imagine, the finger is generally pointed at medical education to do something about this, though certainly Edinburgh is not the place to be excessively critical, since this is one of the few places where a conscientious, long-term and effective attempt has been undertaken to deal with this question. Some of us who have worried about this in the United States feel that we will not get new physicians to understand their responsibility for the health of populations by instilling in them a grain of conscientiousness and interest in people, for this kind of virtue one does not put over by preaching but in practice. Not until the medical schools and the medical faculties take responsibility for this as the clinical framework within which medical education takes place can we expect that physicians will emerge from the medical school with the kind of understanding and commitment they later find of importance.

I was not only impressed but really thrilled this morning by the nature of the questions that were asked. I tried to think whether I could find a meeting in the United States of general practitioners that would ask the kind of questions being asked today. What can we do about alcoholism in our community? The kind of question I would hear asked in my country is, how should I treat an alcoholic who bothers me every day? The question of what to do with prolonged grief was another good example. These are the questions that stem from a kind of commitment and responsibility which you find here more than in my country because the organization of your services, subject as it is to improvement, at least provides for physicians who have responsibility for populations and for people whom they know and with whom they can deal, and with whom they can work and in relation to whom they can initiate action.

DISCUSSION

Dr R. W. Newmark (*South Shields*): What good does early detection of dementia do apart from converting a dirty dement into a clean dement?

Dr Williamson: If I had been rigging these questions I would have asked this one myself, because when we were doing our study we detected dementia in an old lady. We sent the summary to the general practitioner and he said: " So what! She still makes her lunch every day. She is living with her unmarried daughter and two sons, and there is no problem there at all ". We said: " Of course

there is no problem. We did not say there was a problem; we said she had early or moderately advanced dementia ". But just think what would happen if she were living alone in a slum in Edinburgh. Then there would be a problem and she would be a dirty dement. The whole point is that even though we cannot do anything medically, and I am not so sure about this, we can do a great deal in a social context. We can make sure these people do not undergo social and moral deterioration. We can support them with home helps. We can invoke voluntary organizations and if necessary we can admit them to an institution, although that is the last thing we want.

Dr Allen Wilson (*Innerleithen*): Please describe the simple psychological tests which will enable a health visitor to apply the label ' demented ' to such a large percentage of our elderly patients, and can you please define this term.

Dr Williamson: No. The tests that we use are the standard ones—tests of orientation of memory, recent and remote—as well as more complicated formal psychological testing fairly well accepted by the psychologists. The screening was done by a psychiatrist but the clinicians who did the clinical assessment formed their own opinions; it was really quite striking how often we were in agreement with the psychiatrist when we had our weekly session, when we decided on the final situation.

Dr Hodgkin: I would like to add something to that. In essence, if the general practitioner is going to look after these people he has got to like them. If you like somebody you do not just go criticising their mental state. This implies a difference in approach to the old people you screen and the old people you are permanently looking after.

Chairman: The argument is being put forward that it is worth discovering these difficulties because you may be able to do something socially and that you can usually attempt a definition if you look at the mental state at all.

Dr Ewen M. Clark (*Arbroath*): In regard to asymptomatic bacteriuria, Dr Wilson states that there is no real information available. One observer in the U.S.A. screened nearly 10,000 schoolchildren and found chronic infection present in 1.14 per cent. Of these, about half had demonstrable lesions amenable to surgical treatment. It is surely reasonable to suppose that in married women the percentage will be higher than 1.14 per cent.

Dr Wilson: Yes. I did not mean to imply that it was no use trying to detect asymptomatic bacteriuria. What I was trying to say was that although there are a lot of women particularly who have this with a demonstrable lesion behind it, the question of screening needs

looking into further. In Boston it has been shown that some five per cent of pregnant women have asymptomatic bacteriuria, and it is said that their babies have a lower birth weight and a higher infant mortality; but this has not been confirmed in enough centres to make it certain and a large-scale trial is therefore planned. Undoubtedly, if you could study everyone in this way you would find a lot of renal disease, and of course people with symptomatic pyelonephritis have long intermediate periods with no symptoms. In a practice you will probably know about these at the time when clinical disease appears. What is necessary is to find out whether there would be any object in finding people who have never had symptoms, particularly women in the childbearing era, and treating them.

