
# HOUSE OF REPRESENTATIVES

## STANDING COMMITTEE ON FAMILY AND COMMUNITY AFFAIRS

**Reference: Health Information Management and Telemedicine**

**SYDNEY**

**Wednesday, 29 January 1997**

**(OFFICIAL HANSARD REPORT)**

**CANBERRA**

HOUSE OF REPRESENTATIVES STANDING COMMITTEE
ON FAMILY AND COMMUNITY AFFAIRS

Members:

Mr Slipper (Chairman)
Mr Quick (Deputy Chairman)

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| 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.

## WITNESSES

**BIBBY, Mr Anthony Edward, Honorary President, Health Information Management Association of Australia, Level 1, 51 Wicks Road, North Ryde, New South Wales 2133 . . . . . 718**

**BRITT, Dr Helena, Director, Family Medicine Research Unit, Department of General Practice, University of Sydney, New South Wales . . . . . 676**

**CALLIGEROS, Dr Danny, Director, MOnet, 63 Botany Street, Randwick, New South Wales 2031 . . . . . 758**

**CLELAND, Associate Professor Leslie, Chairman of the Electronic Communications Subcommittee, Australian Rheumatology Association, 145 Macquarie Street, Sydney, New South Wales 2000 . . . . . 751**

**COHEN, Mr Paul Stephen, Group Manager, New Zealand Health Information Service, New Zealand Ministry of Health, PO Box 5013, Wellington, New Zealand . . . . . 734**

**GILL, Dr Robert Wyatt, Senior Principal Research Scientist, Ultrasonics Laboratory, Division of Telecommunications and Industrial Physics, Commonwealth Scientific and Industrial Research Organisation (CSIRO), PO Box 225, Dickson, Australian Capital Territory 2602 . . . . . 685**

**HANSFORD, Ms Margaret Elizabeth, National Health Strategy Coordinator, Australian Council, Royal Flying Doctor Service, Level 5, 15-17 Young Street, Sydney, New South Wales 2000 . . . . . 708**

**LIONS, Mr Bob, Group Manager, Information and Communications, Standards Australia, PO Box 1055, Strathfield, New South Wales 2135 . . 661**

**McCORMACK, Mr Colin, Australian Rheumatology Association, 145 Macquarie Street, Sydney, New South Wales 2000 . . . . . 751**

**McWILLIAM, Dr David Brian, Director, Department of Intensive Care, Royal Prince Alfred Hospital, Missenden Road, Camperdown, New South Wales 2050 . . . . . 724**

**MILLER, Dr Graeme, Medical Director, Family Medicine Research Unit, Department of General Practice, University of Sydney, New South Wales . . . . . 676**

**NEAME, Dr Roderick Laurence Beale, Managing Partner, Health Information Consulting, Homestall House, Homestall Lane, Faversham, Kent, United Kingdom . . . . . 734**

**NORTHCOTT, Mr Rupert John, Director, Medical Director Australia Pty Ltd, Suite 6/55 Grandview Street, Pymble, New South Wales 2073 . . . . . 692**

**SWINKELS, Ms Wendy Lynette, Health Informatics Coordinator, Faculty of Medicine and Health Sciences, University of Newcastle, University**

**Drive, Callaghan, New South Wales 2308 . . . . . 734**

**TRESEDER, Mr Peter Ross, Projects Manager, IT/14 Health Informatics Committees, Standards Australia, PO Box 1055, Strathfield, New South Wales 2135 . . . . . 661**

**WATERS, Mr Nigel, Acting Privacy Commissioner, Office of the Privacy Commissioner, Human Rights and Equal Opportunity Commission, 133 Castlereagh Street, Sydney, New South Wales 2000 . . . . . 649**

**WILLIAMS, Mr Peter Edward, Chair, IT/14 Health Informatics Committee, Standards Australia, PO Box 1055, Strathfield, New South Wales 2135 . . 661**

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STANDING COMMITTEE ON FAMILY AND COMMUNITY AFFAIRS

*Health information management and telemedicine*

SYDNEY

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Present

Mr Slipper (Chairman)

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|---|---|
| Mr Ross Cameron | Mrs Elizabeth Grace |
| Mrs Elson | Mr Quick |
| Mr Forrest | |

The committee met at 9.03 a.m.

Mr Quick took the chair.

