LETTERS TO THE EDITOR

Assessment of the SF-36 version 2 in the United Kingdom

EDITOR,—I read with interest the recent article on the SF-36.1 The authors present data regarding the psychometric characteristics of the SF-36 version 2. The authors present the results from a large sample of people aged 18–64. The analysis reveals that the questionnaire has good validity and reliability. The layout of the new questionnaire is certainly improved and in this respect I think that participants will find it easier to complete. However, I believe that many of the problems that were inherent in the original version have not been resolved. The validity and reliability of the questionnaire relies in part upon people completing it accurately. Any change in the questionnaire’s format should be designed to improve the accuracy of users responses, which will in turn improve the psychometric qualities of the questionnaire.

The authors concede that the present data are only based upon people of working age and so it remains unclear how suitable this measure is for older age groups. They suggest that further research is needed to determine how applicable the SF-36 is for this age group.

In my personal experience I would suggest that the SF-36 is not a suitable measure to use with older age groups. The main shortcoming with the questionnaire is not the layout but rather the language of the questions. I would be grateful for an opportunity to draw your attention to my experiences of using this tool as an outcome measure with a large group of surgical patients. I have used the SF-36 with approximately 200 patients who were recruited to examine the effects of different vascular surgery procedures on quality of life and cognitive function between one week after operation and six months later. Quality of life was assessed using the SF-36 and the Hospital Anxiety and Depression Scale (HAD). The HAD scale is widely referred to in the psychiatric literature (reported sensitivity is 72–88% and specificity = 68–94%).

The problems that this study was undergoing was understanding the Likert scale and underestimating endocarditis (CEA), which is a prophylactic procedure carried out to reduce the risk of stroke. The second study examined the effects of abdominal aortic aneurism repair (AAA) on quality of life. The average age of patients in the two studies was 69 and 73 respectively.

It became evident very quickly that some patients failed to understand the questionnaire and completed it incorrectly. Patients were sometimes given the option to tick “Not at all” instead of “None of the time”. In this example 23% of patients went on to change their mind when the question was re-read. It left untested I suspect that many of these patients would have gone on to complete all 10 parts of question 3 incorrectly.

Question 9: The following questions are about activities that you might do during a typical day. Does your health limit you in these activities? If so, how much?

Yes, limited a lot
No, not limited at all
No, not at all

When the question was re-read, 19% of patients felt that their first response to the question was incorrect. Clearly it is difficult to judge given the nature of the question whether people were completing it correctly. Therefore the scores from this question were compared with patients’ scores from the HAD scale. The scores from question 5 form the basis of the role functioning-emotional scale (RE). Patients’ scores from this scale had a low correlation with the measures of anxiety and depression from the HAD scale (anxiety r = −0.27, depression r = −0.26). A strong association between scores on the RE scale and the mental health scale (MH) (r = 0.61) has been reported. In the total sample reported here (n=208) this correlation was r = 0.40 (P<0.01). The validity of the SF-36 has, however, been questioned. The layout of the new questionnaire is certainly improved and in this respect I think that participants will find it easier to complete.

The following questions are about your week of work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious).

After answering 14 consecutive questions regarding physical activity, many patients appeared to find it difficult to switch to thinking about emotional problems in question 5. Commonly patients reported that they thought questions 4 and 5 were the same and so they responded with the same answers. When the question was re-read, 19% of patients felt that their first response to the question was incorrect. Clearly it is difficult to judge given the nature of the question whether people were completing it correctly.

Reply

We have some sympathy with the views expressed by Dr Lloyd. We have indeed written a letter raising the issue in a rather speculative manner. We have indeed written a letter raising the issue in a rather speculative manner. We have indeed written a letter raising the issue in a rather speculative manner. We have indeed written a letter raising the issue in a rather speculative manner. We have indeed written a letter raising the issue in a rather speculative manner.
offered such criticisms of the SF-36 but have produced scarce scientific proof to support their claims. Claims that the measure is inappropriate for the elderly are more often than not based upon little more than anecdotes, rather than rigorously conducted qualitative studies.

