of a separate career structure and training programme for people who are essentially public health physicians, albeit with a strong background in general practice, seems a retrograde step.

SURINDER KAUL

Health Intelligence Unit,
Cardiff

CERILAN ROGERS

Clwyd Health Authority,
Mold,
Clwyd CH7 1PZ

1 Hannay DR. Primary care and public health. *BMJ* 1993;**307**: 516-7. (28 August.)

Integrated commissioning has brought them together

EDITOR,—As former general practitioners now practising as public health physicians, we endorse most of the views expressed in David R Hannay's editorial.[1] We do not agree entirely, however, with the suggestion that public health medicine pays insufficient attention to primary health care. Historically, the location of public health departments in district health authorities may have led to an emphasis in public health work on the then directly managed secondary care services. But the development of integrated commissioning through the fusion of district health authorities and family health services authorities, as has taken place throughout Wessex region, has brought primary care and public health together under one roof for the first time. We believe this to be a most important recent step, which is placing primary care issues near the top of health commissioners' agendas and should have warranted discussion in the editorial.

Hannay also fails to consider the role of family health services authorities' primary care medical advisers and the opportunities that they offer to bridge the gap between public health and primary care. A growing number of people appointed to these posts have been trained in both public health work and general practice, and they therefore embody the closer ties that Hannay calls for.

We do not believe, as the editorial suggests, that clinical contact is necessary for public health physicians to give credibility to epidemiology and health promotion. General practitioners argue that the increasing non-clinical demands of modern practice diminish clinical effectiveness; in the same way, clinical contact would compromise the public health physicians' skills and their focus on the population. There is an increasing mutual awareness between the two branches of the profession; this could be developed further by more input by public health medicine into general practitioners' training and by the recruitment to public health medicine of more general practitioners, whose clinical credibility has already been established.

KEN STEIN
PETER OLD
SIMON VOSS
NICK ALLEN

Public Health Directorate,
Southampton and South West Hampshire Health Commission,
Southampton SO9 4WQ

1 Hannay DR. Primary care and public health. *BMJ* 1993;**307**: 516-7. (28 August.)

GPs can provide valuable data . . .

EDITOR,—Both general practitioners and public health doctors are key players in informing the commissioning process as well as having roles in health promotion.[1] Clearly, public health doctors should work closely with general practitioners on needs assessment locally by making much greater use of data on morbidity and mortality that general practitioners hold in their computers. General practitioners also have knowledge of the quality of care provided by provider units, and this information needs to be systematically extracted and used when contracts are placed and moved.

In Tower Hamlets the "partners in commissioning" project emphasises the close relationship between general practitioners and the health authority in purchasing matters. Because there are no fundholding general practitioners in the area all purchasing occurs through East London and City Health Authority, which in conjunction with its public health department can take an overview of needs in a particular locality. This and similar projects in other parts of Britain open the way for close collaborative working between general practitioners and public health doctors.

JO RICHARDSON

Island Health,
London E14 3BQ

1 Hannay DR. Primary care and public health. *BMJ* 1993;**307**: 516-7. (28 August.)

. . . and they do

EDITOR,—I agree with David R Hannay about the confusion that exists over the roles of general practitioners and consultants in public health medicine but think that he is unduly pessimistic.[1] For example, general practitioners and consultants in public health medicine increasingly share data on sociodemographic issues, morbidity and mortality by practice, and issues emerging from the new banding arrangements for health promotion activity.

I dispute the view that the two branches of the profession are talking past each other, thus allowing managers to set the agenda. In my experience as a former director of public health in England and Wales during the past five years, the two branches are talking to each other more. The Griffiths reorganisation that established general management has enabled managers increasingly to set the agenda—for example, by appointing medical advisers to family health services authorities, under the terms and conditions of service for management staff, without involving public health doctors from the district health authority.