**ACTING CHAIRMAN (Mr Quick)**—I am pleased to open this sixth 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 last 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 for the evolving industry, to address the issues of data security and the 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 Sydney, which commenced yesterday with an examination of witnesses representing the New South Wales government, locally based hospitals and peak medical organisations. It is important to canvass the perspective of professionals working in the health information field around Australia in order to reach conclusions and recommendations which reflect the diversity of views held by practitioners and governments in the various states and territories.

The committee will also take evidence from the Office of the Privacy Commissioner and pursue the vexed issue of patient confidentiality and the safeguarding of personal health records, which has been exercising the minds of committee members. Evidence will also be taken from the Standards Association of Australia about appropriate national and international standards for the transmission of health data. 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.

**WATERS, Mr Nigel, Acting Privacy Commissioner, Office of the Privacy Commissioner, Human Rights and Equal Opportunity Commission, 133 Castlereagh Street, Sydney, New South Wales 2000**

**ACTING CHAIRMAN**—I call the representative from the Office of the Privacy Commissioner, the Human Rights and Equal Commission, to be sworn in. Welcome, Mr Waters. Do you wish to make an opening statement before we commence questions?

**Mr Waters**—Yes, a brief one. I think the committee has already reached its own conclusion that privacy is a fairly key issue in this inquiry. I would like to endorse that and say that, to the extent that the privacy issue may put barriers in the way of the introduction of information and technology and better health care, our view is that it will do so only because of the lack of adequate safeguards. In fact, there is nothing to fear from the application of privacy principles to the better use of information in the health care field. The barrier will come from a lack of confidence by both patients and members of the health care professions if adequate privacy safeguards are not put in place.

It is turning the coin around a bit, but we think that is the key privacy issue in this area. That will be addressed to some extent by the government's initiative to extend the Privacy Act to the private sector, which the Attorney-General announced in September and which he is currently in a process of consultation on. That will only provide a remedy to the extent that it will cover the balance of the private sector. So we will still have the problem of state and territory government agencies not being covered by privacy laws until they legislate for themselves.

**ACTING CHAIRMAN**—I notice in your submission that you stated that very few states, if any, apart from New South Wales, have privacy legislation.

**Mr Waters**—That is right. At the moment, even the New South Wales legislation is really just the establishment of the committee as an ombudsman. There are no binding rules applying anywhere in the country other than the ACT government, which is covered by the federal Privacy Act.

**Mr QUICK**—So what about the federal Privacy Act?

**Mr Waters**—That currently applies only to Commonwealth government agencies, the ACT government and some limited areas of the private sector, like credit reporting and the use of tax file numbers.

**Mr QUICK**—Even though the Commonwealth allocates money to various federal health initiatives, the federal privacy legislation is an umbrella to cover—

**Mr Waters**—No. The funding relationship alone does not carry with it the privacy protections. There would have to be specific legislative extension of the Act, as there has been in some other areas. For example, the employment area, where case managers who are contracted by the government are covered by the Privacy Act. In the health area at the

moment there is no such extension by contract or by legislation.

**Mr QUICK**—We are talking about smart cards and electronic transfer of information. It is probably going on right now across state boundaries.

**Mr Waters**—It is a concern for a lot of people that information which carries with it a certain level of protection when it is being handled by the Commonwealth—for instance, in terms of notice to individuals about what is happening to their information, the right of access and correction, the importance of keeping the information of high quality and the ability to complain to the Privacy Commissioner if things go wrong—that protection disappears when the information moves either to the private sector or to state government agencies.

I think that is one of the brakes on progress which hopefully the extension of the act and parallel state and territory legislation will eventually remove so that there is no artificial barrier on the adoption of Information Technology and the sharing of information from a privacy protection point of view.

**Mr QUICK**—In your opening statement you mentioned lack of confidence. Is that because the federal aspect is covered, but the states have been very tardy and no-one really knows exactly when they are going to implement something?

**Mr Waters**—A lot of the problem is with uncertainty. I think you have already had some calls from other witnesses for consistency and evenness of coverage. A lot of people are nervous about the privacy issue, but they do not fully understand it. There is a lot of exaggeration about the extent to which privacy laws actually stop you doing things. By and large, they do not. All they do is say that if you are going to exchange this information or you are going to use it in a particular way you are going to have to follow a certain set of procedures or protocols to ensure that the individual's rights are protected.

**Mr QUICK**—With the Health Insurance Commission, that aspect of information collation: is that covered by the federal act?

**Mr Waters**—The Health Insurance Commission's own use of information is covered by the act, but if information passes from them, for instance, to a state agency, then it would not be.