Chairman: We are still in a rather investigative period in this and nobody quite knows the significance. People are speculating about it.

Dr Wilson: Yes, perhaps a bit more than speculating; I think there is enough evidence for a controlled trial.

Dr Logan: As regards the lesions, this is the old story of the chicken and the egg—which came first, the infection or the lesions? Most of the so-called lesions are in the urethra and bladder. The Urological Association had a meeting on this in Sheffield, and studies are going on but we don't know. We are entering into a new field as with glaucoma. When you start doing this you have to invent a concept like ocular hypertension.

Dr Hodgkin: One thing never mentioned because the specialists are not primarily dealing with this is the changing bathing habits of the population we are looking after. I am sure general practitioners would agree with me that the number of people having baths has altered tremendously in ten years. Because specialist are not dealing with this problem, this is the sort of facet family doctors can study.

Dr J. Knox (*Edinburgh*): What would Dr Logan do for the asymptomatic hypertensive discovered as part of the submerged portion of the iceberg?

Dr Logan: This depends on whether you are in Manchester or Oxford; it depends on what you mean by hypertension. This raises the whole question of whether he is a hypertensive if his diastolic pressure is 190/100 mm. Hg. We know his chances of complications are doubled when he has a blood cholesterol level of over 300 mg. per 100 ml. and when his aged relative dies suddenly from something related before 65 his chances are doubled. This is the tough question. We as do-gooders wish to rush in and I have a feeling that there is a lot of rushing in going on.

Chairman: It is reasonable to pursue this a little bit further because

is not this a good example of the potential danger of this screening process? By the time you have taken this person's blood pressure a few times, and you have estimated his blood cholesterol and looked at his wife very carefully, will he still be feeling perfectly well?

Dr Logan: One of the troubles in general practice today is that this is usually done once. One saying about general practice in some areas is that the patient will never catch pneumonia because he will never take his shirt off to be examined. Screening is out in countries that have a registered population, such as Britain, Holland and parts of Scandinavia. In America they are forced to screen as a one-shot episode because of poorer contact with patients. As we know, 90 per cent or more of our patients see us at least once every three years. What I am suggesting is that we take certain base-lines as reference points. You only need to do this for five minutes twice a decade in middle age and onwards; the whole strategy has been reported to the Royal Society of Medicine and written up in *The Practitioner* and so forth.

This takes us away from screening into surveillance. If a man comes to you with a story of pain in his chest that has not cleared up on antacids and you find that his blood pressure is 140/90 mm. Hg. and have had no previous reading, then you have to see him again later. If, in fact, you had had a check five years back when he was coming for something else, then there is a world of difference clinically if the pressure was 180/110 before. This is what you need clinically for the control of your patient.

Dr G. I. Watson (*Peaslake*): Screening is really the process of looking for physical signs, even if presymptomatic. Three of the speakers have said it is no use screening for what you cannot treat. Do they really mean that?

Chairman: I am not sure which the three were but let us ask the whole panel. We have already discussed dementia, and perhaps you regard social action as proper treatment so let us exclude this from the question. What about this matter of screening for what you cannot treat?

Dr Hodgkin: Basic data may be helpful in blood pressure. You never know . If you have a record of blood pressure, as we had in 73 out of 100, when the patient gets a coronary you do know. You have got to record what you see. This is the point.

Chairman: Our great difficulty here is that we have some things that can obviously be coped with and it is obviously useful to pick up, but also others which are still in cuckoo land. Hypertension is an example of this, like bacteriuria, which is perhaps just getting out of cuckoo land. Would the others like to comment on this?