Secondly, Dr Lloyd suggests that there will be errors in the answers provided by older respondents to the questions on the SF36. This is not particularly surprising and is to be expected with all age groups. All questionnaire items consist of true measurement plus an error term. The trick is to reduce the error term as much as is possible. This is why health status measurement has for the most part adopted multi-item scales. If we take multi-item scales to be the same under lying attribute then the summed score of all the items will be more reliable than a single question. This is because all true measurement from each item will be summed while error terms in each of the items will be random and, effectively, non-additive (the logic here is that for every person who scores a little low on a given item there will be someone who scores a little low, and so on). This, of course, assumes that items have been selected carefully and are neither unrelated or too closely related; an assumption that is implicitly built into the SF-36.

Recent data report on the successful use of the SF-36 in older patients in a large scale survey. Normative data are available. This evidence would suggest that SF-36 is useful in this patient group, but specific recommendations about its use await a world that now embraces evidence based medicine. Nonetheless it might be wise to adopt a similarly rigorous approach to questionnaire selection and application.

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Mortality in poorer areas

Eddy, Law and Morris state that “about 85% of the overall excess mortality with deprivation was attributable to heavier smoking” in their study of deaths in England and Wales in 1992. They correctly state that strengths of evidence would seem to suggest the SF-36 is useful in this patient group, but specific recommendations about its use await a world that now embraces evidence based medicine. Nonetheless it might be wise to adopt a similarly rigorous approach to questionnaire selection and application.

Reply

We conclude in our paper that all cause mortality was 15% higher in the most deprived compared with the least deprived districts, and that heavier smoking accounted for most (about 85%) of this excess mortality. We disagree with Blakely that the figure of 85% is likely to be a substantial overestimate. Statistical calculations are not necessary to see that smoking accounts for little of the total excess mortality, and other smoking related (lung cancer, chronic bronchitis and emphysema, and ischaemic heart disease) accounted for two thirds of the excess mortality, and other smoking related cancers accounted for a further sixth of the excess. Diseases reflecting other health risk factors (stressors of the liver, AIDS), or differences in medical care, accounted for little of the total excess mortality, while two important aetiological factors in circulatory diseases, serum cholesterol and blood pressure, show little difference between deprived and affluent districts (see references 37–39 in our paper).

Blakely has three concerns about our smoking related analysis. We do not think that “ecological fallacy” of Greeneland and colleagues (which may produce a bias in either direction) is a material problem in this context, particularly as we are not inferring risk at the individual level. Extension of relations between smoking and diseases through confounding is unlikely. Asbestos and other occupational exposures cause lung cancer may be more common in smokers, but these exposures cause relative few lung cancer cases in relatively low districts. Associations between smoking and other heart disease risk factors tend to be weak, and as stated above, blood pressure and serum cholesterol show little variation between affluent and deprived districts. Blakely suggests that relative risk estimates from the British Doctors Study are not generalizable. The results of the British Doctors Study in relation to smoking have in general been supported quantitatively by other large cohort studies, and we confirmed this for ischaemic heart disease. Moreover one would expect estimates of relative risk to be generalizable: the proportion of excess mortality in risk in smokers should be the same in all populations where smoking is relatively common or uncommon or where, for reasons other than smoking, the disease is relatively common or uncommon.

Bayesian analysis

Eddy, Law and Morris state that “about 85% of the overall excess mortality with deprivation was attributable to heavier smoking” in their study of deaths in England and Wales in 1992. They correctly state that strengths of evidence would seem to suggest the SF-36 is useful in this patient group, but specific recommendations about its use await a world that now embraces evidence based medicine. Nonetheless it might be wise to adopt a similarly rigorous approach to questionnaire selection and application.

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We would like to add some caveats, without which our conclusions may not strictly correct. These caveats are uncontraversial in Bayesian theory and are supported by Lindley and, presumably, Burton et al. We hope that it will be helpful if we make them explicit.

