HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON FAMILY AND COMMUNITY AFFAIRS

Reference: Health Information Management and Telemedicine

ADELAIDE

Friday, 15 November 1996

OFFICIAL HANSARD REPORT

CANBERRA

HOUSE OF REPRESENTATIVES STANDING COMMITTEE
ON FAMILY AND COMMUNITY AFFAIRS

Members:

Mr Slipper (Chairman)
Mr Quick (Deputy Chairman)

Mr Ross Cameron   Mr Kerr
Ms Ellis   Ms Macklin
Mrs Elson   Mr Allan Morris
Mr Forrest   Dr Nelson
Mrs Elizabeth Grace   Mrs Vale
Mrs De-Anne Kelly   Mrs West

Matters referred for inquiry into and report on:

The potential of developments in information management and information technology in the health sector to improve health care delivery and to increase Australia's international competitiveness with particular reference to:

the current status of pilot projects already commenced and an evaluation of their potential for further development;

the costs and benefits of providing advanced telecommunications and computer technology to general practitioners and other health care professionals throughout Australia, particularly in rural and remote areas;

ethical, privacy and legal issues which may arise with wide application of this technology and transfer of confidential patient information;

the development of standards for the coding and dissemination of medical information;

the feasibility of Australia becoming a regional or international leader in the development and marketing of this new technology; and

the implications of the wider development and implementation of medical practice through telemedicine for public and private health outlays, including the Medicare Benefits Schedule.

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WITNESSES

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STANDING COMMITTEE ON FAMILY AND COMMUNITY AFFAIRS

Health Information Management and Telemedicine

ADELAIDE

Friday, 15 November 1996

Present

Mr Slipper (Chairman)

Mr Forrest   Dr Nelson

Mrs Grace   Mrs Vale

The committee met at 9.01 a.m.

Mr Slipper took the chair.

CHAIRMAN—I am pleased to open this fourth day of public hearings on the committee's inquiry into Health Information Management and Telemedicine as referred by the Minister for Health and Family Services, Dr Michael Wooldridge, in June this year.

The committee is looking at a range of matters relating to the potential of developments in Information Management and Information Technology in the health sector to improve health care delivery and to increase Australia's international competitiveness.

The main issues to be resolved by the inquiry are: to establish an appropriate role for government in setting standards and guidelines with the evolving industry; to address issues of data security and privacy rights of patients; to examine the impact on the medical profession and the community generally of new procedures enabling medicine to be practised across state, national and international boundaries; and to look at the strength of current Australian knowledge and expertise in the area.

The hearing today continues the hearing program for Adelaide which commenced yesterday with an examination of witnesses representing the South Australian government and locally based hospitals and medical organisations. It is important to canvass the views and perspectives of professionals working in the health information field around Australia in order to reach conclusions and recommendations which reflect the diversity of positions held by practitioners and governments in the various states and territories. In this way, the final report of the committee will provide the most current national information available which will assist the Commonwealth government in formulating policy in this new area of technology.

At the conclusion of the hearing program today, the committee will be able to gain first-hand experience of one of the Telemedicine projects which is showing great promise and which is promoted as a model for the practical application of advantages provided in this area of health care. This inspection is with the renal Telemedicine project at the Queen Elizabeth Hospital. Dr Alex Disney, the project director, gave evidence to the committee at the hearing yesterday and the inspection today will provide a good opportunity for members to get a better appreciation of the potential benefits for patients and the community of the wider application of the most recent advances in telecommunications.

SCHLOEFFEL, Dr Peter Ramsden, Director, Medical Communications Associates Pty Ltd, 459 Belair Road, Belair, South Australia 5052

CHAIRMAN—Dr Schloeffel, thank you for coming before the committee this morning. When I read your submission I was particularly impressed; it was a very comprehensive presentation. Would you like to give a brief summary of it or make a brief opening statement? Bear in mind that we have a fairly tight program this morning, so if you could keep both the opening statement and answers to questions brief, the committee would be eternally grateful to you.

Dr Schloeffel—I should say from the outset that my main interest and expertise are in the information management portion of the brief rather than Telemedicine. I know there are plenty of other people in this state who are expert in the Telemedicine area.

There are six key points from my submission, the first one being the computerisation of Australian medical practice. The federal government should actively encourage and support the implementation of computerised information management in both general and specialist community based practice.

The widespread adoption of a well planned Information Technology and Management Strategy will provide many benefits, including improved quality of patient care, particularly for the elderly and those with chronic disease; better information for health system planning and research; and reduced costs to the health system through improved medication management, less duplication of diagnostic tests, implementation of evidence-based care and decision support for clinical practice and better coordination of patient care.

The second point is the incentives to computerise medical practice comprising a combination of one-time incentives, as suggested by the IBM report to the PBS, such as equipment leasing and training subsidies. There should be ongoing incentives in the forms of rebates to GPs related to government cost savings—and not only tangible cost savings but those that result directly from, particularly, general practice computing.

The third point relates to work force training. The potential benefits of widespread computerisation of the medical work force will only be realised if significant resources are provided to train doctors in Information Management and Information Technology techniques. Specifically, subsidies need to be given to Australian medical schools as soon as possible to train undergraduates in computing use and to medical schools, hospitals and divisions of general practice, to rapidly train the existing medical work force.

The fourth point relates to standards, because the efficient and cost-effective use of clinical computing systems in medical practice must be based on national and, hopefully, international standards in the areas specifically of electronic medical record architectures, data dictionaries, coding systems, data communications and privacy and security.

My fifth point relates to ethical privacy and legal issues. Three areas of concern to my organisation, Medical Communications Associates, are detailed in the submission on

the need for legislative clarification of electronic signatures in the health care context as a matter of urgency; the medico-legal status of medical records; and health software product liability.

Finally, there is Australia's place in the international health computing marketplace. Australia can be a leader in the development of health care Information Technology products for both the regional and international markets but only if we choose niche application areas and first develop a broad base of excellence in these areas.

Niche software products require no less innovation than larger and more broadly based products but they are generally quicker and cheaper to produce, which suits the characteristics and natural advantages of the small Australian market.

CHAIRMAN—Thank you. Doctor, the committee might owe you an apology. We commenced hearing you this morning believing that the previous witness had not turned up. It turned out he had turned up but not in the right place. Would you mind if we stood you down temporarily and then continue.

Dr Schloeffel—Not at all. I came along to hear the eminent Professor Mackinnon anyway.

CHAIRMAN—Thank you.

MACKINNON, Professor Malcolm, CEO, Health Online, Level 2, 187 Rundle Street, Adelaide, South Australia 5000

CHAIRMAN—Professor, we are sorry about what happened. However, we commenced on the basis that you had not arrived and were not in the precincts.

Prof. Mackinnon—I am making a submission as a professor of Telemedicine and Director of the South Australian Health Online Unit.

CHAIRMAN—So the submission is in those two capacities?

Prof. Mackinnon—Exactly.

CHAIRMAN—Would you like to make a brief opening statement.

Prof. Mackinnon—Yes, I think I will be brief because I do not profess to have amazing expertise in Telemedicine. But the brunt of my submission to the committee was really to draw its attention to the fact that Information Technology escalation is such that the application of Information Technology to medical health care delivery will proceed apace over the next decade. The application of Telemedicine generally will depend to a large extent on the educational component that the Telemedicine systems provide. I am not alone in this belief, in that last month we had a visit in Australia from Professor Sanders, President of the American Telemedicine Association. If he had a single message, it was that the educational support for Telemedicine systems was absolutely critical to the successful impact of Telemedicine in a country such as Australia or, indeed, any country worldwide.

So I guess the purpose of my submission to the committee was simply to emphasise that the broad area of Telemedicine encompasses a number of other areas. I think that Australia is positioned as well as most countries in the world to be able to input into the educational backbone of Telemedicine.

CHAIRMAN—That brings me to my first question, Professor, and it relates to the definition of Telemedicine. We have heard various terms used—Telemedicine, Telehealth and others. Do you feel it would be advantageous to achieve, if it were possible, a common definition for Telemedicine? Do you believe it would be better if perhaps one word, maybe another word, were adopted to cover this field of medicine?

Prof. Mackinnon—I do. I would agree with that. I think the problem with definitions is that they tend to be too restrictive. I believe that the definition of Telemedicine should encompass everything that includes the application of information communications technology to health care delivery. My definition of Telemedicine, which is a personal definition, would certainly encompass Telehealth.

I think one of the problems in the restricted definition of Telemedicine is that 'medicine' invokes an image of diagnosis and therapeutics, whereas I would like to broaden that because I do not think medicine is just diagnosis and therapeutics. It is much more than that. It entertains social issues. Basically my definition of Telemedicine would,

if you like, encompass what other people would describe as Telehealth.

CHAIRMAN—It seems that Telemedicine is the more widely used definition internationally and yet, for some reason known to only the South Australian government. It seems to be adopting 'Telehealth' as a standard term, the use of which is to be encouraged. Would you agree that is unfortunate?

Prof. Mackinnon—Let me put it this way: I, at the present moment, do not subscribe to that view.

CHAIRMAN—That is a very cautious answer, Professor. I noticed you mentioned Professor Sanders from the American Telemedicine Association. We have had submissions in relation to costs and benefits of Telemedicine. Some people have suggested that there will be savings, because people will not have to travel. On the other hand, a lot of people tell us that it is very difficult to determine what the cost of Telemedicine is. I think Professor Sanders, at the Learning Australia Technology Australia conference held here in September-October, said that any system that increases access for the disenfranchised may increase the overall cost of the health system. I was wondering whether you had any comments on that. Also, do you see Telemedicine as being of major social benefit to the community or of social and cost benefit?

Prof. Mackinnon—I think it is generally said that the introduction of new technologies cannot be viewed early within their introduction as leading to amazing cost benefits, because there are indeed costs associated with the introduction of those technologies. But I think it would be fair to say that further down the track, once those technologies are firmly entrenched and also once the information infrastructure is firmly embedded, one can indeed anticipate costs.

CHAIRMAN—Costs or cost savings?

Prof. Mackinnon—Cost savings. But my view about the future of Telemedicine is taken in the context of what I believe is going to happen with health care delivery generally. A couple of weeks ago I heard at Interact '96 in Melbourne a statement from a leading Telemedicine executive, Ken Buxton, that the dictionary definition in the year 2020 or maybe 2050 of a hospital will be as follows: an enormous building in which patients were incarcerated and where all sorts of indescribable things were enacted upon them.

That is a bit facetious, obviously, but if one actually looks to see what is happening with our health care system in terms of costs—and it does get back to the cost issue—I think within 15 to 20 years we are going to see a fundamentally different health care delivery system with the overall function of the tertiary or teaching hospitals quite markedly changed. I see the teaching hospitals of the future really dealing with the sicker, the more acute illness. Already we are seeing a great emphasise on reduction in hospital stay, and a lot of what is actually transacted in the teaching hospital at the moment will, in fact, be conducted in the community. Within this scenario, I think the application of information technologies is going to be absolutely critical. I would hope, given that our

understanding at the moment is that tertiary institutions in health are expensive commodities—

CHAIRMAN—No one would doubt that statement.

Prof. Mackinnon—If we can deploy some of those resources effectively in the community, it should lead to cost savings.

CHAIRMAN—It seems to me that some people have said, with Telemedicine and the use of technology in health, that there could be a loss of patient confidentiality, but to me that appears to a bit of a furphy because the security of patient records at the moment is not at a desirable level in the sense that one has bits of paper floating around. We have been told, that medical records are found on dumps and in boots of cars. Perhaps if we can encrypt some of the information put in, then it could be that the privacy concerns some people have had are not really a worry because there would be an increased rather than a reduced level of privacy for the patient. Do you have a comment on that?

Prof. Mackinnon—I agree with you. I think that the problem with security for data transmission is going to be solved not by health but by other institutions in our society, in particular, the banking sector. I suspect that we are going to see an escalation in electronic banking. I am not super concerned about the security of my health record, but I can tell you that I am absolutely concerned about the security of my banking record. I think that the security elements—encryptions, et cetera—are going to be solved outside the health system. I do not think we are going to have to concentrate on that, but I am quite sure that Peter Schloeffel will have ideas on that which extend beyond my own.

Dr NELSON—Prof. Mackinnon, one of the points you made in your submission— I know you were not asserting it—was that there are people who say that the more information the community has, the less likely they are going to access the system. We have heard other people say that the more information people have access to, the more likely they are to want to get into the health system for various reasons. Where do you think it is likely to head? We are moving into a world now where people arrive to see a doctor and, having got the stuff off the Internet, probably know more about it than the doctor seeing them. Do you have a view on where it is going to go?