The joint appointments as medical advisers to district health authorities and family health services authorities of doctors with backgrounds in public health medicine and general practice are welcome: they are good for the health of the local population and for the two branches of the medical profession. These appointments, however, threaten management because of the false perception that medical professionals oppose change; there is a management view that only through the use of terms and conditions of service for management staff can medical professionals be "controlled."

IAIN J ROBBÉ

Centre for Applied Public Health Medicine,
Temple of Peace and Health,
Cardiff CF4 3NW

1 Hannay DR. Primary care and public health. *BMJ* 1993;**307**: 516-7. (28 August.)

Careless terminology adds to confusion

EDITOR,—David R Hannay's editorial on primary care and public health contains several factual errors and confuses rather than illuminates the subject.[1] As someone with 10 years' experience as a general practitioner who is training in public health medicine, I wish to make some comments.

The editorial's title is "Primary care and public health," but the editorial discusses the role and values of general practitioners and public health physicians, which is not the same thing. General practitioners are the main, but not exclusive, providers of primary medical care. They are usually part of a multidisciplinary team that provides primary health care. Primary care, on the other hand, really refers to the point of first contact for a service that is typically locally accessible and does not require professional referral. In a similar way, public health is broader than the specific role of public health physicians.

Hannay refers to preventive services and health promotion having become more explicitly a core responsibility under the general practice contract. He specifically mentions immunisation and family planning and says that many general practitioners objected to the new contractual obligations because of lack of scientific evidence for them. Childhood immunisation and oral contraception are highly effective interventions and should not be confused with some of the more imaginative health promotion clinics that have been developed.

Hannay mentions the Acheson report of 1988, which followed an inquiry into the future development of the public health function.[2] He is wrong to say that the report recommended that the role of public health medicine is to set targets, allocate resources, and evaluate progress: these are the public health responsibilities of health authorities. The role of public health physicians, as outlined in the report, is to provide epidemiological advice to their health authority on setting priorities, planning services, and evaluating outcomes and to develop and evaluate policy on prevention, health promotion, and health education.

Finally, Hannay implies that the Faculty of Public Health Medicine and members have either ignored or been slow to recognise the opportunities that exist in primary care. This year the faculty and the Royal College of General Practitioners jointly sponsored a conference on public health and primary care. Furthermore, there is an active special interest group in the faculty called the Public Health and Primary Care Group, whose objects are to promote public health in the primary care setting by encouraging general practitioners and public health physicians to work together more closely. As Hannay says, these two groups have been too far apart.

TONY JEWELL

East Anglia Regional Health Authority,
Cambridge CB4 1RF

1 Hannay DR. Primary care and public health. *BMJ* 1993;**307**: 516-7. (28 August.)
2 Committee of Inquiry into the Future Development of the Public Health Function. *Public health in England.* London: HMSO, 1988:68-9. (Acheson report.)

Serum screening for Down's syndrome

Not adequately validated

EDITOR,—I share the concerns expressed by various correspondents that the cost-benefit analysis applied so far to biochemical screening for fetal Down's syndrome has been too simplistic.[1] There has been nothing like enough prospective validation of the screening advocated to justify such a major innovation in clinical practice.

Most of the publications advocating screening are simply feasibility studies of the practicalities, with calculations based only on mathematical models. Is it not time for those who believe that statistical associations exist between these various biochemical markers and fetal Down's syndrome to postulate some hypotheses as to how the syndrome results in such altered metabolism? Down's syndrome has a notable range of phenotypic expressions, as would be expected when genetic material of an additional chromosome is involved. How does this fit with such specific biochemical differences? If the associations are

robust why do the calculations differ so greatly with only a few days' alteration in the calculated expected dates of delivery?

Michael Connor refers to the way in which screening has been introduced in different districts.[2] In my view this is one of the worst manifestations of the purchaser-provider system in action. Purchasing teams, which do not include any obstetricians or, usually, midwives, are insisting that service contracts should include biochemical screening without having any understanding of how little validation has been done. Obstetricians are effectively given no opportunity to influence the pace of introduction or testing of the screening programme. Medicolegal pressures have developed, and there is the fear of being sued for not having offered biochemical screening if a baby is born with Down's syndrome. We find ourselves doing more amniocenteses as defensive medicine than caesarean sections nowadays.

