for the immediate management of the patient, there is considerable room for a reduction in cost with no loss of effectiveness.

Payments of over £20 000 were made for emergency biochemistry calls in this hospital in 1978-9. Although there is little published information, comparison with Scottish laboratories of similar size shows that we do not have a uniquely large out-of-hours work load in relation to total work load.³ Perhaps these costs are not excessive: they amount to about £3 an hour for emergency cover outside normal laboratory hours for 365 days a year (including weekends and holidays), cost under 2.5% of the total drug bill, and are of the same order as the annual expenditure in this hospital on cimetidine. Nevertheless, they can clearly be reduced with no loss of effectiveness.

How may this be achieved? The number of emergency requests was not altered by the survey itself, nor by a poster demonstration of its results. Our survey showed that senior registrars and consultants were considerably more efficient than their junior staff in instigating effective investigations, although they may have seen a different type of patient. It has been suggested that greater teaching emphasis should be placed on the "patient care-laboratory interface" when training house staff.⁴ There is impressive evidence from Harvard Medical School that a reduction of nearly one-half in all biochemical and serological tests requested by junior clinical staff was achieved by four one-hour sessions early in their

internships, during which juniors discussed the case notes of their patients with their seniors; this reduction in requests for tests was sustained.⁵ Previous studies have shown similar results.⁶ We believe that this approach to postgraduate medical education will prove the most appropriate way to increase the effectiveness and efficiency of clinical investigation. Consultants in the clinical specialties should consider the evidence that they and those responsible to them are using the available resources inefficiently, and that a short period spent with newly appointed house staff on reviewing case notes will be both practically and intellectually rewarding.

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Telling the right patient

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Not having been told what is wrong is the commonest complaint that patients make about the medical profession.¹ Yet no one really knows whom to tell, and publications on the subject are dogmatic and anecdotal, with a minimum of useful facts. This raises the possibility that the patient might know best whether he should be told.

Patients, methods, and results

During a concurrent study of 200 consecutive patients (170 men, 30 women) with inoperable bronchial carcinoma, each was told that, after investigation intended to exclude various named diseases including cancer, they would be given truthful clearance or a firm diagnosis if they cared to ask. They also were told that if they did not care for medical details there would be no need to ask and that exchanges of information would be confined to their general practitioner. Subsequently, those who were told at their own request were asked if they regretted having asked. After their death the thoughts of 191 were verified as part of an interview with the closest relative.

Eight patients were too ill to be treated in this way, and three were demented. Six were told by relatives or others before the interview at which they were to be informed. This left 90 patients who had asked for the diagnosis and 93 who deliberately did not, despite being given more than one obvious opportunity.

Of the 90 patients who had had their questions answered, only one subsequently objected to having been told, and she had insisted on

the truth from the start. After her death, her husband said that she had changed her opinion and that they both had been helped to comprehend the course of her illness.

Ten patients who asked for the diagnosis subsequently "denied" what they had been told, speaking as if their expectation of life was good. Asked what they had been told at the crucial interview, they used such terms as "congestion," probably used earlier by someone else. Of the 93 who did not ask, some explained that they did not want to be told the diagnosis. Forty-two subsequently showed "awareness," speaking as if they had a fatal illness. It was not humanely possible to explore the mechanism of this. For many it must have been common sense. For 18 it could have been their radiotherapy.

Comment

The report of Novack *et al*³ that 52% of patients wanted to be told is close to the 49% of the present series. Very likely, therefore, a policy of telling all patients or of telling none never could suit more than half.

Because the dying prefer not to know⁴ they should not be encouraged to ask for the diagnosis, but most patients can be given one or two obvious opportunities, with a simple sentence such as, "Is there anything more you would like to know?" This is part of a trend reviewed by Novack *et al*³ and described over 20 years ago by Aitken-Swann and Easson,² who regretted that patients' own views were seldom heard. As may happen, their zeal led them to tell too many, for 7% of their patients subsequently disapproved of being told and 19% "denied" the diagnosis. Some of the 11 "denials" in our series could be due to an admitted tendency to encourage the hesitant to ask. But it seems possible that some confident patients, unprepared for bad news, also could respond only by "denial." If so they always

will be difficult to identify and to manage satisfactorily.