Prof. Mackinnon—If one takes the example of a patient with diabetes, first of all, very few patients with diabetes understand the implications of their disease in terms of how to prevent complications developing down the track and, secondly, I think there are episodes in the diabetic patient's life that cause anxiety and concern. Given the fact that they are not particularly aware of the consequences of their disease, in relation to an anxiety inducing moment—it might be just feeling a bit weak from a hypoglycaemic episode or it might be something more serious—what do they do? They will call their doctor in some way or another. It might be a telephone consultation or it might be a visit to the surgery.

It is my belief that the better informed society is generally about the disease process, and if that information relieves anxieties, then that will reduce the number of

visits by patients to their health care delivery system. I use that term advisedly because I do not say 'just the doctor'. In a diabetic patient's case the nurse might be a diabetes educator.

Dr NELSON—We have heard a number of people more or less asserting that the improvements to Telemedicine and the enhancement of services is going to reduce costs, particularly the more we see it in rural and regional areas and so on. But there seems to be a paucity of data to support that. Are you aware of any research internationally that might support the view that it leads to a reduction in costs or as to what impact it has?

Prof. Mackinnon—I do not think there is any good evidence on that at the moment. The answer is that there is no good evidence on that because the systems that have been introduced to date are really not sophisticated enough to result in down track cost production. One has to be cognisant of the fact that Telemedicine systems were introduced by evangelists at both ends. In other words, they were introduced by the evangelists, if you like, in the city relating with evangelists in the country.

With the introduction of, say, a research project, the research project flourishes and performs differently initially simply because of the evangelical content associated with the introduction of that. So, to be fair, to analyse the cost-effectiveness of Telemedicine systems, we will have to wait until they dampen down away from the super-evangelists into the people who are really committed but not necessarily evangelical about the systems.

Dr NELSON—One of the biggest issues that we have been trying to grapple with is how to fund all this. Much of it at the moment is being funded on a project basis or it is private sector money from people who obviously expect a long-term return on their investment. I know you are well aware of the arguments. Decisions need to be made about whether it goes into the Medicare benefit schedule and, if so, to what extent, how it should operate, whether it ought to be block funded, whether a predominant amount ought to come from the Commonwealth and so on. Have you got any thoughts about those issues?

Prof. Mackinnon—What I would like to see is a clear definition within the medical benefits schedule and that a Telemedicine consultation—be it teleradiology, telepathology or a video consultation between the specialist and the patient—is recognised as having significant elements added in terms of time, the time of setting up the process.

CHAIRMAN—At the moment it is not recognised at all.

Prof. Mackinnon—I know; I realise that.

CHAIRMAN—You would want a recognition and then perhaps increased recognition because of the increased time?

Prof. Mackinnon—At the present time I think that would have to be the case. If we, as a country, are going to see the appropriate application of Information Technology

to medicine, the individuals involved in that have to have some appropriate reimbursement. Ten years down the track, that situation might change. Let me paraphrase what I am saying: it is my belief that early on there has to be some subsidisation; there has to be some governmental support. One way of providing that governmental support is by recognising within a medical benefits schedule that there is added time involved in the consultation.

CHAIRMAN—But is that subsidisation, or is that just fair return for time expended?

Prof. Mackinnon—I would be happy to accept that it is a fair return for time invested.

Mrs ELIZABETH GRACE—Professor, you spoke in your introductory comments about educational support for Telemedicine. Would you like to expand on that a little bit, please?

Prof. Mackinnon—What I see somewhere in the future is a consultation between, say, a specialist in Sydney and a patient, plus or minus GP, in Orange. Let us take the example of a telepsychiatry consultation. Say the patient in Orange has some symptoms of schizophrenia; the psychiatrist will consult with that patient—and I will not go into the advantages or disadvantages of a telepsychiatry consult—and at the end the specialist will say, 'Right, the problem is this', and relate to the GP or the nurse or whoever it is at the other end and say, 'I think the most appropriate management is such and such.' That is an educational process itself.

But I would like to see, within a relatively short time, that that psychiatrist could also say, 'This is the problem, and there is on-line availability of easily accessed information about schizophrenia and its particular treatment.' Following that, say, 30-minute video consult, the doctor can then sit down and access that information on line, and also the patient can return home. In Australia this will be the case, I think, because with our fibre optic cable broadband facility, within five or 10 years the television set in your home will be acting as a network computer and accessing information over the Worldwide Web Internet. That patient can then return home, sit down and access specific information about schizophrenia and how it should be managed, so that there is a total educational component to that interaction between the psychiatrist and the patient/doctor/nurse at the other end.

In my vision, a country such as Australia over the next five years will develop a whole library, through work we do in Australia but also through international collaborations, of consumer information that the patient will be able to access in their home.

Mrs ELIZABETH GRACE—In the field of technology many people speak very enthusiastically about the benefits of Telemedicine for rural and remote communities. You have just emphasised that a little bit there. Could you make some observations about the feasibility of modern health care through Telemedicine for these rural and remote

communities, given that in many cases the technology infrastructure may not be available or will only be available on a limited basis?

CHAIRMAN—And in answering that question you might also tell us where you see Telemedicine relating to rural and remote areas in, say, five, 10 or 15 years?

Prof. Mackinnon—I think that Telemedicine will support rural practitioners. There is no doubt in my mind. If one projects five or 10 years ahead, I really find it difficult to imagine what the information infrastructure will be like. I think, certainly in three years in this country, a lot of country areas that have been relatively isolated up till now will indeed have access to fibre optic cable, and that is broadband delivery of information.

I really do not know what impact the low earth orbiting satellites are going to have on information infrastructure but I suspect that they really will have a significant impact, and that is where we are now. In five years time, I really cannot envisage just what information infrastructure we will have. But I do imagine that the most isolated practice in this country will in fact have access to broadband delivery mechanisms. They are going to be initially limited by cost but, if one looks at most information delivery systems, as they become more widespread the costs reduce.

So I think that the rural practice is going to change quite dramatically as our information infrastructure changes. I think rural practitioners are going to be less isolated in terms of relating to specialist opinion in the major centres. They are going to be able—if my vision is correct—to have access to high quality, up-to-date supportive educational material in their home or in their practice.

The other thing that I find difficulty envisaging at the moment is that the application of virtual reality simulation and its associated functions is going to have a major impact on what can or cannot be done in relatively isolated areas. Virtual reality simulation and robotic surgery are really in their infancy at the moment. To an extent they are dependent on the grunt of the computer, the computing power, and, as we know, the computing power doubles every 18 months. So if one projects five or 10 years down the track, once again I imagine—I do not know—that we will see much more widespread applications of virtual reality simulation in training, in support and also in robotic surgery.

Mrs VALE—Professor, I would like to talk to you about some of the pilot projects that we have had in Australia. It has been put to the committee that it is no longer realistic to talk about pilot projects—the technology is here and it has been to some extent used. It is in fact really that the clinical aspects, or the human resource side of these projects, is not sufficiently developed at this stage. Could we have your comments on the usefulness of pilot projects to fill in gaps in our knowledge of Telemedicine, or have we reached the stage where we have reached—I think this is the term—analysis paralysis, and that we really should simply introduce Telemedicine into the Australian health system and allow it to develop as a general use?

Prof. Mackinnon—I think my view would be that pilot projects are important at the moment in that not everyone in medicine is aware of the potential impact of

Information Technology in medicine. As Dr Nelson would well recognise, we are part of a fairly conservative profession and it takes time to actually convince people that what is being done is appropriate and is effective.

So I think that there have been pilot projects up to now—say the South Australian telerenal or teledialysis project, which I would consider is no longer a pilot, but is established, though by the same token I think that that is not unique—but there are not many projects in Australia that have got to the stage where they would be seen as being established projects. I think, given the general conservatism of the medical profession, that we will probably continue to see projects established as pilot projects for the next five years. But I would like to see—and this is my personal view—some coordination nationally of those pilot projects. I think there is no point in setting up a pilot project on teledermatology in Western Australia and at the same time setting up a pilot project on teledermatology in Queensland. I think there has to be—

CHAIRMAN—That has happened all too often, hasn't it?

Prof. Mackinnon—I think there has to be some degree of coordination. I say that because I think that what we are going to see over the next five years is a significant globalisation of Telemedicine. We are actually seeing some of that now. For instance, you are probably aware of a company called World Care, the World Care group, which is in the process of setting up a hub spoke Telemedicine worldwide network. At the moment, Australia is not involved in that. They are looking at setting up the Asian hub of that Telemedicine network in Singapore rather than here. We should really be starting to be quite proactive in ensuring that we are part of a global Telemedicine network.

Mrs VALE—I had a question for you on international competitiveness and how Australia stands. There has been a view put to the committee that the continuation of pilot projects could actually retard the progress of Telemedicine in Australia by maintaining it at the exploratory stage, but I heard what you have said.

Prof. Mackinnon—What I am really saying is that the projects set up as pilot projects either succeed or fail. If they succeed, they are no longer pilot projects and they are then an established technology or application of technology. Some projects just do not succeed for a variety of reasons. I guess one of the major reasons is that the evangelists run out of steam.

CHAIRMAN—You mentioned that we should become more proactive with respect to this establishment of the hub in Singapore. Who should be proactive? What should this country do? Should it be government or should it be a private enterprise group? How would you suggest that we should proactively seek involvement in this project, and who should do it?

Prof. Mackinnon—I hesitate to say it, but I suspect that there should be a national group involved in setting strategic directions for Telemedicine. I am familiar with the AHMAC group on Telemedicine and I am aware of the attitudes and approaches that they are taking. But the problem with the AHMAC group, as I see it, is that it is formed

predominantly by administrators rather than by practitioners. I think that there should be a group involving the clinicians who are, if you like, at the cutting edge of applying the technologies to medicine. As I said, I would hesitate to suggest that there should be another committee or body, but I think there probably should be.

CHAIRMAN—You mentioned the South Australian project that is no longer a pilot project and you consider that to be a permanent application of Telemedicine. Do you see any indications that other states and territories in Australia are going to adopt the research from that pilot project? If it has been proven to work in South Australia, clearly it would work in other states where there are remote areas. Or do you find that individual states simply do not look positively at what other states have achieved in this area?

Prof. Mackinnon—I think my answer to that, Mr Slipper, has to be that other states would be stupid if they did not look at the example of the teledialysis project in South Australia, because I think it has the hallmarks of a successful project.

CHAIRMAN—Is there any evidence, that you are aware of, that they are looking at it?

Prof. MacKinnon—I think you are seeing or have seen Dr Disney. I think he would be in a better position to comment on that than I am, because I think that anyone from out of this state who is interested in that project would certainly relate to him.

Mr FORREST—Professor, just to tease you out a little on some questions that you have already been asked, in your submission you made reference to an informed community and better informed public, which I think is the real potential to save money and reduce our health budget. But to me—and you have said that the medical profession is somewhat conservative—they might see a well-informed patient who comes in with all the symptoms of his disease which he has printed off from the Internet. They might see that as a threat. This, in fact, could impede progress in terms of them wanting to be educated about the whole process. Do you think the profession might react that way and hold—

Prof. Mackinnon—Absolutely. I call that the impact of professional blurring, because I think that as one sets up a more effective and generally accessible information system that is accessible by patients, nurses and doctors, one ultimately sees a blurring of professional boundaries between the doctor, the nurse and the patient. I have no doubt that, associated with that professional blurring, there will be considerable rearguard defensive action; so I would agree with that.

Mr FORREST—This is probably where your emphasis in the education of doctors comes in. There could be a generation of new doctors before we really see the thing enthusiastically embraced.

Prof. Mackinnon—Yes, there could be. I guess I am an optimist; I would have to be an optimist. I view computer education as being poorly applied up until the early 1990s. Computers in medicine have been largely used as testing tools rather than teaching tools.

The other thing I believe is that, up until fairly recently, broadband delivery of educational material relied, and had to rely, heavily on text. There is no doubt in my mind that if I want to read text, I will read a printed page rather than a computer screen. I think there has been a general level of dissatisfaction with computerised education delivery up until now.

I think that, in the mid-1990s, we are about to see a transformation of that. I think a lot of educational material can be delivered through concept delivery by visual simulation through a computer, so there will be less textual delivery of information. There will be much more, if you like, interactive visual delivery of concepts. Given that, one might not have to wait for the next generation of health practitioners.

It might well be that the current generation of health practitioners adopts the newer approaches more rapidly than we might anticipate at the moment. As I said, I am an optimist. But, in some ways, I am a realist as well.

Mr FORREST—So am I. One of the things that the committee is grappling with is the establishment of some evidence about the cost benefit. It seems to me that it will always be difficult to get a real handle on it if there is an element of preventative medicine involved. We would never really know except in hindsight. That is realistic, is it not?

