LETTERS TO THE EDITOR

Public health medicine and primary care

Sir—Professor Bhopal's editorial on the relationship between public health and general practice¹ is important, and was a valuable review of the scene. It is not quite clear, however, that general practice necessarily wishes to be called primary health care and indeed in terms of the original WHO definition² this would include sanitation, clean water, the built environment, and some hospital secondary care departments such as accident and emergency and genito-urinary medicine.

He makes the important point that "ultimately, the professional goals of public health medicine and general practice are the same" and this certainly needs to be restated.

Professor Bhopal raises a difficult issue in writing that a public health doctor may find it "more practical to work with managers and administrators, and general practitioners' representatives rather than joining with general practices in solving their 'coal-face' problems". But these are the actual problems that patients face, and remaining distant from them runs the danger of diminishing the public health doctors' understanding and ability to be effective. In my recent Harben lecture,³ I tried to demonstrate some of the possibilities.

According to Professor Bhopal, "inequalities have been a major concern of public health doctors but not of the general practitioner . . .", and here I must strongly disagree. There is simply no substitute for understanding inequalities experienced by patients through direct face to face contact, both day and night, with those who suffer them. The best way of obtaining real understanding is by repeatedly visiting their homes and listening to them face to face. It is a long tradition of general practitioners to care first hand for the underprivileged. It is simply not true "that health inequalities have been a major concern of public health doctors but not of the general practitioner".

DENIS PEREIRA GRAY
Postgraduate Medical School
Barrack Road
Exeter EX2 5DW

1 Bhopal R. Public health medicine and primary health care: convergent, divergent, or parallel paths? Editorial. *Journal of Epidemiology and Community Health* 1995;49:113-16.

2 World Health Organisation and UNICEF. *Alma Ata Declaration*. Geneva, WHO and UNICEF 1978.

3 Pereira Gray D. Primary care and the public health. *Health and Hygiene* 1995;16:49-62.

Reply

Professor Denis Pereira-Gray's enthusiasm and interest in the common agenda facing public health and general practice/primary health care¹ is explicit in his recent article which focuses on the actual and potential contribution to the public health.² I agree with his view that general practice and the

British variant of primary health impacts strongly on public health care already and has yet more to give. This is a most welcome message.²

Like Professor Pereira-Gray I would like to see public health doctors working on the "coal face" issues affecting general practitioners. Similarly, general practitioners need to help with the "coal face" problems of public health issues in a district of 250 000 population (a situation which remains a luxury in many places), this person would relate to 125 general practitioners and their staff and perhaps 30-40 practices. Communications are not effective in these circumstances. Perhaps we need more general practitioners with public health skills and experience.

I endorse Professor Pereira-Gray's view that general practitioners see the consequences of underprivilege (and no doubt privilege). The combination of this profound experience, and of the epidemiological evidence, ought to be potent. The general practitioner is in a position to convey the human misery which underlies the stark inequalities demonstrated by the health statistics.

I have no doubt that my views and those of Professor Pereira-Gray are convergent!

RAJ BHOPAL
Department of Epidemiology and Public Health,
University of Newcastle,
Newcastle upon Tyne.

1 Bhopal RS. Public health medicine and primary health care: convergent, divergent and parallel paths. *J Epidemiol Community Health* 1995;49:113-116.

2 Pereira-Gray D. Primary care and the public health. *Health and Hygiene* 1995;16:49-62.

Getting to GRIP with a problem

Sir—We read your recent editorial on getting research into practice with interest.¹ We would like to share some of our experiences in a related field.

About three years ago, a chance remark by a new trainee in public health about doctors leaving medicine was related to the postgraduate board of medical and dental education. Other similar anecdotes came to light. The question, "Is there a problem and what effect might it have on medical care?" was asked. The trainee was encouraged to speak to the postgraduate dean and to seek funding for a small project. A research fellow was appointed and the study began. Further funding was obtained to study another group. Results came through suggesting that there was indeed a large problem. A feasibility study looking at the potential for providing a service was undertaken. Presentations were made at numerous conferences and seminars. A network of individuals with similar interests was created. A booklet dealing with the issue was distributed and later published.² Funding for the service was agreed just 18 months after the original remark, although it took another nine months to start it up. A follow up study was arranged, plus a considerably expanded version of the original study. The service began. A course requested by the respondents of the original survey was organised. Dissemination of the results of the first survey,

to anyone with an interest or contribution to make in the area began. The service started to receive referrals from other interested parties. A further piece of work was suggested with a view to expanding the service to accommodate the other parties. Finally, three years after that chance remark, a paper was published.³

This describes the history of a project looking at stress in doctors, the setting up of a counselling service to manage the problem, the production of a book to help individuals manage their stress better, a course to help medical students, a mountain of work, and finally "the gold standard", a peer reviewed paper. It may not be about creating a change in mainstream medical practice, but it is about doctors learning to admit that they may have a problem, and learning to do something about it. The outcomes? A ton of paper, sore feet, and a hoarse voice. The buying of hundreds of books, the training of medical students, the admission by doctors that they have a problem, the learning to seek help, and perhaps (and less easy to measure) better patient care and one less breakdown or suicide in the profession. Should GRIP not be about these things?

