and a morbidity no greater than that for elective cholecystectomy.[15-21] Additional benefits include the prevention of recurrent attacks of acute cholecystitis, which occur in 10-25% of patients, and the need for only one admission to hospital. Furthermore, a 10th of patients do not come back for late elective cholecystectomy and continue at risk of further trouble from their gall stones. Hence early urgent cholecystectomy during the first week has been adopted as the best treatment for acute cholecystitis. Lithotripsy may alter these recommendations in due course,[22] but cholecystectomy looks as though it will remain an important operation well into its second century.

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Medical testing and health insurance

Complex tests may increase the uninsured

A recent report from the Office of Technology Assessment in Washington spells out the problems that increasingly complex and accurate predictive medical tests are creating for those who must depend on medical insurance for their health care.[1] Those in the United States, for instance, who are found to be infected with HIV may have great difficulty finding insurance cover at any price. Finding employment may also be difficult for those infected because employers increasingly provide health insurance for their employees. Similarly, the results of other tests may create great difficulties for some people because they show that they are at greater than average risk of serious disease. These problems are likely to become increasingly relevant in Britain, particularly if the Prime Minister's review of the health service promotes private insurance.

There are several objections to private health insurance, put forward especially by economists, which make it an inefficient option for financing health care. As well as the "problem of the third party payer," which encourages overconsumption when coupled with an incentive by a private provider to overprovide, the problem of "adverse selection" is central. Those who apply for health insurance or membership of a health plan may be able to conceal that they are ill, are likely to become ill, or have a higher than average risk of chronic disease. In consequence health insurance plans that do not discriminate between people who enrol on the basis of price may become unviable as those of higher risk consume more health care and force up premiums for everybody. In response to this insurers have attempted to identify those at higher risk and charge them higher premiums. In the United States this has become commonplace both in health insurance and in setting premiums for membership of health maintenance organisations.

Medical testing may be used to evaluate an applicant for insurance, and diagnostic and predictive tests are likely to be used much more by insurers and employers as they become more available and more accurate. In the United States individual insurance is much less common than group health insurance (predominantly available through employers). Although adverse selection is a particular problem for the individual insurance market, medical testing may become more salient in the group insurance market as containment of health care costs continues, with employers at the forefront of the battle. The Office of Technology Assessment before producing the final report surveyed the use of testing by commercial insurers, Blue Cross and Blue Shield plans (which are non-profit), and health maintenance organisations.[2,3] In the commercial sector about a fifth of individual applicants for insurance were granted only policies that included exclusions or higher premiums or both; about 10% were judged uninsurable and denied coverage. Blue Cross and Blue Shield produced similar results. Federally qualified health maintenance organisations often have to accept applicants at a standard rate or deny membership altogether. The survey included the 50 largest health maintenance organisations in the United States, and they denied membership to about a quarter of individual applicants. Most commercial insurers either screened or planned to screen individual applicants for HIV infection; 11 of the 15 Blue Cross or Blue Shield plans did so; and over half of the health maintenance organisations also screened for HIV. (Some of those that did not screen were prohibited by state law from doing so.)

Medical testing by employers may be linked to evaluation for employment as well as to health insurance. Employers commonly use a general physical examination that includes various medical tests. They may also include genetic testing, drug testing, and tests for HIV.

The overall consequence of the more discriminating insurance that results from such tests may be the need for greater public finance and state action to insure the otherwise uninsurable. Though still at an early stage, complex medical

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testing as part of the private medical insurance market may severely aggravate the problem of sharing financial responsibility for insurance between private and public programmes. In the United States a whole range of policy options to address the problem is being discussed in Congress. These vary from banning or limiting the use of testing and using incentives and subsidies to provide private insurance for the uninsured or uninsurable to enhancing public programmes and federal payments for the uninsurable. The creation of larger risk pools for health insurance and a greater role for the federal government (supported by both Democrats and Republicans) are both under consideration. It would be a pity if Britain went in the opposite direction because of a failure to understand this and other consequences of encouraging a private medical insurance market.

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The national curriculum and medical education

An opportunity to modernise medical education

Detailed planning to introduce a national curriculum is now under way in Britain, and the curriculum carries implications for medical education. One argument is that an extra year might be needed in the medical curriculum because entrants will have had less exposure than present students to scientific subjects. But this would be a disaster as it would perpetuate the present old fashioned form of medical education. Rather, the arrival of the national curriculum should serve as an opportunity for modernising medical education.

The science working group of the National Curriculum Council has recommended that all 14-16 year olds should spend a maximum of a fifth of their time on a broad and balanced science curriculum that emphasises scientific thinking and know how.[1] In formulating its proposals the group has turned away from a "pot filling" concept of science education, basing its approach instead on an understanding of how students learn science.

Students engaged in the new curriculum will spend about 10% less curricular time in science than students taking three science O levels, and fewer topics will be covered. Yet concerns that this may mean a reduction in students going on to study chemistry further[2] do not seem to be justified: the rate of uptake of A level science was twice as high among pupils studying integrated science as among those doing three science O levels.[3] Pupils who had taken three O level sciences did score better in A level chemistry than those who had taken an integrated course, but this may have been because the pupils with the three science O levels also took A level biology.[4] It is argued to be the combination of biology with chemistry that makes the difference. If this is the case then we need to understand why because we also know that having A level biology is one of the few predictors of success at medical school.[5]

There is little evidence that a chasm is about to develop between A level and undergraduate study. Despite claims and counterclaims,[6] the case for a return to something like a premedical year for all students seems weak. The changes in A levels currently proposed are not major. For example, the Joint Matriculation Board is planning a 10-15% reduction in its chemistry syllabus for 1990, but this will not affect the content of organic chemistry. The Higginson report, which recommended a more radical reduction in A level content,[7] has been rejected by the government.

Yet there are other more compelling reasons for not adding an extra year. Such a strategy would enable medical schools to perpetuate the "pot filling" approach to teaching and learning that we now know is largely responsible for the unsatisfactory state of undergraduate medical education. Research is mapping out the alarming extent to which it is possible for students to take courses, succeed in examinations, and yet fail to understand and use the fundamental concepts in their disciplines.[8]

Our students enter medical schools with high motivation and highly desirable approaches to learning. Yet they rapidly experience a loss of motivation, growing cynicism, and difficulty in seeing the relevance of much of the material they are asked to learn.[9] Their approaches to study deteriorate appreciably over the first few months.[10] The upshot of this is that in their clinical work they can neither remember nor use the basic science information they apparently learned successfully for examinations a few months before. This happens because our courses are predominantly organised in ways that fail to lead students to see that their task is to relate their concrete clinical experience to abstract concepts in basic science. Our courses and assessment systems encourage students to put their learning into compartments: students do not fail the courses, but the courses fail the students. To serve up more of the same during the extra year would be a disaster, add insult to injury, and threaten standards by lowering still further the quality of student learning.

This old "pot filling" model of professional education is now worn out and discredited.[11,12] Yet it is implicit in the division between preclinical and clinical courses that is still fundamental to medical education. Some aspects of the national curriculum and recent research in medical education[9] may provide us with pointers toward a better educational model that would make the nature of professional practice and an understanding of how students learn that practice the focal point of educational endeavours.

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