**CHAIRMAN**—I am sorry about my delayed arrival. I think we discussed at an earlier hearing the general approach of the Privacy Commissioner to privacy. We discussed the Pharmanet proposal in British Columbia. Can you give us any update on the attitude of the Privacy Commission to a similar program? Has your situation changed from the last time you appeared before this committee? And do you see privacy concerns as being a major impediment to the implementation of a similar system in this country?

**Mr Waters**—Our views have not changed. I am afraid there has been little information. We did try to get an update on the situation from our colleague in—

**CHAIRMAN**—Perhaps for the purposes of this inquiry you might just restate your views on that Pharmanet proposal.

**Mr Waters**—The basic concern is about the multiple uses, if you like, of any interactive eligibility checking system. On the face of it, it appears that it is partly about ensuring eligibility, but there are a number of other secondary uses that are being either proposed or are waiting in the wings. The concern about providing an on-line eligibility checking system is its threat to the fundamental principle that information should only be used for the purpose for which it is being collected.

There are also some secondary concerns about, for instance, the interaction between patients and pharmacists in the surgery about how disputes will be resolved, about eligibility and a range of other detailed concerns about the operation of any database that backs up the system, which we included in our submission. But it is basically that fundamental issue of use for purpose which concerns us about that proposal.

**CHAIRMAN**—In your submission you basically say that citizens have a very great concern about the importance of privacy. Yet only a very small percentage of the participants in the Pharmanet system in British Columbia actually activated the opportunity to have a password. Clearly, in that community they were nowhere near as concerned as you say the Australian community is with respect to privacy. What would be the reason the people in British Columbia have a great lack of concern, whereas you say that people in Australia would resist a Pharmanet style proposal?

**Mr Waters**—As I said at the last hearing, I think it is too early to judge whether there is a significantly different level of patient concern about privacy. The first reason is that I do not think the password option in the British Columbia system is well advertised—our colleague, the British Columbia Privacy Commissioner, was very concerned about the level of awareness about that option—and also because the problems that may arise from secondary uses of that data will take time to flow through the system. So it will not be until the system has been in operation for some time that the problems start to emerge, people start to become aware of them, start to complain and the issues are brought to the attention of the government there.

**CHAIRMAN**—In areas of privacy, as in so many other areas of government interest, one must achieve an appropriate balance between the rights of the individual on the one hand and the rights of the community at large on the other. I suppose no-one would disagree that one needs a balance. The area of disagreement would be just exactly where that balance should be struck. Do you see circumstances where the interests of the community would in certain cases overwhelm the interests of the individual?

**Mr Waters**—Very clearly, Mr Chairman. That is recognised in the Privacy Act. The formulation of the privacy principles provides for an override of the individual informed consent principles where other uses or other disclosures are required or authorised by law, for instance, or are required for law enforcement or revenue protection purposes. So the Privacy Act and the whole scheme that we administer already accept the

need for those balances. Our job is obviously to fight in the corner for privacy in the run-up to any decision about where that boundary should lie in a particular area or case.

I would like to make the point that that issue about use and disclosure limitations is only a small part of the privacy regime. I would hope that the committee, and I think a lot of the witnesses, would not disagree with the need for the rest of the privacy package to apply to the use of health care information—that is, the access and correction rights, the notice to patients, the emphasis on data quality and security. The issue about exactly where the boundary should be set in the use and disclosure area I do not think should be allowed to detract from the need for those safeguards in relation to the patient information generally.

**CHAIRMAN**—We have a problem in this country of overservicing and people attending a multiplicity of doctors for very many opinions with respect to the same, often minor, problem. Because of bulk-billing, it does not personally cost them anything and there is no real disincentive to do this. Given the fact that people, from their own point of view, might well receive injurious amounts of medication through going to numerous practitioners and receiving the same prescription, given the fact that we do not have enough controls under our current system—I think most people would accept a Pharmanet proposal where you assist the revenue and you assist the health of the person by making sure the person does not get too much of a drug that is not of any use to the person and could indeed be harmful—and given the fact that the Pharmanet proposal is a positive way of approaching things, how would you see such a system implemented in this country but with what you consider to be adequate privacy safeguards?

**Mr Waters**—In response to your request at the last hearings, we sent you some suggestions about how a pilot or trial might be conducted. I think that would be our first point—we really need to test and prove some of the assertions that are made about the value of this initiative. I refer again to the cost benefit analysis that was done the last time this proposal was floated. At that time the audit office found that the sums did not add up. I think we need to be convinced that this is a real solution to a real problem.