Prof. Mackinnon—Yes, I think it is. I absolutely agree with you that, at the moment, there are significant risks associated with a widespread application of Telemedicine. We do not know that it is going to be, first of all, accepted. Secondly, we do not know if it is going to be effective in terms of delivering appropriate health care. Thirdly, getting back to the chairman's obvious grave concern, we just do not know if it is going to be cost-effective. There is a lot of risk associated with it. So at the moment, I think, all we can do is try to prospectively analyse the potential impacts of these systems and trust that the prospect of analysis is going to at least deliver 50 per cent of what we anticipate.

Mr FORREST—The other thing, too, that you mentioned was the potential globalisation of the whole Telemedicine scene. We have heard some optimistic predictions about Australia's role and its potential in the region. I am just wondering whether or not that is realistic. Are we well placed? We are still experimenting in some areas, and in others, as we heard yesterday, in psychiatry, we are pretty well progressed. What is your overall view of that potential in terms of exporting our medical expertise?

Prof. Mackinnon—If one visits Malaysia or Singapore, for instance, and looks at what is happening in those two countries, I think that we are probably behind. I think it is unrealistic to expect that the Malaysians and the Singaporeans are going to come to us and ask us to help them. There is a level of sophistication in those societies that we do not actually meet.

There are other Asian countries, if one takes South Korea and Thailand, that are not as sophisticated in development of information infrastructure—the backbone—or in

development of strategic planning for the application of Telemedicine, where there would be opportunities for Australian expertise. But we are going to be competing with other Asian countries.

We are certainly going to be competing with the Europeans and the United States. In the last couple of months, coming through Adelaide, there have been two American groups and two European groups looking at Telemedicine, tele-education or multimedia in medicine or whatever, who have all clearly stated that one of their aims is to get into Asia. So I do not think that the fundamental guiding principle of what we are doing in this country should be to say, 'We're going to export our expertise.' I think we might be able to, but it relates back a little bit to what I said earlier about the strategic planning on a national level rather than little individual groups here and there. We are going to be competing with quite significant forces.

Mr FORREST—It has been suggested that we should focus on getting our own ship right before we go romping off around the world. You also mentioned a national coordinating group. But what do you see as the Commonwealth government's role in all of this? We have already identified some conflicts about definitions and standardisation. That could clearly be something that has to be led. Are there any other functions that you think the Commonwealth should fulfil in all of this?

Prof. MacKinnon—I have no doubt that you have addressed a whole variety of issues such as the funding issue, the medical benefits issue, the registration of doctors and health practitioners—nurses—and the limitation of state registration as opposed to national registration. I think those are all very important issues.

The other role of the government, I think, is in accepting that Australia, independent of what we might be doing or setting out to do for the rest of the world, really has to try to establish the most appropriate systems within this country. There is going to be, certainly, some quite significant expense associated with that and, hopefully, down the track, ultimately, cost savings. But, I think it all has to be considered within the context of what I believe is going to be a rapidly evolving changing health care delivery system over the next 10 to 15 years in this country.

Mrs ELIZABETH GRACE—Professor, you mentioned the problems and challenges we have within government. One thing that has come up in these hearings is the problem of state registration and dealing outside the state, as is happening now already here in South Australia because of your connections with Broken Hill and Alice Springs. Do you have any thoughts on this or in what direction we should be going as a government to ease this? I am sure doctors do not want to be registered in three states for one or two consultations or something along those lines.

Prof. Mackinnon—My view—and this is a personal view; let me state that up-front—is that there should be a national registration of both doctors and nurses. I would be quite happy if there were state bodies that address the behaviour of a doctor—the sorts of issues that a medical board in South Australia might address at the moment. It is my belief that there should be national registration, which then flows down to particular state

bodies looking at ethics and levels of responsibility. But the registration should be national.

Mrs ELIZABETH GRACE—Thank you very much.

CHAIRMAN—I assume that you have been appointed to the first chair of Telemedicine at the Flinders University of South Australia. What do you hope to achieve in that position to advance the cause of Telemedicine?

Prof. Mackinnon—My ambition is quite circumscribed. What I would like to do in the next decade, if I survive that long, is try to change the—

CHAIRMAN—Academia is a bit like politics, I think.

Prof. Mackinnon—Yes, it is a bit. Lots of stress associated with it. What I would like to do is introduce effective on-line deliverable educational tools for the health profession. I am setting out to do that in the context of an international element. If I can achieve anything, I would like in five or 10 years time for someone to say, 'It's terrific that South Australia has contributed 10 per cent to the overall educational library in health. It's fantastic that Australia's contributed 20 per cent. It's important that the international alliances and collaborations have been established.'

As an aside, and I would be interested in Dr Nelson's response to this, it is my belief that, with the application of Information Technology in the next 10 to 15 years, within 20 years there will be a global medical school. We will all be accessing the same educational material.

CHAIRMAN—Dr Nelson, you will not have to be sworn in as a witness to answer that question. Do you have a view on that?

Dr NELSON—I would not disagree with Professor Mackinnon.

Prof. Mackinnon—Well, you have before.

CHAIRMAN—He is turning over a new leaf.

Dr NELSON—You can see that we are moving that way—not only educationally, but the economic drive is already there to move towards a single medical school environment in Australia, let alone internationally. Things are moving so quickly that it is difficult to be sure where we will be in 20 years. But I think you are right.

CHAIRMAN—The problem, I imagine, with a global approach would be the differing standards, whereas within Australia, one would imagine the standards should be fairly high.

Dr NELSON—The point that Malcolm is making is that, with the development of this technology, we will have uniform standards.

Prof. Mackinnon—It will be standardised. Within the belief that there will be a globalisation of medical teaching, I still think there are roles for regionalisation, because part of medical teaching is real time interactivity. It is going to be very difficult to set up real time interactivity from Boston to Sydney because of the time differences. So there will be certain, if you like, privileged universities regionally that are coordinators of the teaching process.

Dr NELSON—We are just about to hear from Dr Schloeffel, and I know he has given an enormous amount of thought to the answer to the next question. We are going ahead on one front with the development of Telemedicine and quite extraordinary things. But in the real world, where people's experiences are somewhat different, whilst the vast majority of GPs—the GPs are the ones providing most of the medical care in Australia— may use computers in the administrative and billing part of their practices, they are not using them at all clinically. First of all, why do you think that is the case, and what sorts of things can we do to overcome that?

Prof. Mackinnon—I think the easy answer to that is that I believe that they are not using computers because there is nothing that the computer provides at the moment that really value adds to their practices. If we introduce things that add value—I am not just thinking in terms of electronic prescriptions or electronic billing—to the way they can approach the best medical practice that they possibly can, then, and only then, will they start to use computers in their practices.

Dr NELSON—Do you think there would be a need for the Commonwealth to assist them financially in some way to do that? Some people feel there is.

Prof. Mackinnon—I think the answer is probably yes, but the critical thing is the timing. You have to wait until you believe that there is something that is offered through the computer that the practitioner is going to use. In other words, there is absolutely no point in saying to Dr Smith in Oodnadatta, 'The benevolent government is providing you with a computer.' At the end of the day, Dr Smith in Oodnadatta says, 'Well, what do I do with it, because there is nothing that I want to use the computer for.' The first thing is to set up the ways in which the computer can deliver value to Dr Smith.

CHAIRMAN—There being no further questions, I thank you for appearing before the committee this morning. The committee will send you a draft of your *Hansard* evidence and if there are any errors feel free to correct them.

[10.16 a.m.]

SCHLOEFFEL, Dr Peter Ramsden, Director, Medical Communications Associates Pty Ltd, 459 Belair Road, Belair, South Australia 5052

CHAIRMAN—You have given us a brief resume. Would you like to repeat any of that?

Dr Schloeffel—I do not think so, unless you particularly want me to.

CHAIRMAN—No, we do not. I was impressed with what you said about the need for incentives to encourage medical practitioners to use computers. I notice that you adopted the IBM recommendations, but you were not in favour of financial disincentives—or I suppose one could use the word 'blackmail'—to force doctors into using computers. Why, in your view, is the take-up rate with respect to computers in this country so much less than in the United Kingdom and other places?

Dr Schloeffel—I think the United Kingdom is perhaps not the best example of the high level of take-up rates. In some respects it is, but it is different from, say, Belgium or the Netherlands, which are two other countries that I specifically mentioned in the submission. In the UK—

CHAIRMAN—They have dreadful nationalised health.

Dr Schloeffel—They are your words, but there were certainly—

CHAIRMAN—You do not disagree with them, I notice.

Dr Schloeffel—There was certainly a concerted campaign by the government and also private industry in the early 1980s to computerise general practice in the UK and that was done initially by incentives. I think there are some lessons to be learnt from that. A couple of the major health software and hardware vendors actually gave away computers, with a UK government subsidy, to the GPs. I think what anybody gets for nothing they often do not value. A lot of those computers sat on GPs' desks and were never switched on or sat on a desk in a back room.

CHAIRMAN—We had evidence that a particular pathology company is doing the same thing.

Dr Schloeffel—Yes, I think there are different issues there. There was certainly no suggestion of any conflict of interest in the UK situation; it was all done for the best motives, but—

CHAIRMAN—Selling computers.

Dr Schloeffel—No, it was not selling computers. They were giving computers away, but I think it was part of the problem that the medicos had no personal investment

in it. I think another major problem in the early days in the UK was the insufficient training of GPs. But the incentives were followed up fairly quickly in the UK—the carrot was followed by the stick, to use a term that was used in the IBM report.

Whilst I personally have some reservations about the use of the stick, of financial penalties, I guess I would have to concede that at least, provided they are not too onerous, there may be a place for some negative incentives. I think a good example is the retail pharmacy industry in Australia. I understand they were given incentives in the first place but then were charged an additional amount after a time if they did not submit their information electronically.

CHAIRMAN—One of the government's core promises in the election was to maintain bulk-billing. I know that one can have various views about bulk-billing and whether bulk-billing encourages overuse of the system, but the government has given this commitment and is determined to keep that promise. It seems to me, however, that, if it were possible for doctors who were not bulk-billing doctors to bulk-bill the Medicare rebate proportion of their fee, and if, as a result, they got paid more quickly, this would be an incentive for them to use computers more. It would also, I believe, reduce administration costs in the Health Insurance Commission and it would mean then that a doctor could either bulk-bill and would bulk-bill the whole of the bill to the government, or could bulk-bill the Medicare rebate proportion of the account and then collect the balance from the patient. Is this a good thing?

Dr Schloeffel—I totally agree with that. In fact, I think you could go one stage further. With electronic data interchange, without any new technology, you could actually take the patient's component of that on the spot as well through a credit card or EFTPOS mechanism. Potentially you could do away with all your regional Medicare offices because the individual GP's surgeries could effectively become a Medicare office, perhaps along with retail pharmacies which could be the other outlet. You do not need any new technology to do that. The infrastructure is already in place. I think you are absolutely right that that would be a major incentive.

I think in one of the AMA's submissions to this committee they quoted some figures from the HIC which showed that to process an individual document—and it did not specify whether that was a Medicare form so I am not sure but it used the word 'document'—cost $1.60, done by traditional manual methods—well, not completely manual but where the HIC has to presumably do the keying of the information. However, if that document were submitted electronically by the doctor, it would cost 30c. At the moment, the HIC or the government, or the taxpayer at large, is picking up that $1.30 saving and none of it is going back to the GP.

CHAIRMAN—Also, only bulk-billers are able to use that means of contact with the HIC.

Dr Schloeffel—Only bulk-billers, yes. So with accounts, the Medicare portion could be done within milliseconds. Also, the patient component of it, provided the patient had access to an EFTPOS account or to a credit card, could be done instantaneously as

well. So not only does it cut down on costs and administrative burden for the government, but it cuts down on the medical practitioner's administrative costs as well.

CHAIRMAN—And that might reduce the level of bulk-billing slightly, yet we would be maintaining our promise to allow bulk-billing.

Dr Schloeffel—Yes. I will not get into a discussion on bulk-billing. My view, I suppose, is that I support the concept of a co-payment.

CHAIRMAN—It would discourage doctor shopping, would it not, if one did not have such widespread bulk-billing?

Dr Schloeffel—Yes, it certainly would.

CHAIRMAN—The other thing is, if it were possible for more doctors to communicate with the Health Insurance Commission electronically, then the Health Insurance Commission could encourage that by perhaps paying in a shorter period than the current 14-day wait. A doctor who posted in the hard copy records might have to wait 14 days or maybe 20 days, but if a doctor was dealing with the HIC electronically then perhaps the HIC could pay overnight. That would also encourage doctors to use that technology.

