

strengthening programmes to control tuberculosis; organising care for people with HIV infection; and increasing the educational and socioeconomic opportunities for women. These focused interventions are broadly consistent with reform measures for health care recommended by the World Bank.<sup>16</sup>

Finally, what are the research and public health implications of the evolving pandemic for Britain and the international community? Greater attention should be paid to the growing epidemic in Asia without assistance for Africa being jeopardised. As the epidemic in Asia expands, citizens of European countries who are of Asian origin and those who travel to Asia may be at higher risk of exposure to HIV infection than previously. Increased emphasis is required on behavioural research, both in industrialised

and in resource poor countries. Despite extensive understanding of the basic epidemiology of HIV infection<sup>17</sup> our scientific knowledge of the effectiveness of intervention strategies is weak.<sup>18</sup> The ultimate importance of last week's summit in Paris will be measured in terms of future investment in effective intervention in the most heavily affected areas.

ANNE M JOHNSON  
Reader in epidemiology

Academic Department of Genito Urinary Medicine,  
University College London Medical School,  
London WC1E 6AU

KEVIN M DE COCK  
Senior lecturer

Department of Clinical Sciences,  
London School of Hygiene and Tropical Medicine,  
London WC1E 7HT

- 1 Concorde Coordinating Committee. Concorde: MRC/ANRS randomised double-blind controlled trial of immediate and deferred zidovudine in symptom-free HIV infection. *Lancet* 1994;343:871-81.
- 2 Vaccine against AIDS? [Editorial.] *Lancet* 1994;343:493-4.
- 3 Stall R. How to lose the fight against AIDS among gay men. *BMJ* 1994;309:685-6.
- 4 AIDS and HIV-1 infection in the United Kingdom: monthly report. *Communicable Disease Report* 1994;4:13-6.
- 5 World Health Organisation. *Global Programme on AIDS. The HIV/AIDS pandemic: 1994 overview*. Geneva: WHO, 1994. (WHO/GPA/TCO/SEF/94.4.)
- 6 US Bureau of the Census. Center for International Research. *Review of HIV spread in southern Africa*. Washington: US Bureau of the Census. (Research note No 13.)
- 7 Nasrain JP, Raviglione MC, Kochi A. HIV-associated tuberculosis in developing countries: epidemiology and strategies for prevention. *Tubercle and Lung Disease* 1992;73:311-21.
- 8 Lucas SB, Hounnou A, Peacock C, Beaumel A, Djomand G, N'Gbichi J-M, et al. The mortality as pathology of HIV infection in a West African city. *AIDS* 1993;7:1569-79.
- 9 US Bureau of the Census, Center for International Research. *Population trends, Uganda*. Washington: US Bureau of the Census, 1994.
- 10 Jain MK, John TJ, Keusch GT. Epidemiology of HIV and AIDS in India. *AIDS* 1994;8 (suppl 2):S61-75.
- 11 Weniger BG, Limpakamjanarat K, Ungchusak K, Thanprasertsuh S, Choopanya K, Vanichseni S, et al. The epidemiology of HIV infection and AIDS in Thailand. *AIDS* 1991; 5 (suppl 2): S71-85.
- 12 Brown T, Sittitrai W, Vanichseni S, Thisyakorn U. The recent epidemiology of HIV/AIDS in Thailand. *AIDS* 1994;8 (suppl 2): S131-41.
- 13 Laga M, Alary M, Nzila N, Manoka AT, Tulisa M, Behets F, et al. Condom promotion, sexually transmitted diseases treatment, and declining incidence of HIV-1 infection in female Zairian sex workers. *Lancet* 1994;344:246-8.
- 14 Hanenberg RS, Rojanapithayakorn W, Kunasol P, Sokal DC. Impact of Thailand's HIV-control programme as indicated by the decline of sexually transmitted diseases. *Lancet* 1994;344:243-5.
- 15 De Cock KM, Ekpin E, Gnaore E, Kadio A, Gayle HD. The public health implications of AIDS research in Africa. *JAMA* 1994;272:481-6.
- 16 World Bank. *World development report 1993: Investing in health*. New York: Oxford University Press, 1993.
- 17 Working Group. The incidence and prevalence of AIDS and other severe HIV disease in England and Wales for 1992-1997: projections using data to the end of June 1992. *Communicable Disease Report* 1993;3:S1-17.
- 18 Oakley A, Fullerton D, Holland J, Arnold S, Hickey D, Kelley P, et al. *Towards effective intervention: a critical evaluation of HIV prevention and sexual health education interventions*. London: University of London Institute of Education, Social Research Unit, 1994.

