There’s a lot of it about?

A view of the nature, scale, and causes of work related disease is a prerequisite for setting rational priorities for prevention. Such a statement is easily made but a true and fair view on work related diseases remains as elusive as the holy grail. A host of practical problems arise. The information needed depends on the purposes for which it is used—is the aim to assess the adequacy with which known risks are controlled, or is it to identify new ones? Do all cases have to be identified or can a sample survey provide the required information? Should industry be formally accountable for the health of employees and how is this to be expressed? Is the collection of information on work related disease an optimum use of resources or could they be better applied in other areas?

Internationally a range of data collection mechanisms are targeted at known occupational diseases but none seems fully to meet the needs of those who use them for determining preventive priorities. This is because most are either intended for other purposes or cover only a limited range of conditions. Many rely on social security systems that require diagnosis of a specific disease in an at risk employee as the basis for benefit payment. Such systems provide validated case reports for some conditions, often using standard diagnostic criteria. Year on year comparisons are possible but are vulnerable to changes in the industrial, social, and financial incentives to making a claim. By their nature such systems do not provide clues about new risks. In Scandinavia, however, reporting is based on clinical suspicion of a link between work and an illness. This has the advantage of providing clues about previously unrecognised risks but needs diagnostic support to provide statistics that are more than just a list of suspicions.

Employers and their advisers are a potential source of information on work related disease but this can be subject to a bias towards underreporting because of the likelihood of follow up by enforcing authorities and subsequent claims by employees. The “RIDDOR” disease reporting system in the United Kingdom places a duty on employers to make a report to the enforcing authority if one of their employees has a condition that is listed in a schedule of jobs and associated diseases and they are informed of the disease in writing by a doctor. Evidence from comparison with other sources shows that a large shortfall exists in cases reported. This is almost certainly because of the doctor’s likely lack of awareness of risks in the workplace and the employer’s desire to avoid participation in subsequent investigations.

As well as systems based on statute, valuable information can be obtained from voluntary sources. Thus infectious disease is usually diagnosed by the laboratory isolation of the pathogen and laboratory reports can, if occupational data are routinely collected, be used to provide an index of the frequency of many occupational infections. General practitioners are in a position to be providers of information on common but non-serious conditions, especially if they take part in “spotter practice” computerised data collection systems. A recent United Kingdom trial has collected data from general practitioners on dermatitis and on carpal tunnel syndrome over a six month period and shown that a rolling programme covering a range of work related diseases is feasible.

Some clinical specialties see a significant proportion of the more serious and often undiagnosed occupational diseases. A successful data collection system for lung disease has been set up among chest and occupational physicians and now provides the major source of data on occupational lung disease in the United Kingdom. Similar schemes are planned for skin disease, haematological conditions, and urothelial cancers. As now operating these registers rely on clinical diagnoses and do not normally incorporate details of exposure except those that the patient can provide. This contrasts with United States sentinel reporting systems, which collect data on a few conditions from participating clinicians, all of whom agree to apply rigorous diagnostic criteria to their cases.

The output from all of these systems provides statistics of disease as seen from the perspective of the collector. The relative frequency of known occupational diseases can be used as a guide to setting priorities for more detailed investigation and for control, bearing in mind any obvious biases in the system. Time trends provide information on whether risks are increasing and are also the final audit of the effectiveness of preventive measures. Long run consistency is essential to valid interpretation and systems set up for other purposes such as payment of
benefits are vulnerable to changes in benefits—as shown by reductions in notifications of dermatitis during the 1970s in the United Kingdom as the benefit declined in value. More radical changes can lead to elimination of sources; when United Kingdom industrial injury benefit was abolished in 1983 these time series ceased. Some routine data collection systems in which reporting is on suspicion or is incidental to requests for advice, such as the National Poisons Service, can be a source of information on previously unknown risks. Bringing together data at a national level can lead to recognition of new patterns—for instance, in the databases used by the United Kingdom Health and Safety Executive and in the United Kingdom Decennial Supplement on Occupational Mortality—provided individual reporters and those who analyse the data do not discard the unexplained as irrelevant!

Widespread data collection systems are poor tools for risk assessment because some cases are missed, consistent diagnosis is almost impossible to achieve, and exposure data are usually of poor quality or not available. Thus epidemiological investigations targeted at estimating the relation between exposure and the frequency and severity of effects complement routine surveillance and bridge the gap between suspicion of a hazard and the estimates of relative and absolute risk that are needed to set standards and define priorities for control. It is common to think in terms of disease diagnosed by clinicians and to take no account of the causes and nature of disease as perceived by those at risk. The 1991 United Kingdom Labour Force Survey will aim to remedy this by asking respondents to identify in a standardised way any illness that they think was caused by their work, providing an insight that until now has been anecdotal.

Work related disease does not exist in a vacuum; it is a highly contentious topic between employers and employees and exercises the attention of regulatory authorities all the time and other parts of government periodically. Evidence of a risk that is inadequately controlled not only provides an opportunity for prevention—it signals to employees that they may be harmed, raising concern and the prospect of a claim for damage. It also indicates that employers may have to pay the costs of improved control and any successful claims from employees, and enforcing authorities may need to review and modify the standards of control that are required. Thus developing and improving data collection and analysis arrangements are often a matter for negotiation between a number of interested parties whose stated objective—the prevention of disease—is shared but who have different underlying concerns.

A workshop sponsored by the Health and Safety Executive at the Institute of Occupational Health in Birmingham reviewed surveillance of work related disease in April 1990 covering the points outlined above. Future needs and ways of improving data collection were discussed. Three tiers of need were identified—namely simple information on the number of cases of serious disease to answer public and political questions and to give an overview of the size of major problems; surveillance and investigative work to provide information on incidence and relative risk to aid the development of preventive policy; and scientific study to provide evidence of links between work and health to evaluate its causes and consequences and to improve techniques of investigation and control.

No single system can meet all these needs and different diseases also need differing surveillance systems because of their natural history and the diagnostic methods used. Taking the United Kingdom as an example, social security claims for some major illnesses, such as the pneumoconioses, still provide essential statistics on incidence and trends. RIDDOR ill-health reporting by employers is of little statistical use but does provide leads into workplaces where better prevention is needed. It is only likely to be significantly improved if the responsibilities for indentifying forseeable diseases forms part of the risk assessment process now required for chemicals under the control of substances hazardous to health regulations8 and that will extend more widely when forthcoming European Community directives on health and safety management are implemented.9 Identification of forseeable diseases needs to be supported by surveillance arrangements that use staff who are able to recognise the diseases and are required to record and report them. Even this would only be useful for diseases of short and medium latency that will occur while a person is still at work in a job where the risk is present. Statutory schemes need to be supplemented by a range of professional case registers for certain types of disease, with greater exploitation of information captured for other health care purposes by general practitioners, hospitals, and laboratories. These continuing surveillance arrangements will need to be supplemented by targeted surveys to determine the nature and extent of health risks in exposed populations.

The end result will be a patchwork but one that should have more overlaps than holes. This needs to be coupled with a recognition that no single measure of work related disease exists, but rather like the blind men describing an elephant by feeling its parts, a series of perceptions of the nature and scale of diseases built up from different perspectives. These can be used to answer questions about new problems, priorities for control, and the adequacy of existing control measures.

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