Gynaecologists are well used to screening programmes, antenatal counselling, and explaining probabilities and risks to asymptomatic women. If an extra chromosome 21 results in predictable alterations in fetal and placental metabolism we will carry out screening for Down's syndrome as enthusiastically as we do cervical smear tests and tests for rubella antibody. At the moment, however, it feels as if we are having to sell to individual women a screening process that has not yet been adequately validated.

SUSAN M TUCK
University Department of Obstetrics and Gynaecology,
Royal Free Hospital,
London NW3 2QG

1 Correspondence. Serum screening for Down's syndrome. *BMJ* 1993;307:500-2. (21 August.)
2 Connor M. Biochemical screening for Down's syndrome. *BMJ* 1993;306:1705-6. (26 June.)

Vacutainer system can lead to inaccurate results

EDITOR,—In this laboratory, antenatal screening for Down's syndrome incorporates measurement of α fetoprotein and human chorionic gonadotrophin concentrations with commercially available lanthanide chelate fluoroimmunoassays (DELFIA, Wallac Oy, Finland). The single incubation procedure is used for the assay of α fetoprotein. Blood samples are taken with a Vacutainer system (Becton Dickinson Diagnostics, United Kingdom). In two cases recently, contamination of the specimen resulted in spuriously low α fetoprotein values, which if unrecognised would lead to the result of screening being misclassified as positive.

In a sample obtained from a 22 year old woman at 16 weeks' gestation the assayed α fetoprotein concentration of 5·4 kIU/l (0·11 multiples of the median) and human chorionic gonadotrophin concentration of 22·5 kU/l (0·86 multiples of the median) modified her age related risk of bearing a fetus with Down's syndrome from 1:1500 to a high risk of 1:72. In a sample from a 24 year old woman at 19 weeks' gestation α fetoprotein was undetectable and the human chorionic gonadotrophin concentration was 10·6 kU/l. Contamination of both serum samples with potassium EDTA was subsequently confirmed by high potassium concentrations (≥10 mmol/l) and unmeasurable calcium. Specimens to which the anticoagulant EDTA or citrate has been added are known to produce spuriously low values in the DELFIA single incubation of α fetoprotein. When potassium EDTA additive (150 g/l) taken from a Vacutainer tube was diluted 1 in 100 in a serum sample drawn into a serum separating tube Vacutainer the assayed α fetoprotein value was reduced by 43%.

Cross contamination of blood samples can occur with the Vacutainer system if plain tubes are fitted after those containing additives.[1] The recommendation is therefore to fill plain tubes before filling those containing anticoagulant. Clearly cross contamination can also occur if blood to which anticoagulant has been added is used to top up a plain tube. In our first case inquiry established that serum and haematology specimens to which EDTA was added had been obtained at the same venepuncture.

A result indicating an erroneously high risk has serious implications in a screening programme for Down's syndrome. Considerable distress may be caused to the mother, and the possibility of an unnecessary amniocentesis with the potential for loss of a normal fetus arises. As the DELFIA and Vacutainer systems are widely used we believe that such erroneous results may well occur. Phlebotomists should be made aware of the correct order for taking samples with a Vacutainer system, particularly the multiple samples taken at the antenatal booking clinic. Laboratories should check potassium and calcium concentrations in samples that give results indicating a high risk associated with a low α fetoprotein value.

W A BARTLETT
C FORD
A F JONES
Department of Clinical Chemistry,
Birmingham Heartlands Hospital,
Birmingham B9 5SS

1 Calam RR, Cooper MH. Recommended "order of draw" for collecting blood specimens into additive tubes. *Clin Chem* 1982;28:1399.