Having said that, if the proposal does go ahead, then there are a range of safeguards that we have suggested that should be put in place for its operation to ensure that, as far as possible, it is transparent, that individuals know how their information is going to be used and that they have the opportunity to challenge any abuses or erroneous information. The normal package of privacy protection should apply both to the use of the information by the Commonwealth and its use by pharmacists and health care professionals.

**CHAIRMAN**—Don't you think that the community at large, while valuing the importance of privacy, is terribly confused as to how successive governments and parliaments have acted to ensure that their privacy is indeed protected? There is great cynicism out there. There is almost a belief that, somewhere, there is Big Brother with records of every aspect of their daily lives.

**Mr Waters**—There is some misunderstanding. That is certainly true. But I think it is government's responsibility, including ours as the Privacy Commissioner's office, to ensure that the public is better educated and better informed. When these issues are explained to them some concerns are alleviated, but others are actually heightened. I do not think people typically realise quite the extent of the information flows that are taking place without their knowledge and consent. A lot of people do actually want a greater degree of control and participation—a sense of partnership, if you like—with the people that are administering the benefits or the health care.

**CHAIRMAN**—Do you think that the privacy regime may well effectively have a life of its own and that sometimes the bureaucracy can be pursuing the interests of privacy for the community beyond the extent to which the community is really interested in having its affairs kept private?

**Mr Waters**—We have seen no evidence of that. I think we are a long way off yet having privacy as the dominant factor in these policy discussions. We certainly feel that we are still having to argue very hard and earnestly on every occasion to make sure that the privacy issues are taken into account relative to the very powerful influences of efficiency and improved service arguments that are being balanced against them. We certainly do not feel in any sense that it has developed beyond its proper role—to the contrary.

**CHAIRMAN**—It seems to me, given the lack of security relating to paper based records in the medical area—and we all know what happens to those and where they have been found over the years—that maybe some of the concerns about privacy with respect to computers might be misplaced.

**Mr Waters**—Computerisation certainly does offer some opportunities for improved security, and we welcome that. I think I mentioned last time the idea of privacy enhancing technologies which are being actively discussed around the world—

**CHAIRMAN**—Encryption.

**Mr Waters**—Encryption: a range of pseudonymous identifiers which mean that people can conduct transactions without identifying themselves, if that is appropriate. But, equally, I think the computerisation does also bring with it some greater risks. At the end of the day, the issues like finding information blowing around at tips are still going to happen because most people actually end up at the end of a computer process printing something out and filing it away. We are a long way yet, I think, from a purely electronic record keeping system.

**CHAIRMAN**—This is the last question I have before I invite other questions from members of the committee. Appendix A of the supplementary submission *National Health and Medical Research Council Guidelines for the Protection of Privacy in the Conduct of Medical Research* is an extract from the guidelines dealing with weighing the public interest. Could you provide the committee with an overview of the fundamentals of these

guidelines and then discuss how these are enforced and monitored?

**Mr Waters**—Yes. The NH&MRC guidelines are a special regime under the Privacy Act. They are actually issued by the National Health and Medical Research Council and then approved and endorsed by the Privacy Commissioner. They have actually been issued twice. They have already been looked at and revised and reissued once during the life of the Privacy Act. They basically provide for approval by institutional ethics committees within universities or hospitals or other research institutions, a framework for research which involves the use of personally identified information where that is necessary for the purposes of the research and where it is not appropriate to seek the individuals' consent. So it provides, if you like, an exception from the general rule that information should only be used as authorised by law or with the individual's consent, and it accommodates the genuine research needs of the medical community. As far as we know, it is working smoothly.

**Mr FORREST**—Your submission notes the importance of balancing this public interest question and it suggests that there should be some wide community consultation so that people are better informed. Could you give us some idea of how that consultation might occur?

**Mr Waters**—Are you talking specifically in relation to the Pharmanet type of proposal, or more generally?

**Mr FORREST**—In terms of the broad question about the use of information. It can clearly, in situations for preventative medicine, be used for the benefit of others. They are not all downsides.

**Mr Waters**—No, indeed. We recognise the value of improved information management and greater use, where appropriate, of information in the health care field. As I said at the beginning, having proper privacy safeguards in place is the best way to ensure that the maximum potential is made of those possibilities. When we talk about community consultation, it is important that there is an opportunity for the wider community to debate

exactly where they want the boundaries to lie. I take as an example the issue of what I might describe as a slight conflict of interest or tension between, on the one hand, the policing uses of databases for things like oversubscribing or medicare fraud and, on the other hand, the health care objectives. Both individuals and health care providers are a little nervous about the idea that the same organisations are keeping information, purportedly for better health care, but at the same time are constantly looking over your shoulder to see if they can actually cut back on the number of drugs you are using or somehow influence your behaviour patterns; and that is a tension which needs to be debated more publicly.