Dr Schloeffel—It would. But, of course, that is with the existing system of Med Claims, which is the HIC electronic data interchange for bulk-billing. My own practice has been doing that for the last three years with a number of misgivings. I think they have improved it somewhat but there is still a statutory period of 11 days before they will process anything and that is not done because of administrative delays; that is done, as I understand it, purely to save money. They have got the use of that money for 11 days.

CHAIRMAN—The Health Insurance Commission has told us that they could reduce the cost of administering the health care system substantially if more doctors dealt with them electronically.

Dr Schloeffel—Yes.

CHAIRMAN—And they seemed to suggest that it might be possible to pay doctors more quickly, to give doctors back some of the savings that they would make as a result of having more doctors deal with them electronically. And that is along the lines of what you have been suggesting, isn't it?

Dr Schloeffel—Yes, I think that is a very good form of incentive. You can argue about cost savings that might be achievable, say, through medication management—and that is dealt with in great detail in the IBM report—but in this case we are saying that medical practitioners in general are going to get back only a portion of real tangible savings. So if the figure is $1.60 to process a Medicare claim under the traditional method by the HIC and it is 30c if the doctor uses med claims, then that $1.30 could be split in some way between the HIC and the GP. What the percentage is I do not know, but at the

moment there is no gain sharing at all.

CHAIRMAN—So basically in your first recommendation you suggest that the government should actively encourage general practice computing—and I certainly agree with that—and you suggest it could be done with a combination of one-time incentives such as equipment leasing and so on—what I have suggested would be another way of encouraging computer use and in such a way that the government did not have to give these payments by way of subsidies for computer literacy.

Dr Schloeffel—That is the second part of recommendation 1: that the ongoing gain sharing, the rebates that I mentioned and, I think the subsidies—and I picked that up from the IBM report—for equipment leasing would be useful but not essential. What I do think is essential, though, is that the government puts some money into training of the medical work force because, if we do not want to repeat the mistakes that were made in the UK and other places, I think it is a very good investment of taxpayers' dollars to give basic training at least to the medical work force in IM and IT techniques.

CHAIRMAN—Are you suggesting that should happen in the universities? I suppose you are really saying it should but are you also saying that those who have graduated ought to be given some access to training as well?

Dr Schloeffel—Yes, absolutely. I think I said in recommendation 3 that subsidies should be given to medical schools to train undergraduates in IM and IT and to medical schools, hospitals and divisions of general practice to train the rest of the medical work force—well, the divisions of general practice and I guess the royal colleges, because we should not forget our specialist colleagues who also need training.

CHAIRMAN—They would not want to be forgotten.

Dr Schloeffel—I think the specialist work force already has adopted Information Technology to a greater degree than the general practice work force, partly due to the procedural specialists because they have more contact with IT in their day-to-day work than a GP. But, sure, as a group I think they should be included as well.

CHAIRMAN—I imagine that your company is well positioned because you are involved in general practice yourself. So over the years you would know what works and what does not work and yet you have got this knowledge of technology as well that is so often absent. I wish you well.

Dr NELSON—I just wanted to ask Peter: for the average doctor who often who says, 'I wonder how my secretary turns the computer on', how much training would be required and how much time would be required, do you envisage, and what would be the likely costs—if you had a basically computer illiterate doctor, for example, and you wanted to train him or her up to speed?

Dr Schloeffel—I think there can be two forms of training. One would be a small number of hours of face-to-face, classroom-type training, which might be delivered

through, say, the divisions of general practice. But, increasingly, people like Malcolm Mackinnon and Professor Michael Brittain at the University of South Australia are producing lots of good computerised educational material which, once they have a very basic knowledge through classroom teaching, they can come back to at any time they want to, to reinforce or upgrade their skills through computer aided education—I guess that is the buzzword.

Dr NELSON—You heard our conversation with Professor Mackinnon. In giving GPs incentives or real reasons to bring a computer into the consulting room, do you envisage something like a financial incentive which is linked to processing of claims and an educational package which could be funded through divisions or through the $400 million that is put aside over the next four years for better practice payments, and then providing them with educational material so that they are armed when the patient comes in the door with the latest stuff off the Internet? Do you think a combination of those things might get them interested?

Dr Schloeffel—Yes, I do. We have already referred to the incentives for doing electronic processing, but one of the questions that was asked of Professor Mackinnon was around the idea of patients getting more and more information about their own condition from the Internet. I think, on balance, that that is a good thing. Unfortunately, there is a massive amount of information on the Internet at the moment, but there is no way of determining the integrity of information. What GPs particularly, but perhaps to a lesser extent specialists, need is access to reliable information at the flick of a switch, so that they can discuss particular issues with patients when they come in with something that they have off the Internet. There are already some moves in that direction.

The main Australian medico-political weekly magazine is the *Australia Doctor*—or is it *Medical Observer*—which has a section where they review what the general public is being told in popular magazines like *Womans Day* and *Elle*, et cetera. It is useful for the GPs to be able to read that so that when a patient comes in and says that they have just read about some fantastic new diet that Dr Nelson wrote about in *Womans Day* they will know the appropriate way to respond.

Mrs ELIZABETH GRACE—In recommendation No. 4 you say that legislation relating to electronic signatures in a health care context should be clarified and updated as a matter of urgency. Would you like to elaborate on that because we have had some comment and I would like to hear your views?

Dr Schloeffel—Yes. There are a couple of different issues. One is that either electronic signatures can be analogued—that is, an ordinary signature in a generally understood way done with a pen—or there can be electronic signatures which can be, at the simplest level, just a combination of the user's name and a password. At the moment the legislation at a state level in all states—I think I am correct in saying—except for New South Wales, insists, for instance, when a diagnostic test is initiated, that a piece of paper has to be physically signed. The legislation in New South Wales I know has been changed because Concord hospital and, I believe, also the New Children's Hospital now issue orders completely electronically, using electronic signatures. Electronic signatures can be

at least as secure and, arguably, more secure than the normal form of signature.

My own company has an interest in the use of pen based technology and voice recognition. There are relatively inexpensive ways of a user of a computer signing his or her name in the usual way but having computer software that not only compares that to a specimen signature, but analyses it in terms of the speed with which it is written and the pressure at different points of the signature, et cetera. So it can be really quite sophisticated.

There are also electronic signatures which are more important in the context of ensuring that an electronic medical record is not tampered with. An electronic signature can consist of a whole series of things: the password of the person who is making that entry into the case notes; the time of the day; the location; and the text itself, through a mathematical formula, can all be translated into an electronic signature. So that even if a single character is changed—if a singular word is changed to a plural word—that will alter the signature and it can later be found to have been tampered with. The technology is already there to do that. Once you have that level of signature verification, then I can see no reason why electronic medical records should not have the same weight, if not greater weight, than traditional medical records have at the moment in a court of law.

Mrs ELIZABETH GRACE—If we are going into Telemedicine and using it in remote and rural areas—or as it takes three hours to cross London, just to get stuff across London, so it does not have to be rural and remote areas—there is not much point in having all this diagnosis and consultation if you cannot actually get the medication that may be needed, for example, because you cannot sign off a script or cannot get a script with an original signature.

Dr Schloeffel—No, precisely.

Mrs ELIZABETH GRACE—I notice in one of the submissions they said along those lines, that it is very difficult still in the United States. They will not accept any form of electronic signature, even though it may even be signed on video camera in front of someone. Do you feel that that is one way we could be doing things or do you prefer to go to the other, the technology side?

Dr Schloeffel—No. In principle, I suppose I do not have any problem with that, except that it would be difficult if it is signed in front of a video camera to ensure then, I suppose, that it had not been tampered with somewhere along the way. The fact that electronic signatures are not well accepted in the United States is an example of the backwardness of their legal system in this respect, rather than any limitation on technology.

Mrs ELIZABETH GRACE—And it has been suggested to the committee that computer illiteracy is preventing doctors—and we have spoken a little bit about this—adopting computer technology. Also, the doctors are expressing their concern about the traditional doctor-patient relationship, if there is a loss of this personal contact with patients. That is one thing that is perhaps preventing quite a large number of doctors from

going into the technology of uses of computers and things like that. Would you like to comment on that?

Dr Schloeffel—I believe that to get clinicians—and I use the word in the broadest sense, whether it is doctors, nurses or allied health professionals—to use computers during a patient consultation, you have to achieve four things: it has got to be very easy and intuitive to use; it has got to be at least as fast as it is being done at the moment; it has got to add value, which Professor Mackinnon alluded to before; and it has to be non-intrusive. It has to enhance the encounter process, rather than detract from it.

My company has a particular interest in this general area which I would call the user-computer interface. There are techniques, particularly going back to the use of the pen and pad, to enter information which decrease the intrusiveness of computing in the encounter. For instance, we have a system for asthma care which is being installed at the Queen Elizabeth Hospital in Adelaide at the moment. In its use in outpatients, the medical specialist will have a physical device called a digitiser tablet, which is about the size of an A4 sheet of paper and sits on the desk in front of them. There will be no keyboard on the desk between the patient and the doctor, there will be no monitor and there will be no PC on the desk—the PC will be under the desk. The specialist will have a pen which is not dissimilar to an ordinary biro. On this digitiser tablet in front of the doctor will be a full colour image, the same as you have on a normal monitor. For the patient sitting across the desk, it is really very little different from what has become well accepted—that is, making notes into paper based case notes. Once the clinician becomes adept at using this system, it minimises the intrusion.

It can also enhance the consultation. For instance, if the patient is a diabetic with a problem controlling their blood sugars, then the specialist or GP can produce a graphical picture of the blood sugars going out of control. That specialist or GP can turn that digitiser tablet up so that the patient or he can see it. Alternatively, he can get the patient around the same side of the desk. It can be used as an interactive education device.

Mr FORREST—Doctors will have to learn to write clearer than they do on scripts.

Dr Schloeffel—There is a big misapprehension about pen computing, which has, unfortunately, been promulgated by some of the less well informed computer journalists. At this stage, it is not about translating anybody's handwriting—let alone doctors'; it is about a much more natural pointing and selection device. In most instances it really does not do much more than a mouse, but it requires a lot less eye-hand coordination and is a much more intuitive device to use.

It is very good at recording numeric information. That has been done in several of the programs that we have got running at the moment. But translating doctors handwriting? No, it is not up to that. However, within the next couple of years, the quality of speech recognition software will improve to the point where it will be used in conjunction with the pen as a pointing device for recording ad hoc comments, if you like, or things that can be selected from a list or from yes or no buttons. I do not think it will

replace the pen. I think, as in everyday communication, the combination of a pen as a pointing device and voice recognition will probably replace the keyboard.

Mr FORREST—Can I ask a question about the privacy issues. Your submission drew my attention to the presence of an Australian Standard which I was not aware of. I note that you have developed that further. Is that because there are clearly deficiencies in the Australian Standard 4400, which relates specifically to the protection of health care information? Did you just want extra protection?

Dr Schloeffel—I think it is a very good standard. What you are referring to is the patient confidentiality provisions in our diabetes program where the patient can decide, in conjunction with the doctor, the level of authorisation for use of their data. I guess that is an extension of that standard, but that is not because there is any real deficiency.

Just to give an example of that. The patients can decide whether they will not let any electronic information be kept on them; they will allow the doctor who is immediately involved to look at their information but nobody else; they are prepared to share the information with selected other specialists, or they are happy to be recruited for research projects. There is a whole series of levels that they can agree to.

An interesting thing happened at a conference I attended in the US earlier this year. The US is generally considered to be the home of civil liberties. We were talking about allowing the patient to opt out of the electronic maintenance of records altogether. That amazed the American academics and experts in this field who were present because the American citizen has no choice about whether an electronic medical record is kept or not.

One of the reasons we have put this into our system is that it just so happens that there is a small religious sect in Australia which does not allow any electronic communication or electronic device in their homes. In the area of the Flinders Medical Centre where we are installing this system there is a group of those patients that we were cognisant of. It may eventually be to their detriment if they do not allow electronic records to be kept on them, but that is their choice.

CHAIRMAN—What sect is that?

Dr Schloeffel—The Exclusive Brethren, I believe.

Mrs ELIZABETH GRACE—How do they get on without a telephone?

Dr Schloeffel—I am not sure. I do not claim to be an expert on that.

Mr FORREST—You will always get groups like that. That is one area where a disaster could occur. When some information is released, you can rest assured that it will be on somebody like that. Do you think that that standard needs to be upgraded in any way to embrace some of the aspects that you have given more attention to?

Dr Schloeffel—The standard has only been in existence for about a year. I think

any good standard evolves over time. I am sure that the people who wrote that standard would be the first to agree that it is a living and evolving document. Maybe those sorts of things could be added. It goes a long way further than most other standards of that type elsewhere. I think Australia is leading the world in this area.