Dr Williamson: Detecting conditions which you cannot treat does

seem to be a bit futile. Dr Hodgkin made the point of the lady in whom he might have discovered bunions, but there was no surgeon to treat her. I am quite certain that if he had a patient whom he found to have bunions and he decided that as a result of her bunions she could not do her shopping or look after herself properly, then there would be a surgeon within striking distance of Redcar who would take these bunions out pretty smartly. I think you have just got to treat the things. The questioner is tending to confuse cure and amelioration. In old age we cure quite a lot of things but there are quite a number which we do not cure but simply ameliorate. If the patient has three or four disabilities, you may be able to reduce the burden of two of these without materially affecting the remaining one; you can use social measures to alleviate or to modify the environment of the old person to his disability.

Chairman: I have granted you the social factors.

Dr Wilson: It is important to draw the distinction between screening and the examination which I generally defined as carrying out tests, not necessarily with the intervention of a medical person. I find it necessary to differentiate that from medical examination. For example, in ischaemic heart disease investigated by electrocardiography or in hypertension, it is much easier in a preventive medical examination for a doctor to carry out these tests and keep his counsel about equivocal findings but record them. As Dr Logan said this is useful basic information. If you are instituting some kind of screening programme largely by technical help, you are faced with a mass of information which can be very equivocal, as I mentioned in the Bedford diabetes survey. This is perfectly legitimate in survey work where information generally not known is being sought. In this case, what are these pre-borderline diabetics? What is going to be the result of treating them, or do they need it? We do not know enough about the natural history of pre-symptomatic heart disease, ischaemic heart disease, glaucoma etc.

Dr H. Baumgart (*Dundee*): Are computers for detection of a symptomatic diseases likely to be brought into use in the foreseeable future (20–30 years)?

Chairman: I suppose you control our destinies, Dr Wilson. Are you going to provide 50,000 computers to deal with this?

Dr Wilson: We must be specific about the types of condition sought. Therefore theoretically a computer can be designed which will scan and analyse something like malignant cells in a smear; work has been going on in this respect for some considerable time. If this is developed it would represent an expensive primary development, but the economic aspect would be very favourable.

Chairman: What we are really discussing here are forms of techni-

cal automation in specific areas such as haemoglobin estimation, where it is not so much a question of a computer as of ways of doing things quickly on a large scale.

Dr Wilson: Such results may also be produced and analysed on a computer; it is really a way of getting an answer quickly.

Dr Logan: Twenty years is pretty remote. Maybe this will happen within five years in certain areas such as record linkage (in Oxford and Scotland) and genetic counselling.

Chairman: One should not take this too far. Techniques are developing pretty rapidly and ' computer ' is the magic word nowadays, but automation in biochemistry is the same sort of thing. I would like to take some general points for the panel, and look at the sort of things we have been discussing. There is quite a spectrum here. There are some very treatable conditions—anaemia has been mentioned, and you can obviously make a good case for screening for this. There are others like high blood pressure where the case is much more doubtful because of the significance of the findings is doubtful and what you should do about them is also doubtful. You may get to a situation where you do know what should be done and what the significance is, but this is still in the research phase. Let us start at one end of the spectrum at the moment, taking the question of anaemia. There can be no question about the value of discovering it because the treatment is so easy. Dr Wilson, supposing you are looking at the whole country, what procedures or process do you visualize for coping with this problem?

Dr Wilson: I cannot say that I know of any very easy method of haemoglobin estimation for use by general practitioners; this is something on which work needs to be done and is being done. There has been recently a comparison of techniques for convenience and accuracy.

Chairman: There are two points about this, aren't there? One is having a simple technique and getting a quick answer with a very simple method. There is a second or organizational phase of taking specimens or shining a light through the girl's ear or whatever it is. You have to get hold of the girl first of all and then you have to do the test. What sort of procedures would you visualize for this?