Treating psychiatric illness at home

Relatives may underreport burden

EDITOR,—C Dean and colleagues' paper represents a considerable advance in the attempt to measure relatives' burden with different types of psychiatric services.[1] The finding of reduced distress with a similar objective burden for relatives of the patients treated at home is presented as a significant finding. This might simply have been an artefact of the circumstances of the interview. The relatives of a patient treated at home were more likely to be interviewed in the presence of the patient. The patient's presence while relatives report their burden (in a treatment programme emphasising relatives' support) can critically limit the degree of burden expressed, for understandable reasons: politeness, a desire to please, and the overriding importance of the continued relationship between the relative and the patient long after the researcher has gone.

The authors do not state how many relatives or friends actually lived with the patient in either group. This is particularly relevant before conclusions are drawn about the relative's burden and a home treatment service.

MARCELLINO SMYTH
Academic Unit,
All Saints Hospital,
Birmingham B18 5SD

1 Dean C, Phillips J, Gadd EM, Joseph M, England S. Comparison of community based service with hospital based service for people with acute, severe psychiatric illness. *BMJ* 1993;307:473-6. (21 August.)

Author's reply

EDITOR,—As Marcellino Smyth says, interviewing the relatives and friends in front of the patients who used the services would have introduced bias, and the questions were so sensitive that it would have been impossible. The interviews were arranged by one of us (JP) so that they took place in the absence of the patients. Forty four (80%) of the patients using Sparkbrook's community based service and 37 (88%) of those using Small Heath's traditional hospital based service lived with their informant.

CHRISTINE DEAN
Centre for Mental Health Services Development,
Institute of Health,
King's College London,
London W8 7AH

Encouraging generic prescribing

EDITOR,—The Department of Health could save millions of pounds by insisting either on generic prescribing or on pharmacists dispensing generic equivalents. When I started in general practice, if the prescribing doctor wanted the drug to be named on the container he or she wrote the initials NP (name product) beside the item on the prescription. Subsequently the NP was printed on the prescription pad (and still is) but could be deleted by the prescribing doctor if for any reason he or she did not wish the drug to be named on the container.

About two years ago I suggested that if the Department of Health wishes to bias prescribing towards generic products it could print OGE (or generic equivalent) on precription pads, leaving the prescribing doctor the option of deleting this if he or she wished. I asked my family health services authority's medical adviser to present this idea to the department, and he has done so. This proposal would encourage the prescribing doctor to prescribe generically and to bear the responsibility for any adverse effects of the dilemma over prescribing. Presumably the Department of Health does not wish to bear the responsibility for confusing patients or offending the profitable pharmaceutical companies.

A J SAUNDERS
Everest House Surgery,
Hemel Hempstead,
Hertfordshire

Managing neck injuries

EDITOR,—J N Brown and A C Crosby emphasise the importance of the mechanism of injury and of avoiding overdependence on apparently normal radiographs when managing neck injuries.[1]

We report on a 27 year old driver, wearing a seatbelt, whose stationary car was hit from the rear by a lorry. Just before impact she turned her head to the right as she heard the screeching of brakes. She remembered that the whiplash movement of the neck occurred while her head was in this position. Initially she complained of left sided neck pain and pain behind the left ear. Unlike in Brown and Crosby's case, she had no neurological symptoms, and limitation of movement was the only abnormal finding on examination. All three standard radiographs were normal.

Over the next few days she developed delayed numbness over the distribution of the left greater occipital nerve, with increasing limitation of movement. Repeat plain *x* ray films were judged to be normal. Physiotherapy assessment suggested a structural component to the abnormal head position. Computed tomography showed a fracture dislocation of the left C1-2 facet joint, with widening of the left C2-3 facet joint. She was referred for neurosurgical management.

This shows the importance of the history. In rotation the degree of normal physiological extension is halved, and thus posterior joints are soon pushed beyond their physiological range.[2] Furthermore, radiographs do not always show a fracture.[3] The absence of soft tissue swelling does not exclude bony injury.[4] Stiff necks can result from accidents with impact from all directions, and the