Mr FORREST—What about the Commonwealth's role in this? We are trying to get a handle on the expectations of the role the Commonwealth has to play. There are certainly identified areas like the standardisation of terminology and so forth. Does action need to be taken in the area of privacy or should we be comfortable with letting it evolve, as you said?

Dr Schloeffel—I think security and privacy must be a Commonwealth government responsibility in the final analysis. It can be delegated to some other authority, but it certainly should not be a state based facility. I totally agree with Professor Mackinnon about medical registration being national. I think issues of privacy and security of health data should be national as well because increasingly we will be transmitting textual information from medical records across state boundaries and across international boundaries not just voice consultations.

CHAIRMAN—Just picking up on what you said: at the present time, paper files and telephone conversations are not very secure. A lot of concern has been expressed about the difficulties with electronic matters. There is probably a higher level of security given by computers than existed in the old style doctor's surgery.

Dr Schloeffel—I would certainly agree with that.

CHAIRMAN—Particularly with encryption.

Dr Schloeffel—Although the other side of the argument must be put—that is, if somebody gets into your surgery files, they can take a handful of files and that is a problem; but, if somebody manages to get into an electronic medical record database, they can have the records of tens of thousands of people. It is the scale of a potential breach of security which is much greater under electronic means.

Given that, as I have said in the submission, you do not need rocket science to develop some fairly commonsense security measures which will make the information at least as secure as any information we have got at the moment.

Mrs VALE—I would like to talk about the pilot projects that you have at the moment, especially in view of our conversation where you were telling me of your experience with older people not seeming to have too much of a problem with some of the new technology. Could you give us an overview of how your pilot projects—MCARE diabetes, MCARE asthma and MCARE community—impact on the health care that you have described?

Dr Schloeffel—MCARE community is a patient management system written for the Royal District Nursing Service of South Australia, which is the main community

nursing organisation in this state. It is designed to document all aspects of the nursing record so it is a completely paperless nursing record system.

It was under development for almost two years. A lot of that was not in developing computer programming but in developing standards within community nursing. It underwent its acceptance trials in South Australia in March and April of this year, which were very successful at the level of acceptance from nurses, from their patients and from management of the RDNS.

Unfortunately, we have a hiatus at the moment because the money that the RDNS thought they had to purchase the hardware to run this on evaporated somewhere in budgetary restrictions at a state level. So there is no money for the hardware, but they have paid for the software. There are a number of other community nursing organisations around the country, and we have also had interests from overseas who are interested in that program but, until they can see it up and running in a live, everyday environment, they are not going to commit to it.

As to what Mrs Vale was alluding to before, during this two-month trial, after the trial had been going for several weeks I spent a day out with one of the nurses visiting a number of elderly patients in their homes. There were only two responses to the use of computers during the consultation. It was either they were really not worried about it at all, they took no interest in it or—particularly when they knew that I was a medical practitioner involved with the project—they were very keen to tell me their thoughts on it, and in every case they were positive. That was also borne out by a sociologist that Telstra had brought over from Melbourne to do interviews for a large number of patients, and also the nurses, so it was very well accepted.

Mrs VALE—Doctor, the nurse actually accessed the computer records in the patient's home; is that right?

Dr Schloeffel—Yes.

Mrs VALE—I do not anticipate that the patient would have had a computer terminal there?

Dr Schloeffel—No.

Mrs VALE—Did the nurse actually take a portable or a laptop or something? Is that how it actually worked?

Dr Schloeffel—A portable computer, again using the pen. They had access to a keyboard as well as a pen, but they could use a pen for most of the consultation. They also had the facility, through the Telstra mobile network, to relay information back to the head office computer and to get information that they did not have locally over the radio waves back to the patient's house.

Mrs VALE—Great. I just have one more question. It has been put to the

committee that Australia could be left behind technologically if the health care system continues to conduct pilot projects instead of routinely adopting Telemedicine. Would you like to give us your views on that thought?

Dr Schloeffel—I think Malcolm Mackinnon addressed that fairly well, and I would agree with him that the project is a pilot until they succeed perhaps in new areas of technology. I think in our case, where we are using some fairly novel techniques like pen computing and wireless data communications that are not very well established even outside of health care, let alone within the health care sector, I think pilot projects are very important to us to gain the confidence of the people using the systems and also as a proof of concept because the medical profession is a very conservative profession. Even if we have run a successful pilot project here in Adelaide and we go up to Brisbane, they are not going to be convinced unless they can either see a fully operational system running down here in Adelaide or unless we repeat the pilot in Brisbane.

Mrs VALE—Thank you.

Dr NELSON—I must say, when you referred to a small religious group that would have problems with it, I thought you were going to name one or two medical organisations. I have two questions. With the race to deregulation of the communications industry in Australia, particularly beyond July next year, what impact do you think the changing telecommunications environment is going to have on the development of Telemedicine? For example, are we likely to see some of the large carriers competing to try and support infrastructure development in this area and—

Dr Schloeffel—It will have an enormous benefit, I am sure. I am not sure that you have taken evidence from Victoria yet, but Ken Buxton of ACCI, who is one of Australia's leading Telemedicine authorities, has a passion about the telecommunications cost limiting the use of Telemedicine at the moment, and perhaps artificially limiting, in particular, the cost of ISDN from Telstra. I think the deregulated environment will have enormous changes in that area.

Malcolm Mackinnon alluded earlier to the low earth orbiting satellites. It is only three years from now until we have a worldwide network of low earth orbiting satellites. Nobody is quite sure of the impact of that, but that will compete directly with the broadband fibre networks, so I think it will have a dramatic impact.

Dr NELSON—The second thing Professor MacKinnon raised was that he saw a necessity for a national coordinating group, a consultative group—whatever he wished to call it. What is your view of it? If you supported such a proposition, how do you think it ought to be structured?

Dr Schloeffel—I do support it and I think it should be run primarily by the profession. But, if it is a committee, there should be some members from government and, I guess, the inevitable consumer representative. But I think it should primarily be run by the profession.

One of the issues which Professor MacKinnon took up was medical consultation by Telemedicine from one state to another. A further issue is that of a medical consultation between, say, Adelaide and Kuala Lumpur where you really get into problems with medical registration, et cetera. I think it is important that national governments come to some agreement on where the Telemedicine consultation takes place.

I am not sure whether it was in one of the submissions or some of the other readings that have been done recently, but the suggestion was that it would be far simpler, from a legal point of view, if the consultation is deemed to have taken place at the remote site rather than where the patient is. If I am here in Adelaide, I am subject to South Australian or Australian medical jurisdiction, not to Malaysian jurisdiction or Singaporean jurisdiction.

Mr FORREST—I am interested in your comment on the telecommunications costs and so forth. I would be interested to know if, in any of your work, you have come across some limitations in the infrastructure. In rural Australia that is still a problem. There are many areas that do not have the in-ground infrastructure to enhance all of this. Have you struck that in what you have done so far?

Dr Schloeffel—Yes, we have. For instance, the Royal District Nursing Service, the community nursing project, had regional—the structure has changed somewhat over the last 12 months—centres as well as metropolitan centres. We would have had to adopt a completely different system for data communications in Whyalla—let alone Marree, where they had one nurse—because the data communications networks just do not exist outside metropolitan areas. Again, I believe the low earth orbiting satellites will completely take away that barrier within three years.

Mr FORREST—I hope it is less than three years—18 months if we can do anything about that. I represent a rural area and I have exchanges and schools that cannot even get on the Internet yet. It has been very much neglected. But I am interested in the question about the potential for Australian involvement in the region internationally through Asia. Obviously, it is an area of commercial interest to you. We have had a range of opinions expressed to us—from enthusiasm to comments that we should get our own ship in order here. Where do you sit in terms of all that potential?

Dr Schloeffel—As I have outlined in the submission, I think our best chance is by concentrating on niche areas that we are good at, in terms of development. My own company, MCA, has chosen to concentrate on the area of the direct interaction between the clinician and the patient. To narrow it down further, it will concentrate on mainly chronic disorders, like diabetes and asthma, and chronic obstructive airways disease which lend themselves to this model of coordinated care. We were already starting to develop that software before the COAG trials, which are currently under way, were announced.

To develop a whole of hospital system—a clinical system, for instance—costs something like $US50 million or $US60 million minimum. I do not believe that the size of our market can justify anybody doing that. The cost of developing the sorts of applications we are developing for specific conditions or specific types of health care is

orders of magnitude less than that. We can gain expertise here in our local market first but then transport that overseas very readily.

The problem is not so much in development but in marketing, for which there are two main strategies. MCA's strategy is to align ourselves to multinational organisations which already have the infrastructure in computing in health care overseas—in our case particularly with IBM. An alternative approach would be to put together networks of Australian companies that can gain marketing clout by combined size.

CHAIRMAN—How much time do you spend on MCA compared to general practice? I am amazed you have any time in general practice at all.

Dr Schloeffel—The general practice work I do these days is pretty well all after hours and I spend around 30 hours a week on that and 40 to 50 hours on MCA. That would not be unusual for a lot of medical practitioners and probably not for politicians either, I suspect.

CHAIRMAN—I think we tend to work 80 to 90 hours a week. But I can understand the difficulty you have in fitting everything in.

Mrs ELIZABETH GRACE—The submission refers to the Department of Health and Family Services IBM Consulting Group report that estimated savings of some $150 million per year to the Australian health system. We raised the question of savings with Health and Family Services during their evidence in Canberra. The department was reluctant to accept the IBM figure, noting that no accurate estimate had been made of these cost benefits of communication and technology in the health system. Would you like to discuss the cost impact studies as they have been undertaken by your company?

Dr Schloeffel—Given the very small size and the niche nature of our business, we have not been able to undertake any meaningful or significant studies in cost savings of implementing clinical systems. In diabetes we looked carefully at the international literature and produced a lot of figures for the South Australian Health Commission on what we believe are realistic cost savings through the implementation of our software. But there is no doubt that there is a dearth of information on the cost savings.

I have read the Department of Health submission—I have read all of the submissions in fact—and I can understand their reservations about accepting the IBM figures completely. They were certainly extrapolations but they were not just based on guesstimates; they were based on firm trials and studies that have been done overseas. But I would imagine that the true savings from a medication management and electronic prescribing system lie somewhere between the extremists who would say, 'It's not going to save us anything; it is going to cost us a fortune' and the IBM view that it would save $150 million a year.

Mrs ELIZABETH GRACE—When Professor Sanders was here at the Technology Australia conference, mention was made of the fact that there will be a—for want of a better word—disenfranchising of the lower socioeconomic group. Because they

will not have access to computers and things like that, low income earners will be unable to afford computers or will not have computers and this will create a lower class or a different class of people. What is your view of that?

Dr Schloeffel—It is not so much related to socioeconomic standing in the community but to education. Certainly there is a link between socioeconomic status and education. But where education departments have selected focus schools in disadvantaged areas—where they have singled them out—for particular programs, for example, in Information Technology, they have done very well.

I do a lot of after-hours home visits and I work in both the more affluent and certainly the very poor areas of Adelaide. Even people who are unemployed and living in very basic accommodation will very often have a computer which their children are using mainly to play games on, but they will have a larger television set than I have—and I am not saying whether that is good or bad, but it is a fact of life. You cannot necessarily relate it to their economic or social status.

Mrs ELIZABETH GRACE—When I asked that question of one of the other groups, they suggested that a lot of Telemedicine or Telehealth would go from clinics to doctors and vice versa and that until it became home orientated it really would not affect any particular group of people.

Dr Schloeffel—You are right except that children in better educated, professional households will surf the Internet at a fairly early age. Children of the unemployed and socially disadvantaged in the northern suburbs of Adelaide will not. They may well have the technology but they will play *Doom* or *Space Invaders* because they do not have the educational input. That is a matter of education rather than socioeconomic standing.

Mr FORREST—In your submission you talk about Australia's role in international health dissemination information and you refer to a software company in Australia—Sausage software. I have used that program. It is designed to help you write the home page but I cannot see its relevance in the work that you do.

Dr Schloeffel—I only used that as an example of how a small Australian company can be very successful in a very short space of time using techniques like the Internet to both market and disseminate their software—not that it has any relevance to health care computing.

Mr FORREST—Yes, sure. It is a success story.

Dr Schloeffel—An amazing story.

Mr FORREST—Not even 20 years of age and he is a multimillionaire already.

Dr Schloeffel—The Internet will be one of the great levellers. It will allow small countries to compete almost on an equal footing, because on the Internet there is an old saying, 'Nobody knows you're a dog on the Internet'. You could be an IBM or a one-

person company which is the way Sausage software started.

CHAIRMAN—Dr Schloeffel, thank you for appearing before the committee today. We will send you a draft of your evidence for you to correct.