**Mr FORREST**—That is true; but that is a very negative approach. You could go in on a consultation basis promoting the positive benefits of exchanging information. Obviously, it occurs now, and there must be a procedure whereby it occurs. Could you

describe that to us? Information is exchanged now in research about drugs and so forth.

**Mr Waters**—Indeed. The precise form of any public consultation will depend on the particular proposal. We are calling for at the top level, if you like, a more informed community debate about the privacy issues generally, and I think that we will see that this year as part of the response to the Attorney-General's discussion paper. But then, more specifically we would like, with things like any Pharmanet style of proposal, to see a fairly detailed but brief account of the information exchanges likely to be involved being made publicly available and sent to the peak health organisations and consumer organisations, so that we are not talking in generalities but people can actually focus on what it actually means for patient information in real life.

**Mr FORREST**—How does that exchange of information occur now, though—without thinking ahead to the electronic age? How are privacy concerns addressed?

**Mr Waters**—As the committee is well aware, the medical profession has always had a long tradition of patient confidentiality, so a lot of it is ingrained in the way in which doctors and other health care professionals already use patient information; and there is an implicit concern for patient confidentiality. Frankly, at the moment, a lot of those information exchanges take place without any real safeguards so that, if somebody wanted to use files for other purposes that were nothing to do with health care, or if they stuffed up and left them lying around, there is literally no redress for people. And that is one of the major gaps that the extension of the Privacy Act will be seeking to fill.

**Mr FORREST**—We have really got an issue now which is not even related to Telemedicine, which is the whole issue that this committee is considering now.

**Mr Waters**—Absolutely. We regularly get phone calls on the privacy hotline from people who have issues about the way in which information has been handled by either private sector or state government agencies. Of course, at the moment we just have to say, 'I'm sorry. It's outside our jurisdiction and there's nothing we can do for you.'

**Mr QUICK**—Am I right in saying that the medical profession is the only group which collects information on a particular person but then can refuse to give that information to the person if the person—

**Mr Waters**—No. They are not, in fact. Everybody in the private sector, other than those covered at the moment by the credit reporting part of our act, is able to say no, if somebody wants to see their record. There is no right of access generally in the community.

**Mr QUICK**—If you are dissatisfied with your lawyer, you can get your file and take it to another lawyer, but you cannot do the same thing with your medical records. Is that right?

**Mr Waters**—I think you would find that a lawyer could tell you that he was not

going to give the records to you, as well.

**CHAIRMAN**—I will correct you on that, being a lawyer. What will happen when one firm of solicitors gets an authority from another firm of solicitors to pass the file over is that the essence of the file has to be passed over—that is, paperwork dealing with the particular transaction—but the solicitor is allowed to delete any personal notes which he has made. The only part of the file that goes over is essentially the fairly basic part, the part dealing with the essence of the file but without the solicitor's own notes, which remain the solicitor's own private property.

**Mr Waters**—Yes. As I understand it, that is more or less the same as the situation with the doctors that was considered by the High Court recently: in a sense, it is at the doctor's discretion. He has to give the substance of the information but he is allowed to edit and withhold certain information. The issue there is whether you have the right of access to everything that is on the file about you.

**Mr QUICK**—Under the Freedom of Information Act, you can get your file from DVA with all the bits and pieces; yet you cannot—

**Mr Waters**—That is right. That is the anomaly at the moment: with Commonwealth government agencies, you do have that right of access but, with the rest of the community, you do not.

**Mr QUICK**—So, once we have got FOIs and privacy legislation in each of the states, hopefully they will match the Commonwealth's and a lot of this uncertainty and lack of confidence and general awareness of people's rights will disappear.

**Mr Waters**—That is right. That will help, certainly. But access and correction, as I said earlier, are only part of the components. We also need the rules about making sure that people are aware of what is happening to their information, the data quality rules and the security rules; so the package of privacy principles covers quite a wide range of different aspects.

**Mr QUICK**—Where is Australia in comparison to other countries on this? Are other countries dragging their heels, or have some other countries had it for 20 years?