The result of a standard analysis cannot be interpreted as a Bayesian result if the analysis has incorporated any of the following elements:
- Bonferroni corrections or other adjustments to error levels,
- analyses that are mathematically multivariate even though there is a univariate main outcome measure—for example, standard methods for analysing clinical trials with interim analyses,
- analyses that ignore sources of variance—for example, common methods of evaluating survey data that take into account sampling variation but not measurement error,
- conditional designs that violate the likelihood principle by adjusting the results of any part of an analysis on the grounds that another analysis was either planned or carried out—for example, clinical trials again,
- test statistics chosen for their frequentist properties—for example, unbiased statistics used in preference to more natural or more powerful biased statistics.

It can be seen from this list that the design of Bayesian studies can be markedly different from the more common frequentist designs. A major benefit of Bayesian theory to the practising epidemiologist is the fact that Bayes theo can be non-symetric. For example, in a Bayesian design conservatism is part of an analysis on the grounds that another analysis was either planned or carried out—for example, clinical trials again.

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Bracken fern consumption and human bladder cancer

EDITORS,—In a recently published paper, Wilson et al reviewed four studies that explored the relation between bracken and human health: a case-control study of gastric cancer in North Wales; a cohort study of esophageal cancer in Japan; an ecological study in North Wales that compared standardized mortality and incidence rates for gastric and esophageal cancer in 34 districts with survey maps of bracken areas; and an ecological study in Costa Rica that compared age specific incidence rates for gastric, esophageal, and cervical cancer among people born in bracken free compared with bracken infested areas. Although some weak associations were noted in these studies, Wilson et al said that statistical analyses were limited and that little evidence exists for a carcinogenic hazard from bracken.

We would like to call attention to the results of our case-control study that assessed the risk of bladder cancer from bracken fern consumption. Bracken has been shown to be carcinogenic in experimental and observational animal studies, producing bladder tumours in guinea pigs and cattle.1 Our study was conducted in northern New England to determine reasons for the high bladder cancer mortality rates in this area.

The study included all white residents of Vermont and New Hampshire who died during 1975-79 from bladder cancer. Two randomly selected controls per case, matched on state, gender, race, age (52 years) and year of death, were randomly selected from all other resident deaths (excluding suicides). A questionnaire sought information on demographic characteristics, life table occupational and residential histories, history of tobacco and beverage use, medical history including bladder infection, and consumption of selected dietary items including bracken fern (fiddlehead greens). Interviews were conducted with the next of kin of 325 cases and 640 controls who were interviewed. Odds ratios (OR) were calculated using both conditional and unconditional logistic regression. As both methods yielded similar results, the unconditional results were presented. A total of 24 cases (7.4%) and 71 controls (11.6%) were reported to have ever eaten bracken fern (OR=0.69, 95% confidence intervals (CI)=0.4-1.2). Regular consumption of bracken fern was reported for 15 cases (4.6%) and 38 controls (5.6%). (OR=0.8 (CI)=0.4-1.5).

Our negative findings are consistent with a Canadian population-based case-control study of 480 male and 152 female case-control pairs that showed no increased bladder cancer risk associated with consumption of fiddleheads.2 These studies provide further support for the conclusions of Wilson et al that bracken consumption of fiddleheads does not cause bladder cancer.


Reply

We thank Dr Grossman and Dr Parmar for their positive comments. Their letter provides a valuable addendum to our original paper and, as they assume, we continue completely with what they have written.

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Human rights—a public health issue?

The year 1998 was important as it helped us to make a clear connection between two key global issues—human rights and public health. The two anniversaries, the 50th anniversary of the enactment in the UK of the first ever national Public Health Act in 1848, and the 50th anniversary of the Universal Declaration of Human Rights proclaimed by the General Assembly of the United Nations on 10 December 1948, add further momentum to the implicit connection. An added bonus was the UK government’s decision to incorporate the European Convention of Human Rights into the UK law, thereby increasing the utility of the Convention for UK citizens. In the United Kingdom the Medical Foundation, whose patrons include Sir Richard Doll, has given the connection between human rights and public health a new vigour through its advocacy and pastoral work in the field.