Shands *et al*⁵ got it just right when they advised not telling patients more than they ask. By avoiding the conviction that everyone (or no one) should be told or that anyone has the power to perceive whom to tell, it should be possible to approach the theoretical ideal, when patients accept or even approve of what is said and where a minimum need the safety-net of "denial" because the truth is too much to bear. Some patients really do prefer uncertainty, and no one would care to be guilty of aggravating their suffering.

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Outside Europe

Problems of haematology training in developing countries

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The senior haematologists in the main teaching hospitals in Bangkok have been trained either in the United States or in the United Kingdom and are up-to-date in modern haematology. Haematology is taught to medical students, interns, and residents in much the same way as in Western countries, and includes morphology, biochemistry, immunology, and principles of nuclear medicine.

After so much time and effort we have realised, to our great disappointment, that this teaching has failed to have any impact on health services outside the university. Doctors generally are not able to provide appropriate haematological services. After a few decades of modern haematology teaching, there is no evidence that the high incidence of anaemia among the vast rural population has decreased. It is important to analyse the causes of this failure and to recommend remedies.

The scene

Thailand has 46 million people, of whom 85% are farmers and poor. Administratively the country is divided into 72 provinces, 674 districts, 5500 tambons (groups of villages) and 50 000 villages. There are few doctors, and their distribution is the reverse of the density of the population. Of the 8800 doctors in the country, 1500 are in the United States, about 5000 are in Bangkok, 1800 in the provincial towns, and fewer than 500 in the district hospitals. About 20 million people in over 300 districts have no doctor, while most district hospitals have only one, who has to look after 50 000-100 000 people or more.

Laboratory services in general are poor. There are few medical technologists in the provincial hospitals and none in the district hospitals.

Water and food-borne diseases and parasitic diseases are rampant. Haematological diseases include most of those seen in Western

countries. Those important to public health are anaemia, thalassaemia, and glucose-6-phosphate dehydrogenase deficiency. On average, 40% of the farmers are anaemic, and in very poor villages the prevalence is over 90%. In each generation over 500 000 individuals are born with thalassaemic diseases (not traits). In the male population in the north-eastern part of the country up to 15% suffer from G6PD deficiency.

Causes of failure

Some of the reasons for the failure of haematology teaching to have an impact on the health services of the country are as follows.

LABORATORY SCIENCE ONLY

Haematology in Western countries is practised largely as a laboratory science based on the principles of morphology, biochemistry, immunology, and nuclear medicine. Morphological haematology is so fundamental to trained haematologists that they have failed to realise that this is an extremely difficult skill for doctors in general, who are not capable of proper blood smear interpretation, despite some training in this while at medical school.

Actually, many haematological problems in developing countries can be handled without laboratory tests. A patient with hookworm anaemia in New York would probably be "investigated" thoroughly, including red cell size measurement, serum iron study, serum ferritin determination, etc. But in Thailand the many millions of such cases must be handled differently, perhaps without even looking at the red cell morphology. A boy with intermittent bleeding since birth associated with joint swelling and family history can be diagnosed as having haemophilia; in a crisis fresh frozen plasma or cryoprecipitate may be given at district hospitals, although haemophilia has not been proved by factor VIII assay, which is not available there.

Acute haemoglobinuria after acute infection or drugs, or both, in a man will probably be due to G6PD deficiency and may be handled accordingly. There are many millions of such cases in Thailand. If all diagnoses had to be proved in a laboratory the country would go bankrupt.

"Investigative" haematology is too costly for developing countries. It has scared off most doctors, who do not want to tackle haematologi-

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