Our lessons?

- Catch the crest of a wave – when a topic is of interest make use of it.
- Have a champion – a figure head who believes in the work and will shout about it.
- Have a driver or two – people who will do the work necessary to support the champion.
- Demonstrate the importance of the topic with solid research.
- Point out the benefits to the organisation and individual.
- Talk to anyone – speak at conferences, share work with like minded people, network, and share lessons through the grapevine. Don't be afraid to write to people offering information. Most people welcome it.
- Worry about getting the papers published later – do the change management first.
- Think about your audience and publish in the appropriate place – and if it scores 0 on the university funding exercise, so be it.

Perhaps it is time to look at the marketing. After all, look at what Anne Diamond did for the *Back to sleep* campaign – if that isn't Getting Research into Practice, what is?

CARON GRAINGER
ELEANOR HARRIES
University of Birmingham,
Institute of Public and Environmental Health,
Department of Public Health and Epidemiology,
The Medical School,
Edgbaston,
Birmingham B15 2TT

1 Roland M. Getting research into practice. *J Epidemiol Community Health* 1995; 49: 225-6.

2 Grainger C. *Stress survival guide*. London BMJ Publishing 1995.

3 Grainger C, Harries E, Temple J, Griffiths R. Job satisfaction and health of house officers in the West Midlands. *Health Trends* 1995, 27 (1): 27-30.

Emotional reactions and colposcopy

Sir—In their recent paper¹ Gath *et al* observed that further investigation by colposcopy after an abnormal cervical smear is generally associated with low levels of anxiety and depression. This finding may be relevant to

the debate on whether women with minor cytologic abnormalities (squamos atypia or koilocytosis) should be immediately assessed by colposcopy or should be followed up by repeat cytology. Although colposcopy is certainly more sensitive than cytology, its prompt and extensive use in assessing women with abnormal smears has been questioned because it may have negative psychological effects.^{2,3}

Within a prospective study (European Community SOC 93-102330) that compared the diagnostic accuracy of six months' cytological surveillance to immediate colposcopic assessment in women with minor histological abnormalities, we have measured the level of psychological discomfort (anxiety) in two comparable, age matched subgroups of 50 women assessed according to the two policies. Psychiatric symptoms were quantitatively and qualitatively assessed by the Spielberger state-trait anxiety inventory (STAI),⁴ and by the Z-test.⁵ The latter focused on the analysis of "anatomical" contents which are strongly associated with anxiety.⁶ Psychiatric tests were administered immediately before colposcopy or six months repeat smear.

As shown in the table, a minor statistically insignificant (mean (SD) score: colposcopy = 44.6 (10.9); repeat smear = 40.7 (8.7); $p>0.05$; $\chi^2 = 4.38$; $df = 2$, $p = 0.11$) increase in anxiety was observed in the group of women undergoing colposcopy according to the STAI test. No difference, however, was observed in the response to Z-test between the two groups, which showed comparable frequencies of anatomical contents.

Results of psychiatric assessment of two comparable groups of women with minor cytological abnormalities and undergoing immediate colposcopic assessment (group A), or cytological surveillance after six months (group B)

Psychiatric test	Group A	Group B
State-trait anxiety inventory:		
Score 20-39	19	28
Score 40-55	23	19
Score >55	8	3
Z-test		
Absence of anatomic contents	22	21
Anatomic contents present	28	29

Our findings agree with those of Gath *et al.*¹ and suggest that colposcopic assessment in women with abnormal cytology is not associated with major psychiatric morbidity. In particular, the level of anxiety is not significantly greater than that associated with cytological surveillance. Thus, the latter policy should not be preferred to immediate colposcopic assessment on the grounds of minor psychiatric morbidity.

PATRIZIA MAGHERINI
SILVIA CECCHINI
CARLO F CATAGNI
FELICIA DI FRANCISCA
STEFANO CIATTO
GRAZIA GRAZZINI
*Centro per lo Studio e la Prevenzione Oncologica,
Florence, Italy.*

1 Gath DH, Hallam N, Mynors-Wallis L, Day A, Bond SAK. Emotional reactions in women attending a UK colposcopic clinic. *J Epidemiol Community Health* 1995;49:79-83.
2 Marteau TM, Walker P, Giles J, Smail M. Anxieties in women undergoing colposcopy. *Br J Obstet Gynaecol* 1990;97:859-61.
3 Roberts RA, Blunt SM. The psychological reaction of women to a colposcopy. *Br J Obstet Gynaecol* 1994;101:751-2.