The chains linking public health and human rights are the Covenant on Civil and Political Rights and the Covenant on Economic, Social and Cultural Rights. These covenants lay the main foundations of the Universal Declaration.

The first covenant details the basic civil and political rights of individuals and nations. This covenant provides for the following rights for nations:

- the right to self determination
- the right to own, trade and dispose of their property freely and not deprived of their means of subsistence.
- freedom of opinion and expression
- freedom of thought, conscience and religion
- freedom of assembly and association
- the right to privacy and right to protection of that privacy by law
- the right to liberty and freedom of movement
- the right to appeal a conviction

The covenant forbids torture and inhuman and degrading treatment, slavery or involuntary servitude, arbitrary arrest and detention. It further forbids propaganda, advocating either war or hatred based on race, religion, national origin or language.

The covenant also provides for the right of people to choose freely whom they will marry and with whom they will found a family, and requires that duties and obligations of marriage and family be equally shared between partners. It also guarantees the rights of children and prohibits discrimination based on race, sex, colour, national origin or language.

As well as restricting the death penalty to the most serious of crimes, the covenant also guarantees condemned people the right to appeal for commutation to a lesser penalty and forbids the death penalty entirely for people under 18 years of age.

The covenant permits governments to temporarily suspend some of these rights in cases of civil emergency only, but also lists those rights that cannot be suspended for any reason.

The second covenant describes the basic economic, social and cultural rights of individuals and nations, including the right to:

- self determination
- wage sufficient to support a minimum standard of living
- equal pay for equal work
- forms trade unions
- strike
- paid or otherwise compensated maternity leave
- free primary education and accessible education at all levels
- copyright, patent and trademark protection for intellectual property.

In addition, this convention forbids exploitation of children and requires all nations to cooperate to end world hunger. Each nation that has ratified this convention is required to submit annual reports on its progress in providing these rights to the Secretary General of the United Nations. It also sets out the responsibilities of the Economic and Social Council of the United Nations.

The two covenants implicitly recognize and reinforce the World Health Organisation’s Charter on health. Human health at a global level can only be effectively sustained if individuals within nations have certain enshrined rights that enable them to shape the outcomes of the key decisions that affect resource use and allocation within and between nations. The Universal Declaration of Human Rights needs champions within nations, both to keep the Declaration in the public eye and to assist individuals whose rights as defined by the Declaration have been breached or violated. There are many such organisations based in a number of countries. The Medical Foundation is one such body, and is prominent in the UK. The main focus of the Foundation’s work is campaigning on behalf of victims of torture. The Foundation also meets the immediate care needs of victims of torture.

The Foundation’s work is likely to acquire an added significance now that there is widespread support for the setting up of an International Criminal Court. It is likely that the Court be a permanent tribunal with universal jurisdiction over individuals responsible for systematic violations of human rights. It is argued with force that the creation of a judicial institution is crucial to the struggle against the culture of impunity that is prevalent throughout the world. By designating massive and systematic violations of human rights as crimes and effectively prosecuting the violators, the international community would show its resolve to uphold justice and the rule of law as the foundation of peace and security. So far 74 states have signed the Rome Statute Signature and Ratification Chart, however it needs 60 states to ratify the Statute for the Court to be set. So far only one state, Senegal, has ratified the Statute. It is vital that internationally the public health movement persuades more nations to ratify the statute to enable the Court to become operational.

Public health practitioners have a vested interest in supporting the work of bodies such as the Medical Foundation, as they help to remind us that the twin goals of health and human rights for all are attainable, the obstacle being us collectively. The human rights agenda is vital for public health practitioners. It is too important for us to ignore it.
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