**Mr Waters**—The latter. Most of the European countries have now had data protection or privacy laws for at least 15 or 20 years. New Zealand adopted a comprehensive privacy law in 1993. Hong Kong passed a law last year. Australia is, in fact, lagging well behind most of the developed world. The exception is the United States, where they have traditionally relied on the constitutional right of privacy and litigation in the courts. It is not that they are less aware of privacy, it is just that they have chosen a different route by which to enforce the rules.

**CHAIRMAN**—Clearly, if you extend the privacy legislation to the private sector, as is suggested, then there would have to be some safeguards for the private sector

organisations. For instance, it would be a little unfair to compel a firm of solicitors to disclose a file that had been written up prior to the laws coming in, because some of the comments made about clients might well have been indiscreet. I would think that, when one has this privacy regime in place relating to the private sector, this would mean in many respects that files would be kept differently.

I suspect that files in government departments are now kept somewhat differently from the way they were kept prior to the privacy laws being in place. In fact, one of my constituents brought me a file and there was a comment from the then minister on the file that was very disparaging: something to the effect that the man was an idiot and there was to be no further attention under any circumstances. I cannot see a minister writing such a thing on a file today.

**Mr Waters**—No. That is absolutely right. The Attorney-General's proposal does envisage that some of the principles would not apply retrospectively. Others, like the security principle, obviously should apply to all information.

**Mr QUICK**—With regard to the New Zealand legislation and their national health information system and services, can you explain how effective that is?

**Mr Waters**—As I understand it, the national health system in New Zealand is a lot simpler, in the sense that it is a unitary state and there is only the one set of authorities under the control of the central government; you have not got the added complication of different jurisdictions. It seems to work very well. One of the first codes of practice that the New Zealand Privacy Commissioner issued was for the health sector. That covers some of the issues that we have been talking about, such as the use of patient identifiers and the particular circumstances in which individual consent will be required. We would certainly be seeing that as a model for working with health care professionals to develop a code of practice under an extended Privacy Act here.

**Mr QUICK**—That has been working for about three or four years, hasn't it?

**Mr Waters**—The health code actually came into effect only last year. But they have been building up to it—the act was passed in 1993.

**CHAIRMAN**—It seems to me that the world is very much becoming a global village—and I know that is not an original statement. But you have this country working out where it stands concerning privacy and bringing in legislation, you have New Zealand just across the Tasman doing something similar and you have other countries throughout the world also doing that. Is there any international effort being made to standardise privacy provisions, given the global nature of a lot of businesses and governmental activities?

**Mr Waters**—Yes, there is. All privacy commissioners and, I think, all governments are well aware of the need for that consistency, particularly in terms of accommodating electronic commerce and trade in the global community. Most privacy

laws are based on a 1980 set of guidelines that were issued by the OECD—the Organisation for Economic Cooperation and Development. More recently, the European Union has produced a new set of standards, which all the European countries will have to come in line with in 1998, and most countries outside the European Community are also using that as a benchmark. The Attorney-General's proposal recognises that European Union initiative and seeks to ensure that we are going to be consistent with it.

**Mrs ELSON**—The committee is aware that the data protection standards for personal information held by the Commonwealth are protected under the Privacy Act 1988. The committee also understands that the Attorney-General's discussion paper *Privacy protection in the private sector*, issued in September 1996, is canvassing a possible co-regulatory approach to extending privacy protection to the private sector and that this could take effect in 1997. Could you outline to the committee the nature of the legally binding regime envisaged for the protection of personal data held by the private sector, and how adherence to this regime will be monitored?

**Mr Waters**—The first thing I might point out is that it is extremely unlikely now that this extension will be in effect in 1997. The parliamentary timetable is such that it is almost certainly going to be well into 1998 before it would actually commence. The nature of the scheme that is proposed is an extension of the existing information privacy principles in the current act, but with the possibility of the development of codes of practice which would vary those principles for the circumstances of particular sectors. For instance, the health sector might have a code which varied the application of the notice principle or the use principle to meet the needs of that particular sector.

Those codes would be developed in consultation with the Privacy Commissioner and then issued by the Privacy Commissioner. They would be disallowable instruments, so parliament would have the opportunity to say whether they approved of the variation. Once a code is in place or if an industry is bound by the general principles, which would be the default position, then those would be binding on organisations in the private sector.

Individuals could complain to the Privacy Commissioner if there was a breach of those rules or standards and we would investigate, as we do now, for Commonwealth government agencies. We would seek to conciliate and to have it settled by agreement, which is the way that most of the complaints are currently resolved. If, at the end of the day, it was not possible to do that, the commissioner could make a recommendation or an assessment of a particular outcome. For instance, we could say that a certain amount of compensation should be paid or records should be deleted or amended in certain ways. In order to actually get that enforced, following the High Court's Brandy decision, there would have to be a Federal Court case to enforce it if the respondent refused to comply. But we would hope that, in most cases, the organisation concerned would come to the party at that point.