## The five years after qualification

### *The psychopathology of hospital life is keeping women doctors away*

See news

The week that saw a coroner request the urgent examination of junior doctors' working conditions (p 1530)<sup>1</sup> also saw the publication of *Doctors and Their Careers: A New Generation* (p 1529).<sup>2,3</sup> The latest report in series of interviews with doctors, it confirms that their unhappiness is as great as ever. An earlier report considered three cohorts of men and women who had graduated in 1966, 1971, and 1981.<sup>4</sup> In the present study 124 female and 105 male graduates from 1986 were interviewed; most of the comparisons are with the graduates of five years before. The author's aim was to focus on "changes or trends in the activity or participation rates of women doctors," but her book relates to both women and men (as did her previous one).

Allen's starting point is that half of medical graduates are now female but that the proportion of women falls with the seniority of rank: in 1993, 17% of consultants and 26% of principals in general practice were women. Although the trend is up, the NHS Executive's goal of women making up 20% of female consultants by the end of this year is unlikely to be met.<sup>5</sup> In certain specialties the picture is gloomier, with women making up 4% of consultants in surgery, 11% in accident and emergency, and 15% in obstetrics and gynaecology. In Allen's latest cohort less than a third of the women were working in hospital medicine.

Some 90% of the men and 67% of the women were working full time while 9% of the women and 3% of the men not working at all. The numbers in part time training posts could be counted on one hand. Allen uses these

figures to point out that the difference between the sexes is much more to do with the grades that they occupy than with their clinical contribution. For example, only 10% of the women were principals in general practice (compared with 23% of the men) and only 17% were registrars (compared with 34% of the men). In 1981 women made up 29% of registrars.

Allen spends much of the report looking for the reasons for the differences in status, having largely discounted the one that is always presumed—that it's all to do with who has the babies. In fact, in both cohorts only around a fifth of the women had children and smaller proportions of the women than the men had more than one child. What's more, men with children were just as likely as women to see them as a constraint on their careers. Nor were these women any less bright than the men—their grades at A level were considerably higher than the men's.

Having removed the stereotypical explanations, the study shows that the things doctors regard as holding them back are remarkably similar for men and women and over time. They come down to the same old problems of appalling working conditions and extraordinary training regimes; if anything, the 1986 cohort regards them more negatively than the previous one. Overall, 45% of the 1981 group saw the unsocial hours and fatigue as a constraint, compared with 62% of the 1986 group. From the quotations in the text it is clear that these conditions drove many young doctors away from hospital medicine. Examinations and the pressure for research are regarded as exacerbating the effects of long hours.

The second constraint was the need for mobility, especially problematic with the poor housing market, and dual career households. Marriage was seen as a constraint for both men and women, to a much greater extent than were children. Seemingly, it is the effects of the working conditions on the family that affect choice of career rather than the family alone affecting it. This goes right down to the day to day detail of how hard it is to keep a nanny when you work such dreadful hours. Sadly, the women in the study see this as a problem for women rather than a problem for parents.

Senior doctors come in for their usual share of criticism in terms of the effects they have on women's careers in particular. In the words of one young woman: "I was very ambitious at first and it made me want to do gynaecology because I felt they needed more women in the specialty. But then I realised that I didn't want to spend the rest of my life on the defensive." So she became a general practitioner. Other quotes speak of humiliation right through medical school and on—for example, "Our consultant renal physician . . . said he couldn't see why women tried to do medicine as they'd only go off to 'breed some time, like an old cow'"; and "One of the professors said, 'Why are we wasting time on you when you'll end up washing nappies?'" Such an irrational remark, contrary to all the evidence, sounds more like wishful thinking to me. A locum in general practice noted, "They tended to favour women for junior posts because they're more conscientious and work harder. But they didn't see them as career doctors."