Dr Logan: We have an instrument, the E.E.L., that costs the same as four new tyres on one of eight cars in our group practice. It can be operated by a 16-year-old girl and haemoglobin can be estimated in 30 seconds. We find we have to do this to distinguish anaemia from Lancashire pallor, Manchester not being a health resort. Having done this for a patient, we tab the card and appropriately we tab it red. Women come to us with something (not men yet) and we obtain this baseline. When their relatives come up, because

this is a familial thing they are specially checked. The clinical picture we were getting before—and this has been written up many times—was that of the woman diagnosed as being anaemic at her antenatal clinic, filled up with iron, responding well, having her child and going off. You followed through her card and three years later found she was anaemic again; this was often picked up in hospital because we missed it. This is why we were forced into using apparatus. We sent out for those women we have not seen after a period of four years, about three per cent, and this is the only part of what we could call screening. It means having a register of people at risk and the red tabs.

Chairman: Anyone who has ever been registered as anaemic gets a check every four years if she has not turned up?

Dr Logan: Yes. She will come dropping in of course, being at this time of child-bearing age, and this little tab is really an *aide memoire* to ourselves.

Dr Hodgkin: The Medical Research Council is doing a trial of different methods. They are not going to waste money on an E.E.L. and wait six months.

Chairman: The suggestion is that all screening should be done on people turning up and that young people are likely to turn up.

Dr Williamson: Well, all people won't. You will need to get them and the health visitor can do this very easily. If you must screen the rest of the population, then if you can get an apparatus not involving taking blood through the ear, the hairdresser is the obvious person to do it. We grew out from the barbers, didn't we?

Chairman: This is quite a good example to take, because it should be easy and yet it still takes a bit of organization to do it. We have this much wider set-up of all the other possibilities, including old age. Again I would like to ask Dr Wilson a final question. Supposing you did decide that all old people should be screened and visited at least once a year by a health visitor and go through a screening such as Dr Williamson used, how many additional health visitors and nurses would you need in the country, do you think?

Dr Wilson: Quite a lot. I would wonder whether this was a good way of doing things and whether people with the full training of health visitors would be needed for this, or whether some other kind of ancillary worker could do it.

Chairman: At the present stage, all we can look for is pilot investigations. The work done over the last few years has indicated that there are areas in which screening procedures need exploration, but I think we are a long way away from knowing exactly how this problem should be solved, technically or organizationally. This

afternoon has shown us that this is something that must be explored, that we should all have it in our minds and that it might make an enormous difference in certain areas of human misery. With that final remark I would thank the speakers very much indeed for their stimulating talks and for their contribution to the discussion.

CLOSING REMARKS

E. V. Kuenssberg, M.B., Ch.B. (*Chairman, South-east Scotland Faculty*)

Mr President, ladies and gentlemen, before summing up I would like to carry out the very pleasant duty of thanking all the people concerned in the success of this meeting. Our first thought must go to the University for letting us have this beautiful building, for letting us have Holland House and for the superb, kindly and helpful staff, not only the porters, but the janitors and projectionists, the city gardener and the Parks Department of the city of Edinburgh responsible for these lovely flowers. The multitude of people who have made this meeting a success make me extremely humble. I cannot possibly enumerate all the loyal members of the post-graduate education committee of the South-east Scotland Faculty under the chairmanship of Dr W. Thompson who produced this excellent plan for the symposium. On another occasion I have already drawn attention to the secretary of this conference, Dr Duncan McVie. But, of course, even Duncan could not have achieved all this without his stalwart, Dr John Monro, who seems to be able to run a bus or put up notices wherever he likes when other people need police permission and all the rest of it; Drs Connie Gibb, Knox and of course the two Lamonts, without whom the Edinburgh Faculty would just not exist. We have had the help of some students to whom we are very grateful for giving up their Sunday and Saturday to come here—before their term started.

Now I come to the other part of my task: To summarize this meeting and to thank the people who have made it such a success in the way of delivering papers and chairing it. The fact that this symposium was opened by the President of the College of General Practitioners is, of course, no coincidence; it is a general demonstration of the forward thinking and forward looking of the College. At this same weekend there is another course running in Oxford of