  - COPD/CB
  - Lung cancer
  - Bladder cancer
  - Skin cancer

What are the limitations of epidemiology for asbestos litigation?

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- It is not always the case that the findings from the study of large groups also inform the outcome in an individual case
- Application to the circumstances alleged
- The absence of a dose response relationship

Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore [2011] UKSC 10

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- Lord Philips [97-101]:

> "Thus the first answer to the conundrum may be that, in the case of mesothelioma, epidemiological evidence alone has not been considered by the courts to be an adequate basis for making findings of causation: that so long as medical science is unable to demonstrate, as a matter of fact, the aetiology of mesothelioma, data relating incidence to exposure is not a satisfactory basis for making findings of causation. "

Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore [2011] UKSC 10

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- Lord Roger [163]

  "Finally, nothing which I have said is intended to discourage the use of epidemiological evidence or to depreciate its value in cases where a claimant has to prove his case on the balance of probabilities. Far from it. Obviously, for example, epidemiology is likely to lie behind much of the evidence on which a court determines whether an exposure has materially increased the risk of the claimant developing a disease. Epidemiological evidence may also be relevant when deciding whether it would have been reasonable for a defendant to take precautions to avoid the risk of the claimant suffering a particular injury – say, the side-effect of a drug. And, of course – it must be emphasised once more – epidemiological and statistical evidence may form an important element in proof of causation. I have simply emphasised the point made by Phipson on Evidence,17th ed (2010), para 34-27, that, unless a special rule applies, "Where there is epidemiological evidence of association, the court should not proceed to find a causal relationship without further, non-statistical evidence." In other words, since, by its very nature, the statistical evidence does not deal with the individual case, something more will be required before the court will be able to reach a conclusion, on the balance of probability, as to what happened in that case. For example, where there is a strong epidemiological association between a drug and some condition which could have been caused in some other way, that evidence along with evidence that the claimant developed the condition immediately after taking the drug may well be enough to allow the judge to conclude, on the balance of probability, that it was the drug that caused the claimant's condition."

Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore [2011] UKSC 10

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- Lady Hale at [170]

  "However, I do agree with Lord Rodger that doubling the risk is not an appropriate test of causation in cases to which the Fairchild exception does not apply. Risk is a forward looking concept – what are the chances that I will get a particular disease in the future? Causation usually looks backwards – what is the probable cause of the disease which I now have? Epidemiology studies the incidence and prevalence of particular diseases and the associations between both of these and particular variables in the diseased population. From these it is possible to predict that a particular percentage of the population, for example of women aged between 60 and 70, will contract a particular disease, for example, breast cancer. It is also possible to say that certain variables, such as life-style or age of first child-bearing, are associated with a greater chance of developing the disease. So a doctor will sensibly advise her patient to behave in a way which will reduce the risks. But if the disease materialises, the existence of a statistically significant association between factor X and disease Y does not prove that in the individual case it is more likely than not that factor X caused disease Y."

Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore [2011] UKSC 10

- Lady Hale at [171]

  "The same applies to less sophisticated calculations. The fact that there are twice as many blue as yellow taxis about on the roads may double the risk that, if I am run over by a taxi, it will be by a blue rather than a yellow one. It may make it easier to predict that, if I am run over by a taxi, it will be by a blue rather than a yellow one. But when I am actually run over it does not prove that it was a blue taxi rather than a yellow taxi which was responsible. Likewise, if I actually develop breast cancer, the fact that there is a statistically significant relationship between, say, age at first child-bearing and developing the disease does not mean that that is what caused me to do so."

Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore [2011] UKSC 10

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- Lord Kerr at [205]

  "Epidemiology is the branch of medical science which normally deals with the incidence and prevalence of disease in large populations and with the detection of the sources and causes of disease. It involves the collection of data, usually over significant periods. Unless these coincide with periods of relevant exposure or replicate conditions of exposure experienced by individual claimants, the use of such data to seek to establish any specific proposition in an individual case requires to be treated with great caution, in my opinion. It is an essential and minimum requirement, as Brachtenbach J said in Herskovits v Group Health Cooperative of Puget Sound (1983) 664 P 2d 474, that there be evidence connecting avowedly relevant statistical information produced by the epidemiological studies to the facts of the case. In my view, no such connection was made in the present appeals. The "epidemiological evidence" which was adduced consisted of a series of assumptions and speculations rather than actual data which could be related to the experience of those who developed mesothelioma. What the testimony amounted to was the promotion of a theory rather than the establishment of facts and it did not constitute evidence on which reliable conclusions could be reached."

Application in *Bannister v Freemans Plc* [2020] EWHC 1256 (QB)

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- 4 issues:

1. To what degree, if at all, was the Deceased exposed to asbestos dust during the course of his employment by the Defendant? The issue was whether the removal of the boards created asbestos dust which was subsequently not cleaned up, or whether it was construction dust.
2. Whether exposure was caused by the Defendant's negligence and/or breach of statutory duty. The Defendant conceded that, if the Court found the Deceased was exposed to asbestos in the course of his employment, it was in breach of the duty of care it owed. As such, this issue was not in dispute.
3. What was the extent of that exposure to asbestos dust?
4. Whether any such exposure constituted a 'material increase in risk' of the Deceased developing mesothelioma.

Bannister v Freemans Plc [2020] EWHC 1256 (QB): *Material risk in mesothelioma*

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- In *Sloper v Lloyds Bank Plc* [2016] EWHC 483 (QB) Dr Rudd made a concession which was used in *Bannister* as an appropriate means of determining material increase in risk:

  "a dose of asbestos which was properly capable of being neglected could be defined as a dose which a medical practitioner who is aware of the medical risks would define as something that the average patient should not worry about."

- The burden was on the Claimant to show that any exposure to asbestos suffered by the Deceased in the course of his employment by the Defendant gave rise to a material increase in the risk of the Deceased developing mesothelioma.

Bannister v Freemans Plc [2020] EWHC 1256 (QB): The problems

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- The Extrapolation Problem - Epidemiology evidence in isolation cannot allow the Court to draw any conclusions about a specific claimant as an individual.
- The Analagous Studies Problem – Hodgson & Darnton
- The Logical Problem - no tortious exposure without material increase in risk

Bannister v Freemans Plc [2020] EWHC 1256 (QB): In practice

- How do we deal with *Bannister* practically?
- Should I be instructing an expert epidemiologist?
- Is a chest physician sufficiently well-place to comment on the epidemiology?

Q&A

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