4 Spielberger CD, Gorsuch RI, Lushene R. *State-trait anxiety inventory manual*. Palo Alto, CA: Consulting Psychologists' Press, 1970.
5 Zulliger H. *Le test Z collectif*. Bern: Verlag Hans Huber, 1941.
6 Klopfer B, Davidson HH. *The Rorschach technique*. Harcourt: Brace World Inc, 1962.

Review of the article by Knox: Leukemia clusters in childhood

Sir - In 1994 an article was published by Professor Knox presenting the results of a geographical analysis of leukemia clusters in childhood.¹ The objective of this analysis was to validate a previously demonstrated spacial clustering of childhood leukemias by investigating the relative proximity of map features to cluster locations compared with control locations.

Based on 9406 childhood leukemias and non-Hodgkin lymphomas, including 264 pairs (or more) separated by 150 m or less and partially matched and unmatched controls, clusters showed a relative proximity to several map features, the strongest being for railways. After more detailed analysis of the association with railways, Knox concludes that the use of fossil fuels, especially petroleum, is associated with the occurrence of childhood leukemia clusters. The investigator has made a methodological error in this study related to the selection of controls. Specifically, because leukemia/lymphoma clusters are more likely to occur in densely populated areas than in areas with a small population density, and more densely populated areas are more likely to have railways and industrial facilities located in them, controls should have been selected in a manner similar to that used to select clusters. However, Knox¹ instead selects controls from postcodes filed alternately 10 000 before and after the cluster postcode, as well as randomly. This method of control selection creates an artificial difference between the two samples. Any factor related to population density will appear to be statistically associated with the disease clusters. Knox should have defined "control clusters" in the same manner as case clusters, perhaps from clusters of other childhood diseases (for example, non-cancer end points such as cleft palate). This would have balanced the aggregation of case clusters in densely populated areas.

Knox states that population density has been taken into account by using church distance to standardise rail distance. However, this adjustment is unlikely to completely account for population density due to the "significant correlation between distance to the nearest church and distance to the nearest railway". When two variables are highly correlated, it is not possible to adjust for the effects of one variable on another.

In fact, the stratified analysis by degree of population densities (second paragraph, page 372) suggests population density is not accounted for. In this analysis, the difference in mean rail distances between clusters and controls in the higher density areas was only 0.12 km and not statistically significant, compared with the lower density areas where the difference was "more extreme" (1.12 km) and statistically significant. The author, however, incorrectly interprets this as a further confirmation of the hypothesis.

Knox's analysis of individual cases and randomly selected controls does not suffer from

the limitations noted above. However, this analysis shows associations for a variety of different types of installations which suggest the data are unable to discriminate between potential hazard types. Moreover, data for refineries suggest that risk increases as distance from the refinery increases, an unexpected finding if petroleum use is associated with childhood leukemia. For example, the relative risk (RR) for residence within 0.3 km of a refinery was RR = 1.17, while at 3-5 km the RR increases to 1.26. Risk decreases at 5-10 km to RR = 1.17, but this irregular dose-reponse pattern is inconsistent with a petroleum related effect. Similar patterns of irregular dose-response are observed for "lesser oil hazards" such as oil storage and oil distribution terminals, and for fossil fuelled power stations.

Finally, the heterogeneous patient group consisting of leukemia cases and non-Hodgkin cases and the lack of statistically significant associations with roadways, which would be expected if fossil fuel use were associated with childhood leukemia clusters, also argue against the validity of Knox's findings and conclusions.¹ Furthermore, Knox makes a distinction between primary and secondary associations, without any scientific justification.

In conclusion, the geographical analysis presented by Knox suffers from serious methodological shortcomings and cannot be used to support or refute a relationship between leukemia clusters and environmental exposures from fossil fuel combustion.

G M H SWAEN
*University of Limburg,
Maastricht, The Netherlands.*

1 Knox EG. Leukemia clusters in childhood: Geographical analysis in Britain. *J Epidemiol Community Health* 1994;48:369-376.

Smoking and health promotion in Nazi Germany

SIR—Hermann Brenner's letter¹ seems to consider that our article "Smoking and health promotion in Nazi Germany"² should have contained a "careful review of more informative individual-level studies" of interventions aimed at reducing smoking. This seems to rather spectacularly miss the central point of our piece, which is that to understand smoking behaviour in populations, some knowledge of the historical and social background is required. By discussing the possible reasons for the continuing high levels of smoking in Germany, backed up by a cohort analysis stretching back to those who initiated their smoking during or before the second world war, and not referring to the possible long term influence of one of the most dramatic (and fortunately, in what it accompanied, historically unique) prohibitionist movements the world has seen, seems bizarre. This is especially the case when the reasons Brenner cites for the remaining high rates of smoking - the lack of restrictive smoking policies in workplaces and on transport, together with a paucity of health education activity among youngsters - are exactly those which the Nazis implemented, with little success.

Understanding behaviours as complex as smoking requires a considerably more sophisticated view of how the world is than one which sees individual-level motivation as