**Mr ROSS CAMERON**—If you extend the public sector position to the private sector, for example, in health care, do you think there is any risk that health professionals will stop communicating about matters which may be beneficial to the health of the

patient but about which they may become more reticent if they feel their remarks are part of the public domain?

**Mr Waters**—I do not think so. Certainly, the evidence of the operation of the health care professions in those countries that are already covered by this sort of privacy legislation would suggest that whilst there may be some initial nervousness, with people wondering, 'How far can I go? What can I get away with writing on the file; what can I get away with sharing?' that soon settles down. I think you will find that most of the professional groups would say that it has not had any effect on their ability to exchange information where it is necessary. What it might do is require them to put a bit more effort into communicating with the patients and making sure the patients understand why they are proposing to exchange information with another health care provider or why they are saying the things that they are. But I would suggest that is probably good for the health care in any case.

**Mr QUICK**—The development of smart cards seems to be industry generated. What is your involvement in monitoring the establishment of those in the health sector?

**Mr Waters**—We have no formal jurisdiction, other than where a smart card was used by a Commonwealth agency. But we have been following this subject very closely and, as you know, we issued a discussion paper last year on the subject. Our main concern, I guess, is not so much with smart cards themselves—the technology is, in a sense, neutral; it is the way in which smart cards might be applied in particular contexts. If they are used, for instance, as the backup to a major initiative to share information between different organisations, then all of the normal privacy issues that arise will still be there.

The smart cards may or may not add an additional concern—for instance, about security and who can have access to certain bits of the card—but they may also offer some solutions. The smart cards are both a plus and a minus from a privacy point of view; it really depends on how they are being used and what databases are backing them up.

**CHAIRMAN**—So what sort of monitoring role do you have when they are set up as pilot projects—say, for example, in the health area in New South Wales?

**Mr Waters**—We are involved on a voluntary basis in a number of smart card initiatives; we are on a number of working groups, and providing advice on that basis, as is the New South Wales Privacy Committee. At the moment, we can do no more than that. We can make suggestions; whether they are adopted or not outside the Commonwealth government is up to the proponents.

**CHAIRMAN**—You mentioned earlier the possible extension of privacy provisions to the private sector, and in your statement to the committee you mentioned the private sector and state governments. There is no intention, is there, at the present time to bring in federal legislation to bind state governments? The new possible legislation suggested by the Attorney-General relates to the private sector?

**Mr Waters**—It does—and the private sector only to the limits of the Commonwealth's constitutional powers. As regards the states, the committee might be interested to know that, since the last hearings, the Victorian government has had a data protection advisory group which reported just before Christmas and we understand that some sort of announcement from the government is fairly imminent down there, with it being likely that they will move towards a privacy law binding on their state agencies. More recently, the Queensland Attorney-General announced in the last couple of weeks that the government intended to legislate for privacy. So, certainly in the eastern states, we are starting to see the prospect of realistic and binding privacy legislation.

**CHAIRMAN**—There is no sign yet of some kind of cooperative national arrangement, with one privacy body exercising both state and federal jurisdiction, is there?

**Mr Waters**—Nothing developed to that extent but I gather it is on the agenda for the Standing Committee of Attorneys-General which is meeting in March—the question of how the states should respond to the Commonwealth's initiative.

**CHAIRMAN**—You mentioned that the new law could obviously only be to the extent of the Commonwealth's constitutional power. How far do you see that power extending to enable the Commonwealth to bind the private sector? What proportion of the private sector could you see being bound, or what activities of the private sector could you see being bound?

**Mr Waters**—It would cover most private sector activity, certainly all major corporations, and all major schemes that use telecommunications. The only areas where there is some doubt is in the marginal areas of unincorporated associations and individual sole traders—in both cases people who do not use computers much. So there may be a little residual area of paper record keeping which the Commonwealth scheme could not cover. We would be hoping that the states would respond to that by vesting in the Commonwealth some ability to cover those residual areas.

**CHAIRMAN**—I imagine that the government would be reluctant to use the external affairs power.

**Mr Waters**—That has certainly not been mentioned directly in connection with this extension proposal. The Commonwealth is, however, confident that what they call a cocktail of constitutional powers would provide the basis for the current proposals.