Dr Schloeffel—Thank you.

[11.06 a.m.]

MOORE, Dr Tony, Director, Medical Teleconferencing Pty Ltd, 137 East Terrace, Adelaide, South Australia

CHAIRMAN—Welcome, Dr Moore. Would you like to make a brief opening statement perhaps highlighting some aspects of your submission of which you would like us particularly to take note? We have received your submission, circulated it to members and hopefully they have all read it. You might like to emphasise some particular points.

Dr Moore—I suppose a brief history is probably the easiest. I am a plastic surgeon and I have wide and varied interests in the field of plastic surgery. Plastic surgery, as you may know, is a very visual field. A lot of what we actually do relates to what we perceive, what patients perceive and how we look at skin, whether we see skin cancers or whatever else. It is not really hands-on until we pick up the knife and do something about it down the track. The initial consultation is very much a visual episode.

I work from Adelaide and I do a number of country visits as well into areas like Balaclava, that drains the mid-north, down to Murray Bridge, which takes in the Riverland area and the lower limits, and Naracoorte. A lot of the patients that I actually see come from country areas. There has always been a problem with the distance that they need to travel if they are not going to be seen on the one visit that I do per month or in the post-operative care that we then give to some of those patients if there is a problem. It is also extremely frustrating for someone to have to travel a couple of hundred kilometres to come back for a small check when really all I am going to do is pat them on the head and say, 'Yes, that is fine.'

My interest in telecommunications, if you like, came by chance. I will say, first of all, that I have a completely computerised practice. I work with a computer and the actual image on my desk. I use that for imaging. I take patients' profiles and change them. As such, I am fairly computer literate, which is what a number of specialists are as well.

One of my patients that I was exposed to many years ago is a computer software programmer. He is now the vice-president of a company, operating out of the United States, that produces a little blue box. This little blue box enables compression technology. It is just one form, if you like, of the different hardware that is available for medical telecommunications. It uses an ISDN line—and this is probably preaching to you already. The blue box is different in that you do not need to run it through a computer. It can actually plug into a Macintosh, into a UNIX system or a PC, or, for that matter, you can plug it into a standard TV that has an AV input and have a little handset. So you do not need a computer to drive it at all.

All of a sudden, I saw the answer to a number of things that I saw in my practice that could be taken further, particularly since, through the field of telepsychiatry, there were a number of sites already set up in South Australia that do have Telemedicine. This little blue box also gave us the ability to talk to those systems. We have set up and are currently using a form of teleconferencing or doing consultations at a distance.

CHAIRMAN—This is your company?

Dr Moore—This is our company. The company has a number of aims. Firstly, and most importantly, if we can establish a group of specialists or, for that matter, any group of doctors on a network, then that network would be available to the existing systems that are there already for the purpose of consultation and/or advice to peripheral GPs. There is an increasing trend for private casualty services that are existing in hospitals at the moment to use this. One of the hardest things they find is having specialists that will come and see them. There are so many of these springing up that they have difficulty manning them. If you can give advice from a distance, then you have solved that problem. Therefore, the private casualty services are also interested in this. It is providing, if you like, expertise at a distance in South Australia.

The wider picture—and we have made a number of trips into Asia—is that medical expertise in Australia is highly recognised and we are on the same time basis as the rest of Asia. Already we know that the Americans are selling lecture time into Asia. For example, Gleneagles Hospital in Singapore has a regular relationship with a number of the universities in America, but they have to get up at 3 o'clock in the morning to actually listen to their lectures. If we have that expertise in Australia and we can deliver it at a distance as well, then we have got the possibility of selling Australian expertise. By first of all giving that expertise to Asia, we establish credibility and there would be consultations that follow from Asia as well.

CHAIRMAN—What changes in the medical benefits schedule would you like to see, obviously not with respect to dealing with Asia but with respect to your local arrangements?

Dr Moore—I represent the private sector and I cannot see that it is going to expand locally unless you make it a win-win situation. Therefore, you have to enable the people that use it to get something out of it. I feel that if you actually gave an item number—and that is probably one of my main reasons for coming here today; I know that there is some argument about this issue—for consultation at a distance then you would actually have a large number of people who would be prepared to fund it themselves and provide that service themselves. You would then expand it quite rapidly.

CHAIRMAN—At what level would you pitch that item number? Would the fee be higher or lower than that for a face-to-face consultation?

Dr Moore—I think it should be a slightly lower fee and the reasons for that are that it is a slightly lower service that is being given. You cannot really, using a telecommunications system, provide the same kind of service as when you can touch, feel, examine and whatever else.

CHAIRMAN—That is a fair enough comment. Professor Mackinnon suggested this morning that there should be a higher fee to take into account the extra time it takes to make such an electronic link.

Dr Moore—I would probably disagree a little. I think, first of all, that it should not be a bulk-billing situation because bulk-billing, and this is my personal feeling, is open to abuse in all situations. I think that a co-payment of some kind will actually keep most people honest because you have a patient at the other end who is actually expecting something in return for the money that they hand over. I believe that that probably should exist throughout all of the Medicare system. However, that is a personal belief. If you then include that—

CHAIRMAN—We have an election commitment to keep it.

Dr Moore—I realise that. But nonetheless that is still my feeling on the whole thing. You will actually have much better control if people are putting in something themselves. They will be expecting something for it. Therefore, I think that your Medicare rebate for teleconferencing should be slightly less than the standard fee that is generated for a consultation, but the gap can be made up by a co-payment by the patient. Therefore, the expectation of getting slightly more for it may well be there, but it also gives the consultant or whoever else the ability to vary that as they wish. So for those who are socially disadvantaged you can say, 'I will accept only the Medicare rebate.' I would disagree that it takes a lot of time to do it. It is basically a telephone call. I use it regularly at the moment. Initially we have set up a time—

CHAIRMAN—Even though you do not get paid?

Dr Moore—Even though I do not get paid. At the moment I provide it as a service to country GPs to offer education and advice to them. I get paid eventually because when they come to see me and have something done you charge the consultation and whatever else you might—

CHAIRMAN—But only once, even though you may have had two or three telephone consultations on the way through.

Dr Moore—Yes. Until you get to the stage that the consultants will be able to expect some standard remuneration for their time and effort then you are going to have great difficulty expanding this unless you keep it within the public hospital system.

CHAIRMAN—How advanced is Medical Teleconferencing towards achieving its aims to expand into overseas markets?

Dr Moore—We have made a number of visits to Asia over the last six months. As far as signing contracts and the like with people is concerned, we have not done so as yet. However, we have as one of our members David David, who is head of the craniofacial unit here in South Australia, and we do have expressions of interest in Jakarta and Kuala Lumpur. We recently had a telelink with the Malaysian Minister of Health, when he was down here in Adelaide, back into Kuala Lumpur. They are quite keen to actually sell lecture time into the universities.

CHAIRMAN—Just two brief questions. There has been a lot of discussion over an

appropriate definition for Telemedicine or Telehealth. The terms at times seem to be used interchangeably, but there is no standard definition. Do you think that would be an advantage?

Dr Moore—No, I do not think it matters really. What is in a name? It is the delivery of the system which is important, and you can call it whatever you like.

CHAIRMAN—Just as long as we know what we are talking about.

Dr Moore—Exactly.

CHAIRMAN—Secondly, have you been involved in any pilot projects, particularly in rural and remote areas of this country? If so, to what extent have these projects enhanced knowledge about the place of Telemedicine in our health system?

Dr Moore—I am not much of a believer in pilot studies; I would much rather get on and do it. I suppose that is the surgeon in me. Basically, it is a matter of saying, 'This is like a telephone, this is like a fax.' I am not going to actually ring around a few friends and work out if it works first. I would much rather actually put it in practice and use it.

CHAIRMAN—A lot of people would be sympathetic to that approach, particularly as we appear to have had so many pilots and not too much long-term implementation of the technology.

Dr Moore—The only way you are going to work out if it works is if you do it.

Dr NELSON—I had better restrain myself a bit, but I would like to come back to your comments about the billing side of it. Every person who has spoken to us has raised the issue of how it is financed as being a major impediment to progression. Most people we have spoken to seem to support an item number at least in the Medicare Benefits Schedule.

Would you support perhaps a proposition that the service needs to be initiated by another medical practitioner or nurse, for example? That would make it a bit like the referral situation so, whilst the vast majority of doctors are very good, there are one or two who will find a way to abuse anything.

CHAIRMAN—That would happen in any case.

Dr NELSON—Yes. That is one suggestion. The other thing is I strongly support your idea—again, just as one member of the committee—that it not be a bulk-billed situation. We have heard a lot of testimony from people who feel that there are cost benefits in all of this. Many of them are intangible, but most of them actually relate to the patient who is receiving the service, the beneficiary. So I think it is probably worth arguing it from the point of view that, if you conduct a Telemedicine consultation and provide a service to a person, it is that person who benefits in terms of time, travel costs and all the rest of it. Do you feel that the profession as a group would be able to negotiate

such a thing?

Dr Moore—Firstly, I come as a specialist and therefore I do not see anyone unless they are referred by a GP. You cannot actually raise a consultation as a specialist unless you have an active referral, and I make it a basic premise with all of my consultations that they need a referral first of all. So there is that safeguard, if you like. I am talking particularly on the ability of specialists to give advice to country GPs, which is much the same thing as what they send them to me for in the first instance. Currently, they have a patient with a problem. They would travel to Adelaide and see me, or they would wait until I went to that site. I would actually see the patient and then I would write back to the GP.

What I foresee is a session whereby a series of patients would have appointments made by their GP to see me with a current referral. The referrals would be either faxed or sent down along teleconferencing. The ability is there to use a document camera, if you like, at the other end, which is simple and cheap, and you just take that image and put it on your own computer. What would then happen is that you would see a series of patients. You would actually give them advice. You would initiate whatever treatments are necessary, if any at all. And then you would write back to the GP, in exactly the same way as you do a consultation at the moment.

Dr NELSON—I know you would have concerns, but are there particular medico-legal concerns, medical indemnity issues, that you feel need to be addressed with all this?

Dr Moore—I am currently registered in the Northern Territory, New South Wales and Victoria, as well as South Australia, and that is because I have been operating in those states in the past. I have a particular interest in laser surgery, and I teach laser surgery to plastic surgeons around Australia. As you do that, you are often going into other sites to do it. From a registration point of view—it is easy for me—I would endorse what the professor said this morning in that some form of national registration of medicos in general would be desirable.

Dr NELSON—But in terms of the quality of advice, if you are making an assessment of a lesion on a person who is in a remote site, is the quality of your advice likely to be such that your medical indemnity organisation is not going to be concerned about it?

Dr Moore—I have spoken to medical defence regarding this matter because that is pertinent from my point of view as far as giving advice on the phone. There are always limitations. However, the technology is improving considerably at the moment. The camera and the abilities of cameras to capture images are such that you can almost have as clear a picture on your screen now—and even better with magnification—than you can generally see with your own eyes. So from a visual point of view—and it always must be visual and you need to stipulate that—the advice that you give based upon that is as good as what you would do in your own consulting rooms. There is always the possibility that you will not be able to feel a lump—for example, to feel neck nodes or things like that— and that will never be overcome, not in my lifetime as I see it, by this form of visual

teleconferencing.

You asked a question also about funding. If I can speak on that, if you actually make it reasonable that the specialist or the practitioner will be able to raise revenue from his own consulting room and not have to travel, you will find that they will be quite prepared to fund things themselves. We are not looking at an enormous amount of expense now—$12,000 to $15,000 will set you up. The cost of ISDN telephone link-ups is about $1,000 per annum, and it is about $400 to install an ISDN line. Then you are looking at about 1.2 of a standard ISD telephone rate. That is as it is at the moment. With deregulation in July that will probably come down and be more affordable.

In the distant sites, you will find that already in Naracoorte the women's auxiliary group associated with the hospital are raising money to buy one because they see that it is an advantage for them not to have to travel back and forth to Adelaide the whole time. If you can provide this service, they will fund it themselves.

Mrs VALE—Dr Moore, the ethical and privacy and legal concerns in relation to medical technology in stored information databases has been registered as a great concern here before the committee. Would you like to comment on that in view of what was actually happening in the past when security has not actually been at optimum level?

Dr Moore—You will find that the digital system is actually far more secure than the analogue system. If you wanted to tap into my conference or my consultation, you would need some fairly sophisticated equipment to be able to do so, and you would need to go into the link which is occurring at this stage in the Telstra office to do so. I have no hesitation at all about talking with a GP on the phone about a patient, and I do that quite regularly. I do not feel at all that somebody is listening or that is going to be used in any other way. This is purely another form of telephone but with a picture. So I do not have particular concerns regarding that.

