Needlestick injuries in primary care

Sirs,

Atenstaedt et al. report needlestick injuries (NSI) among primary care staff in Wales. Waste handlers working with clinical wastes fare less well, with an NSI rate of approximately 1 in 29 000 man hours. In both groups, under-reporting may be common. In our series, no seroconversions were recorded. Two individuals suffered debilitating anxiety/stress disorder requiring prolonged leave of absence, with long-term professional counselling and support, and prompted the resignation of one individual who felt unable to return to work with clinical wastes. Each NSI was caused by errors in disposal, with 34 of 40 injuries caused by needles that are carelessly discarded into thin-walled waste sacks intended only for soft wastes.

Care standards after NSI were less than satisfactory. Long waiting times in Accident and Emergency Departments delayed post-exposure prophylaxis, and failure to collect blood for baseline serological testing and lack of specialist referral or follow-up in over 50% of cases were causes for considerable concern. This contrasts starkly with impending EU legislation under Directive 2000/54/EC that will mandate provision of a written NSI policy, an immediate and effective medical response and follow-up to any accidental exposure, with rapid post-exposure prophylaxis where appropriate. Key requirements also include the use of needle safety devices and the modification of work practices that pose a risk of NSI to make them safer, prohibition of recapping needles, and mandatory training in the safe use and disposal of sharps. Sadly, this legislation makes no provision for those in the waste disposal sector or for local authority (LA) staff who may be required to deal with contaminated sharps in the community.

In the community, standards of needle safety are often poor. Though NSI is fortunately rare, discarded needles continue to be found in public spaces. In an audit of LA web pages, response times to deal with needle finds varied from 1–2 h up to 7 days or more. Advice to those finding discarded needles was often confused or inadequate, often contradictory, and on occasions unquestionably dangerous. Though several LAs gave comprehensive safety and first aid advice, others limited this to a recommendation to cover wounds with a clean waterproof dressing, to make an appointment with a GP or Practice Nurse, or to ‘write in for our free needlestick leaflet’.

Despite much information concerning the safe use of needles and the management of clinical wastes, and guidance to LAs in their management of drug litter, standards of performance remain inadequate and NSIs continue to occur. As Atensstaedt notes, comprehensive NSI management guidelines are essential. A comprehensive national policy may be preferable to ensure best practice and a uniform approach to the management of these potentially devastating events. This must address the obligation to ensure safe disposal of sharps, to protect the welfare of waste handlers, and to extend the provision of prompt specialist care as identified in imminent EU legislation for all of those suffering NSI, whether caused by accident or by the failures of others.

Competing interests

None.

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Ethics in translational public health

Sirs,

According to the editorial in the September issue ‘Public health is de facto a translational industry that concerns itself by bringing about improvements to health of populations through the best science’. I agree with this analysis.
Nevertheless, the translational process is not merely a transposition of concepts from bench to bedside or from bedside into health decision making and public health, the translation of findings from health-related research into policy development is an action the nature of which is basically experimental. Therefore, I think that knowledge transfer in public health should meet ethical duties widely recognized for the research on human subjects.

A few remarks are probably useful to defend this thesis. Often in public health, the boundaries between research and practice are very weak. This condition is particularly relevant in translational public health. Yet, research and practice are different in nature. From an ethical perspective, this difference requires caution: classifications such as ‘translational research’ are fascinating, but they should not serve as excuses for not meeting ethical duties which are up to each researcher. The same could be said for the so called ‘operational research’ [according to the Operational Research Society ‘operational research’ is the discipline of applying advanced analytical methods to help make better decisions: operational research has its own societies, journals, conferences, terminology and conventions (www.orsoc.org.uk)].

Therefore, when public health promotes not only routine practices, but also research, ethical requirements typical of research should be adopted. Among the requirements there are submission of protocols for ethical review, obtainment of informed consent and others. Most of all, the first duty of physicians and public health professionals is the interest and well being of the individual, ‘which shall prevail over the sole interest of society or science’.

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Comment on ‘From risk factors to explanation in public health’

Sirs,
The article by Ian McDowell is valuable for its insights regarding explanations in public health. I wish to add some observations on recent methodologies to evaluate such explanations.

Let us start with the observation that ‘In epidemiology, many of the hypotheses being evaluated in the interpretation of studies can be seen as auxiliary hypothesis in the sense that they are independent of the presence, absence or direction of any causal connection between the study exposure and the disease. Much of the interpretation of epidemiological studies amounts to the testing of such auxiliary explanations for observed associations.’ Thus, it is important to understand that all epidemiological studies are only the testing parts of the observed association given that a whole set of factors (sociological, economic, environmental) are acting in the actual causal mechanism.

The process of conceptualizing and arriving at logical conclusions involves intuition and prior information. It is evident, however, that the individuals are inaccurate at intuitively formulating uncertainties in predicting events. Hence public-health explanations require scrutiny by experts from different fields (sociologists, economists, environment experts, epidemiologist, statisticians and historians to name a few) that not only have understood the public-health question in the relevant context but also use such information to provide logical explanations.

Nonetheless, to feed this process, public-health professionals have to come up with a specific causal mechanism, given that epidemiological observations have provided crucial tests of competing explanations. To aid in evaluating these mechanisms, causal diagrams can be used to depict how hypothesized causal networks translate into testable associations. And, while Hume and later Popper successfully argued that we cannot deductively ‘prove’ hypotheses, others have argued that the deduction has limited scientific utility because we cannot ensure the truth of all the premises, even if logical argument is valid; hence theory formation and enumerative induction remain an essential part of scientific explanation.

As aids to these processes, we have the deductive methodology of Bayesian probability logic, which translates personal probabilities of the premises of valid arguments into personal probabilities about deductive conclusions and bias analysis, which combines Bayesian and sensitivity-analysis concepts to evaluate the plausibility of alternative explanations. I agree with those that argue for incorporating these methodologies into standard epidemiological training.

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