Clearly, throughout medical school and their early post-graduate years these doctors are inspired by good examples from seniors and appalled and driven running from those who humiliate and bully. Although this occurs for both men and women, for women the remarks tend to strike at their core in terms of gender—something that will inevitably be demoralising for all but those with the thickest of skins. Certainly women emerge as more self critical than men,<sup>6</sup> and this in itself is likely to stop them applying

for more senior posts.

This bantering (at best) and abuse (at worst) may undermine the foundations of any career ladder, so nothing more than the first rungs are attempted. But many of those with the confidence to go for higher jobs are still met with selection processes, often blatantly illegal, that ensure that they climb no further.

It's a grim picture of little or no change, and in some cases an actual deterioration, in what might make things better for these young women and men. People have likened changing the NHS to changing course in an ocean liner; it seems to me that changing medicine is more akin to trying to turn an iceberg. So many of the blocks and dangers are hidden under the surface. There are the mystique and initiation rites that come secretly with any profession; the psyches of some consultants that suggest little better than misogyny; and the women who so often blame themselves when things go wrong and complain politely if at all. These factors and more need researching and addressing—and not just in medicine—if any fundamental change is to take place.

Allen produces a useful list of recommendations. For me the glints of light in the study come mainly from the young men, many of whom now see that what is happening to them and to women is wrong. The most hopeful trend that Allen's data show is the increasing recognition by these doctors of discrimination by some seniors. If they can just hold on to that, things might eventually change.

JENNY FIRTH-COZENS  
Principal research fellow

Department of Psychology,  
University of Leeds,  
Leeds KS2 9JT

- 1 Skentelbery D. Junior doctor died of natural causes says coroner. *BMJ* 1994;309:1530.
- 2 Allen I. *Doctors and their careers: a new generation*. London: Policy Studies Institute, 1994.
- 3 Dillner L. Doctors are more miserable than ever, says report. *BMJ* 1994;309:1529.
- 4 Allen I. *Doctors and their careers*. London: Policy Studies Institute, 1988.
- 5 NHS Management Executive. *Women in the NHS: an implementation guide to opportunity 2000*. London: NHSME, 1992.
- 6 Firth-Cozens J. Women doctors. In: Firth-Cozens J, West M, eds. *Women at work: psychological and organizational perspectives*. Buckingham: Open University Press, 1991:131-42.

## Diagnosing pulmonary embolism

### *D-dimer needs rigorous evaluation*

All doctors with patients suspected of having an acute deep venous thrombosis or a pulmonary embolism would love a diagnostic magic bullet. They long for a test that would rule in or rule out the diagnosis of venous thromboembolism with a high degree of certainty. Ideally, such a test would be rapid, non-invasive, and widely available.

The search for a reliable test has continued because the clinical diagnosis of thromboembolism is neither sensitive nor specific. Neither symptoms nor examination of the legs are reliable; nor can clinical signs or symptoms define the presence or absence of pulmonary embolism. Clinical signs and symptoms can only suggest these diagnoses—and asymptomatic venous thrombosis and pulmonary embolism are both fairly common.

Not surprisingly, then, over the years a succession of simple, relatively non-invasive tests has been explored. Blood tests have included measurement of the "diagnostic" triad of lactic dehydrogenase, bilirubin, and glutamic oxaloacetic transaminase; immunoglobulin E<sup>1</sup>; arterial oxygen and the alveoloarterial oxygen gradient; and

fibrinopeptide A<sup>2</sup>—and others have been proposed.<sup>3,4</sup> Lung physiologists have suggested the use of measurements of dead space and tidal volume. Radionuclide venography enjoyed a brief career.

For various reasons each approach followed a parabolic course from the rapid ascendancy of initial excitement to rapid descent as its value failed to be validated. Still in play are techniques that use radiolabelled components of thrombus—such as platelets and monoclonal antibodies to fibrin. Radioactively labelled fibrinogen, which provided invaluable epidemiologic data, is no longer seen as the answer to the diagnosis of venous thrombosis.<sup>5</sup> But computed tomography and magnetic resonance imaging are still being investigated.<sup>6</sup>

As this galaxy of non-invasive tests has moved across the horizon a new and promising entrant has appeared: measurement of D-dimer. D-dimer is a specific degradation product of crosslinked fibrin that is released when the endogenous fibrinolytic system attacks the fibrin matrix of fresh venous thromboemboli. Many recent research papers