If you are talking of ethics, then I would like to think that we are all a very ethical group anyhow, and the type of service that I am going to provide is going to be ethical whether it is in my room or whether it is going to be by way of a telephone system.

Mrs VALE—That leads me into exactly what you are saying about ethics. It has been put to this committee that some technology advocates have concerns over access. We feel that maybe the concerns might be misplaced in the fact that very few people would be interested in actually accessing personal information about patients. Would you like to make any comment about that?

Dr Moore—The way that they are going to access that information is either by way of tapping into our telephone calls—as I mentioned earlier, I do not see that as a real problem, particularly with digital technology at the moment—or by way of linking into my computer, where that information is stored. I have a number of computers in my room. The computer which acts as the file server does not have access to a modem, so there is no ability for anyone to actually dial into my computer system and take any information out of it.

I have another computer which primarily collects data, which accesses the Internet, et cetera. That link is actually turned on only while we are there during the day and it is turned off at night, so it is impossible for somebody to access that, as I see the system at the moment. There are safeguards. You do not have to leave all your information turned on the whole time. It is pretty easy to store it on a file server, which actually works much faster for you, and not have that having access into the great Internet, if you like.

Mrs ELIZABETH GRACE—It was mentioned earlier this morning, keeping on that theme, that it is much easier to download tens of thousands of files instead of just picking up a box full, or a filing cabinet full, of files. Do you think there is enough security around for that sort of thing?

Dr Moore—You need to create the security. You need passwords to be set in place before you can get access to that information. We do that as a matter of routine with our patient information at the moment, just on the off-chance that somebody was able to hack their way in while we were working and unaware that they were actually doing that. So, first of all, they would have to get through an electronic password.

I think it is exactly the same way at the moment with our safety, if you look in the operating theatre. We assume that everyone is infective; therefore we take safeguards to the extreme to make sure that everything is covered with sterility, et cetera. If you assume that somebody out there wants to get your information, you will put in all the safeguards that you can at this stage to make sure that they do not get it, and that is by way of electronic passwords and by making your information as inaccessible as you possibly can to the public at large.

Mrs ELIZABETH GRACE—You have touched on this a little bit before, about the rural and remote communities and what you are doing at Naracoorte. Do you see this as being fairly viable for these areas? It sounds like it is, from what you are saying in those parts.

Dr Moore—The company that we have set up, MTC, is comprised mainly of specialist doctors and their interests are much the same as ours. We can then provide our service to the country far more readily and have much greater care for those patients, if you like, with their follow-up than currently, whereby we actually send stuff back to the GP and leave them pretty much on their own. I think it will be viable if you can actually raise a fee for a teleconference.

Mr FORREST—Mrs Grace just asked my question, but I would like some information that justifies the optimistic view you have in your submission about the cost effectiveness of all this. One of the things the committee is looking for is some really hard data on this, but it has not been done in a comprehensive way. You are obviously quite convinced about the cost effectiveness. You have reiterated that again today, but have you done any evaluation or—

Dr Moore—Or pilot studies? No. When I went out into practice, I did not do a pilot study either. I actually went out and started working, and it worked very well.

Mr FORREST—You cannot replace enthusiasm like that.

CHAIRMAN—Since there are no more questions, thank you very much for coming before the committee this morning, Dr Moore. We have found what you have said very interesting. The secretariat will send you a draft of what you have said. If there are any mistakes made, could you please correct them and send the draft back as quickly as possible. Thank you.

Dr Moore—Thank you very much.

[11.30 a.m.]

McLEAY, Dr Rufus Andrew Barton, Rural Councillor for South Australia, Australian Society of Consultant Physicians in General Medicine, c/- RACP, 145 Macquarie Street, Sydney, New South Wales 2000

CHAIRMAN—Welcome. Do you have any comments to make on the capacity in which you appear?

Dr McLeay—I am here essentially because I am a councillor on the Australian Society of Consultant Physicians in General Medicine. I am the rural councillor for South Australia and the president of our council invited me to respond to the request for a submission.

CHAIRMAN—Dr McLeay, an endoscopist—are you a gastroenterologist?

Dr McLeay—No. I belong to the Society of Consultant General Physicians. General physicians have a number of skills which include endoscopic, gastroenterological skills, cardiological skills, rheumatological skills; we cover the breadth of internal medicine. I am not a subspecialist like a cardiologist, gastroenterologist or a rheumatologist. I might add that in rural Australia the majority of medical specialty services are provided by general physicians rather than subspecialists.

CHAIRMAN—Thank you. We have received your submission, and circulated and read it. Would you like to give us a brief opening statement, perhaps highlighting some aspects of which you would like us to particularly take note.

Dr McLeay—No. I would rather make some additions. I did not refer in any depth to Telemedicine. I am not quite sure why. I was actually invited to appear here because of my personal experience as a potential rural user of Telemedicine services. If that is the case, then I might be answering questions in that capacity, rather than as a councillor for the consultant physicians group. I would certainly be happy to do so. It would be a refreshing change for end users to be asked about things that might be put in place.

CHAIRMAN—What do you mean by Telemedicine? There are a lot of definitions around. Some people use the expression Telehealth; others use the expression Telemedicine. So, firstly, what do you see as being an appropriate definition for Telemedicine?

Dr McLeay—It is really any medical practice that is carried on with a picture. I think it implies the use of a picture, but when I wrote my submission I referred to a very broad definition that was based around electronic services. On reading the other submissions, there is clearly a major thrust towards the visual aspect of Telemedicine. The only direct experience I have had of that is with teleconferencing into Port Lincoln, which is where I practise. In the educational sense, we had a series of seminars that were transmitted via a telelink over a couple of years before it folded because of poor access to

the TAFE college where the equipment was. I am aware of the renal Telemedicine project that has been run from the QE.

CHAIRMAN—The committee is visiting there this afternoon.

Dr McLeay—Yes. I was not aware of Tony Moore's activities but, on hearing about them this morning, I imagine that most rural GPs offered that service would jump at the opportunity. It sounds quite exciting.

CHAIRMAN—It seemed to me, from what he said, that the costs are less than the costs indicated by some other witnesses. If Dr Moore's company is able to assist people in this way, then I would imagine there would be a much higher take-up rate than there would be given the figures that were quoted to us yesterday.

Dr McLeay—He is a surgeon and down the line he is going to make a substantial fee from doing an operation. That is certainly not the case for physicians, who make the bulk of their income from consultation services, which are, I believe, poorly paid.

CHAIRMAN—As an end user, how do you see Telemedicine benefiting you and, equally importantly, your patients?

Dr McLeay—I might also add, regarding my submission, that, although I wrote that as a specialist physician, because I work in the country I am a member of a team. So I work daily with general practitioners and it is a bit hard to divorce what I do on a daily basis from that team environment.

One of the chief values of Telemedicine is the educational perspective. If you are isolated from a teaching hospital situation, having a visual link to tutorials that go on in teaching hospitals and grand rounds and being able to attend educational events are extremely important. If I want to go to a one-hour meeting in Adelaide, I have to get on a plane and fly there. If I leave my practice early in the afternoon, I usually cannot get a connecting flight back at night. So I have to stay overnight in Adelaide and start awfully early in the morning with the red-eye special flight back home. There is a really major geographical barrier to attending educational events. If you could just go and attend it virtually by sitting in front of a camera, that would be fantastic.

CHAIRMAN—Professor Mackinnon was very keen on the educational aspect.

Dr McLeay—Yes. The big development in education, I believe, over the last five years or so—developments have really been pushed along by the need to qualify your ongoing education activities or to quantify them at least—is interactivity. If an educational event is not interactive, if it does not serve the needs of the users out there, then it will not be attended and the information will—

CHAIRMAN—Putting aside the educational aspect—we can see that would be a very important use for the technology—with respect to clinical matters, how would you see you would use Telemedicine?

Dr McLeay—For me, at a clinical level I think there will be limited opportunities. If I had a sick patient, prior to transferring that person to a teaching hospital, it might be useful to take the patient—bed and all—into a conference room, hook up, talk to, say, the ICU that might be receiving that patient or a special unit in town that might be receiving that patient, present the case to them and have a bedside consultation over a telelink. That would be possible, and in some circumstances that would avoid the need to transfer that patient, although I think the real limitations in country hospitals are the lack of simple things like nursing staff and technological hardware—various imaging techniques. We do not have a CT scanner, nuclear medicine and various other diagnostic tools. So patients go for fairly pragmatic reasons rather than reasons of professional opinion.

CHAIRMAN—Your practice is based at Port Lincoln. You would no doubt get a lot of referrals from outlying general practitioners beyond Port Lincoln.

Dr McLeay—Yes, absolutely.

CHAIRMAN—Would you see any use for linkages between your own rooms in Port Lincoln and perhaps some of the general practitioners who might be quite remote from you? You would be a centre rather than a remote person.

Dr McLeay—Yes. Not for me personally because I need to examine patients, review records and a whole lot of ancillary information. I do not really see it would be practical to do that over a telelink. The visual types of specialities such as plastic surgery and the verbal specialties such as psychiatry can easily lend themselves to that kind of medium, but when you actually want to put your hands on a patient and examine them you cannot do that over a telephone or a videolink.

Dr NELSON—I think Dr McLeay has touched on something that I have been thinking about. First of all, as far as Dr Moore is concerned, he is a plastic surgeon. Clearly he has a financially successful and secure practice and so providing these sorts of services is less of a financial task, if you like, than it would be for doctors in other disciplines in medicine. But the thing that you touched on there which I have been concerned about is that there is a tendency for us to get carried away. We are talking about Telemedicine and all sorts of wonderful new technologies, but the needs of people in rural areas are in fact far more rudimentary. The hospitals are either closing or their roles have changed; there are inadequate beds, inadequate staff; there is insufficient day-to-day provision for the care of people, so my concern is that we are bringing in a space rocket when people have not even got access to a plane.

Dr McLeay—Yes, I agree. I have been aware of money floating around Canberra—and I use the word in its broad sense—for research into what people in the country need. It is simple: what we need is money. We cannot afford to pay a ward clerk so we have registered nurses running around all night, all evening at least, answering the telephone. Why train somebody to be a nurse if she is going to be a clerk? We have limited access to the things that people in the city take for granted, such as a mobile phone, and when the digital network comes in our phone service is going to fold. I have been liberated from a pager but have had to be within reach of a telephone for the last few

years by having a mobile phone. I cannot actually call the hospital from my house because it is a dead area and I do not get any service there, but when I am out and about I can at least be in touch, but when the digital network comes in that is going to fold. I am not going to get a digital phone because it will not work. So with Telemedicine I think we are playing with the fringes.

Dr NELSON—I know Mr Forrest will certainly back you up and ask you more questions because he represents a rural area, but in terms of the telecommunications priorities which would provide the greatest benefit for your patients and you and your colleagues, what would they be?

Dr McLeay—It gets back to education. If doctors do not maintain their professional skills, keep current with their knowledge, learn new techniques, have shows that somebody like Tony Moore shows them over a video camera, then patients are going to suffer. Most of the problems that I see in patient management result from people just not keeping up, and that happens at the general practitioner level and it also happens at the specialist level. Being able to discourse with colleagues, attend meetings regularly, could resolve that problem. As far as patients are concerned, ongoing doctor education is the No. 1 objective.

Dr NELSON—In terms of the telecommunications infrastructure itself, I presume your first priority is having the telephone.

Dr McLeay—Yes. There is an ISDN link into Port Lincoln, and I understand there are a couple foreshadowed for the redevelopment of the hospital that is going on now, but there is no firm plan to have the end unit for us to link up with. I am actually negotiating with the dean of Flinders Medical School to try and arrange something like that, but it is a fairly haphazard way of acquiring that kind of information. It is great to have a technologically sophisticated centre in the city but, if people out there in the periphery have not got units to interact in, they are going to be left out. So I think the emphasis should be on people in peripheral sites having access to what is going on in the city rather than people flogging their software.

Dr NELSON—I have one final question I want to ask. If there were a Telemedicine facility which enabled participation in continuing medical education programs being run from cities, would that assist in the attraction and retention of doctors in your area?

Dr McLeay—Yes, I think so. Port Lincoln is quite a nice place to live, but we still have trouble attracting people. I do not think we have had a new doctor for over five years.

CHAIRMAN—How far is it from Adelaide?

Dr McLeay—It was about a 40-minute flight this morning with a tail wind, but if you drive it is 7½ hours. It is about 50 kilometres short of the distance from Adelaide to Melbourne. That is not a sufficient reason for the state government to allow people to fly

to Adelaide for medical purposes, I might add. You have to take a bus. They will refund you the bus fare, which is 12 hours there and 12 hours back. Most 70-year-olds do not cope with that too well.

Mr FORREST—Dr McLeay, it is refreshing that you have taken the time. I want to thank you. Over the last two days, everyone that has given evidence has come from the metropolis. You are someone who is out there. I am pleased you have highlighted some of that neglect that has occurred in terms of providing a place like Port Lincoln with telecommunications technology. I suffer the same problem, and many of my schools cannot even get on the Internet properly yet.

Dr McLeay—We have had a local access call link since June this year.

CHAIRMAN—That is appalling. When they bring in these new digital phones, you are actually going to lose your analogue connection. So you will have less access to—

Mr FORREST—No, not with our policy. If digital does not have enough cover, then the analogue will be allowed to stay.

CHAIRMAN—That was my understanding.

Dr McLeay—The range of a digital phone is going to be less.

Mr FORREST—So the analogue will have permission to stay.

CHAIRMAN—So you will continue to have a mobile phone?

Dr McLeay—I will keep my analogue phone. I will not buy a digital.

Mr FORREST—Can I just tease out your point about the vulnerability doctors feel when they are out in rural areas. It is one of the problems that doctors feel. They go out there, and their access to professional development is all diminished. I see great strengths in videoconferencing into the universities to enhance that.

Dr McLeay—Yes. The isolation is partly perceived. I am actually paraphrasing somebody else, but doctors in the country tend to be so paranoid about getting behind that they struggle hard and keep up. When they go to the city, they are actually in front of their colleagues. Yes, if you are out there on your own and you are not talking to people on a day-to-day basis, then it is easy to feel isolated, left out, behind. Then, when the crunch comes, you have to make a decision, and that can be quite threatening. So to have regular contact, I think, would effectively remove that barrier.

I trained at Flinders. To be able to virtually walk around Flinders and attend meetings would completely wipe out that barrier. For the record I will say that the main reason 90 per cent of the time doctors come to Port Lincoln and do not stay is that their spouse does not want to live in the country. It is not that the doctor does not want to work in the country.

Mr FORREST—So, again, in terms of any cost benefit, these are intangible things that are hard to put a quantitative dollar value to, aren't they?

Dr McLeay—There are specific circumstances such as the renal unit. We have very few people who require dialysis in a population our size, so they have to travel to a speciality unit. I do not see enough people of that type to feel totally capable managing them. I do my bit at my end and they go to town and they see the nephrologist in town and then they come back and they see two people. We could sit down in front of a telelink and discuss the patient so we could do a joint consultation at the same time. That would avoid the need for people to travel to Adelaide and it would save dollars. It would save the patient dollars; I do not know that it would actually save the government any dollars. It would certainly save the patient disruption as well. That is one example.

Another example is pacemakers. The pacemakers that are being put in now are technically more complicated. In the old days you could use a small hand-held device to check them, but that is not the case now. Not only are they becoming more complicated; there are more companies producing them. So to get a device to check the pacemaker—they are worth about $2,000 or $3,000—you have to buy one for every company. You just cannot buy one that does all of them. Pacemakers now need to be checked in teaching hospitals that have access to that kind of equipment. But it should be possible to transmit all that information down a line to a pacemaker clinic in town and have the guy in town say, 'Yes, this pacemaker is fine.' You should even be able to reprogram it. I am probably the least computer literate person you have spoken to this morning, but that ought to be possible.

Mr FORREST—The Commonwealth operates the rural incentives program which is of some assistance to encouraging doctors to go to rural areas. Do you think there is potential in that encouragement to allow them to access the technology that would be worth while?

Dr McLeay—You would have to remind me what the rural incentives program is.

Mr FORREST—It is a massive problem. I have 24 hospitals; 12 of them are currently looking for doctors, Australian doctors will not come, and all of that. If an Australian doctor does go out, he is offered a rural incentive program, which gives capital funding—Brendan might know the details more than I do—to cover relocation and other investments. To identify access to technology needed to enhance their Telemedicine potential, even if it is only to assist them in the professional and personal development and contacting and cross-referencing certain diagnoses that they have to do, I see great potential in that.

Dr McLeay—I think that is one obstacle that could be removed—the feeling that you do not have enough training or that you could come across situations with which you cannot deal. Having immediate access to expert opinion in a town that you came from originally or to people that you know because they are the people that doctors generally refer to when they have a problem, I think removes one barrier, but I am not sure that it is going to solve your problem of getting people out into the country under its own merits.

That is why I made the remark about wives—usually wives, but spouses in general.

Mr FORREST—I hope my colleagues have taken note.

Dr McLeay—The other issue is the retention of doctors in country areas. That always comes up as secondary education. You either send your kids away to board or you leave. Most people leave.

Mrs VALE—Dr McLeay, firstly, thank you very much for coming. It has been a long way. Could you enlighten the fog of ignorance under which I labour. I am sure my colleagues all know but I do not. Exactly what is an endoscopist?

Dr McLeay—Endoscopy refers to looking inside. Any instrument that is placed into a cavity to see what is there is an endoscope. One that goes into the stomach is a gastroscope. We will leave the others.

CHAIRMAN—I thought endoscopy was one way and then colonoscopy—

Dr McLeay—No, endoscopy is a generic term. You can look in a knee and it is an endoscopic procedure, but it is arthroscopy.

CHAIRMAN—You can look at either ends of the body.

Dr McLeay—Yes.

Mr FORREST—There could be a camera that could take an image that you could sensor somebody for an opinion on, could there?

Dr McLeay—Yes. I am still using hand-held scopes that are partly owned by me and partly owned by the hospital. Overtures to the hospital to spend $180,000 on the video system required to do that have fallen on deaf ears. The hospital does not have that kind of money. We generally run in the red.

Mrs VALE—Dr McLeay, I would like to ask you some questions on the ethical, privacy and legal issues that have confronted the committee. It appears that people who have appeared before the committee are fearful that these issues are likely to arise in the delivery of health care via Telemedicine. Why do you think the adoption of telecommunications technology in health care delivery should cause such concern when, in fact, there has not been a great deal of security under the existing systems today?

Dr McLeay—I am not really in a position to speak about the technical aspects of security systems of computers. But it would not be too hard for somebody to break into my rooms and grab a whole lot of files. I think the biggest security risk in a day-to-day medical practice is when I dictate a letter, my secretary types it and posts it to the GP. If the letter goes astray or a fax with that kind of information goes astray or if my secretary's tongue goes astray, that is where problems arise.

Mrs VALE—I think the big problem today that people see with the computer database system is the scope of what can be accessed.

Dr McLeay—I am not in a position to comment. I type patient records into my computer now. I have been doing that for about three or four months. I still have a hybrid system where all my old notes are handwritten, and I still occasionally write when people talk too fast for me to type. But I am putting a lot of patient data onto the computer. You have to be able to get into that system to use it. It is not hooked up to anything outside. There is no physical link to the outside world; it is contained in a room. I do not see a problem with that.

Mrs ELIZABETH GRACE—In your practice you were saying that you are not linked up to anything outside, so you are not using any sort of telecommunications for radiology, pathology or those types of services?

Dr McLeay—No, but radiology is a specific instance where electronics could be useful. If there is an X-ray that I wanted an opinion on, I have to give it to the radiology department. They put it in a suitcase, it gets flown to Adelaide, reported overnight and flown back the next day. If I go and see a patient who has had a chest X-ray and the GP, who asked me to see the patient, has sent the film off for reporting, if I want to see the film before midday the next day, I have to take another one. If the films could be transmitted electronically—scanned in and sent down the line—that would save that problem.

Mrs ELIZABETH GRACE—That would save you a lot of time and a lot of angst if there is anything major.

Dr McLeay—Yes.

Mrs ELIZABETH GRACE—I do not know whether you are aware of a person named Jay Saunders from the United States, who has done a lot of work in Telemedicine. He was in Adelaide last month. In one of the reports he says that it is considered that health care revenue generated is staying in the rural sites, thus enhancing not only the fiscal stability of the hospital but also the socioeconomic fabric of the community. I know that is drawing a fairly long bow but, rather than looking at the fiscal side of it, what do you see as the physical benefit of keeping the patient within their own environment rather than having to put them on a bus for 12 hours to Adelaide and things like that? Do you see that Telemedicine, as such, could be of benefit in that way?

Dr McLeay—For certain categories of patients, yes, but not very often for the sort of people that I deal with. If you want somebody to go to Adelaide for a procedure, an investigation or another opinion, it is a major decision. It is amazing how many people are afraid of flying, and people just do not like going to Adelaide. They would rather take a chance and not have that opinion or that x-ray or whatever and stay where they are, so there is a degree of inequity of access to diagnostic services. I am not so sure that Telemedicine is going to resolve more than a small fraction of those problems.

Mrs ELIZABETH GRACE—Would you consider using telepathology and radiology if it became more readily available?

Dr McLeay—Teleradiology, yes. It depends what you mean by that. If you mean have a scanner in link and send the films down and get a radiologist's report and send them back.

Mrs ELIZABETH GRACE—Yes, and the same with pathology.

Dr McLeay—That would save us having to send people away for scans which we have to do all the time. But you still have to have the technicians there to actually run and service the machine. We had ultrasound services, but the biggest problem with the ultrasound service is when the ultrasonographer goes on holidays for a week or takes three days off because he is sick, then the service waits, there is nothing there.

Mrs ELIZABETH GRACE—Nothing happens. What about pathology, do you have—

Dr McLeay—We have a lab on site that belongs to the IMVS who are not too progressive in computing and—

CHAIRMAN—Belongs to?

Dr McLeay—The Institute of Medical and Veterinary Science. I think it is IMS now—the Institute of Medical Science. It used to be called the IMVS and everybody still calls it the IMVS. They have a lab that is in the hospital but it operates under the IMVS banner. It is funded by them, and any computing that they get into is directed by the IMVS, but I do not think they are providing much of a service in terms of serial results of pathology, the sort of things I see happening in other places around Australia when I visit.

Mrs ELIZABETH GRACE—That needs to be updated for you to benefit from it. If you do a pathology test it cannot be done in Port Lincoln, it has got to be flown up to Adelaide, but at least if you had telecommunication you could download that information fairly quickly, not have to wait for it to come back per Australia Post or whatever.

Dr McLeay—That would not need to be telecommunication, that could be just electronic communication. There are a few problems with that, but it is an area that should be tidied up because if you see a patient and you say, 'What blood tests have you had done', and the patient does not know, which is quite common, and the doctor's referring letter does not tell you, which is also quite common, then sometimes the fastest way to find out what, say, the thyroid function is is to get the test done again, and that costs money. If it is six o'clock at night and the lab is closed and you cannot get the answer and you are wanting to finish dealing with that patient, that is—

Mrs ELIZABETH GRACE—Whereas if there is an electronic record from the pathology company you could—

Dr McLeay—If I had access to patients with the 5606 postcode then I can get it instantly, yes, so that would be wonderful.

Dr NELSON—I just want to come back to touch on some point we discussed earlier. What impact would it have in the community if, for example, in Port Lincoln the government suddenly made available a fairly sophisticated telecommunications Telemedicine set-up? The reason I ask that is my feeling that, when the rudimentary needs are still unmet, there is a risk it may create some resentment toward perhaps the medical practitioners.

Dr McLeay—There is a certain cynicism about the money that is going into high tech areas. For example, on top of our hospital there is a huge satellite dish, and regular broadcasts from major centres come in but nobody goes to watch them because it is not interactive and nobody actually asked for it. It just came, it was part of a package. I do not know who it was, the health commission or the Commonwealth government, I have no idea, thought it was a good idea—

CHAIRMAN—The former Commonwealth government.

Dr McLeay—The former Commonwealth government, but there it is, sitting up there. We are a technologically oriented hospital but nobody goes to watch the programs because they are not interactive. People will go to sessions if they think that they are going to be useful, if they are patient oriented and they meet their needs. The best attended sessions are the ones where somebody comes from town and you can ask questions. For a couple of hours you can have a discussion about day to day matters and you can do that over a telelink. So I think that would be useful. I think if it was in the hospital people would go to it and use it. Nursing staff, physiotherapists and all those other people who are not doctors but who work in medicine could use it as well. I don't think it would be resented so much.

CHAIRMAN—Thank you very much for appearing before the committee this morning.

Dr McLeay—Thanks for the opportunity.

CHAIRMAN—We will send you a draft of your evidence for you to check. Please make any necessary corrections and send them back. Thank you very much.

Dr McLeay—Thank you.

Resolved (on motion by Mrs Vale):

That, pursuant to the power conferred by section 2(2) of the Parliamentary Papers Act 1908, this committee authorises publication of the evidence given before it at public hearing this day.

Committee adjourned at 12.04 p.m.