**CHAIRMAN**—But not a Molotov cocktail! Thank you very much for appearing before the committee this morning. There will be a draft of your evidence sent to you for checking. If you could fix any mistakes up and pass that back to Hansard as soon as possible. You are welcome to stay for as long as you wish this morning and partake of morning tea. Before you go, please see Hansard just to see if they need any additional particulars from you. Thank you very much, Mr Waters.

[10.01 a.m.]

**LIONS, Mr Bob, Group Manager, Information and Communications, Standards Australia, PO Box 1055, Strathfield, New South Wales 2135**

**TRESEDER, Mr Peter Ross, Projects Manager, IT/14 Health Informatics Committees, Standards Australia, PO Box 1055, Strathfield, New South Wales 2135**

**WILLIAMS, Mr Peter Edward, Chair, IT/14 Health Informatics Committee, Standards Australia, PO Box 1055, Strathfield, New South Wales 2135**

**CHAIRMAN**—I call the representatives from Standards Australia to be sworn in. Welcome. Thank you very much for appearing before the committee this morning. The submission has been circulated to members and we have all had the opportunity of reading it. I thank you for letting the committee have it and also for appearing. Could you briefly outline some of the highlights of the submission, to direct and focus our questions subsequently.

**Mr Williams**—This is a slightly shared presentation—

**CHAIRMAN**—Only slightly? You had better tell us where you are diverging.

**Mr Williams**—From my point of view as chair of the committee, there are really probably three critical issues that are relevant for the operation of IT-14 and its role in health informatics. The first is that it puts it into the Standards Australia framework and a whole series of processes and disciplines around the development of standards and the promulgation of those standards. It creates some of that discipline around the process rather than perhaps some of the slightly more ad hoc processes that may occur in working parties assembled for a particular purpose. Also, in doing that, it relates to the other standards development processes and developments that are occurring, particularly in fields such as telecommunications and so on which have a broader implication.

The other thing that it does is it provides us with a link into international developments, which are becoming increasingly important. Bob Lions can talk more about what is happening in that sphere. We are involved in a business that is dependent on marketing to the international sector, the information systems that are developed in Australia, and also in adopting those systems in Australia. So, to the extent to which we are able to tie into those developments that affect things like messaging standards and information standards, we are much better off.

The third thing which I think is an important element, particularly from my personal perspective as a government member of IT-14, is that it is at arm's length from government and it brings together industry, the private sector and government in an environment in which they can operate as an equal partnership in which they can feel

confident that their concerns are addressed. Its methodology of pulling together the appropriate expertise to deal with a particular issue I think is one of its key strengths.

**CHAIRMAN**—Standards Association of Australia is not exactly a household name in Australia—I am not impugning the value of the work that you do—so could you outline for the purposes of the committee the staffing structure and the legislative and funding base, concentrating in particular on how many staff you have and where the money comes from to keep you doing the valuable work that we are sure you do?

**Mr Lions**—Standards Australia is a not for profit organisation established by royal charter. Despite recent suggestions that we should change the management structure, we would need to persist with it because in order to change the structure we would have to wind up the company and distribute the assets to a number of organisations which we do not believe would give them back to us.

**CHAIRMAN**—Is there a suggestion that there is something wrong with your current structure?

**Mr Lions**—There was a suggestion in the recent Keane inquiry that the royal charter was not an appropriate management structure in this day and age.

**CHAIRMAN**—As a strong supporter of our current constitution, I applaud you for being an organisation to obtain a royal charter in 1988 during the time of the previous government.

**Mr Lions**—I would say it is largely for commercial reasons. The organisation has a quality assurance subsidiary which has been split off. There are about 300 people in the standards writing organisation and 200 in the quality assurance group spread in headquarters in New South Wales and state offices around Australia, with the QAS group also having offices in overseas countries.

**CHAIRMAN**—What is QAS?

**Mr Lions**—Quality Assurance Services, which is a commercial function of auditing quality assurance systems, which are a management tool.

**CHAIRMAN**—Altogether you would have how many staff?

**Mr Lions**—About 500 staff spread around Australia.

**CHAIRMAN**—And overseas?

**Mr Lions**—There are offices of QAS, and there would be very few. Standards Australia is the national standards body and as such is the Australian member of the

International Electro-technical Commission, the IEC, and the International Organisation for standardisation, ISO.

**CHAIRMAN**—What would it cost to run your organisation? What would your annual budget be?

**Mr Lions**—Our annual turnover is running around $50 million per year.

**CHAIRMAN**—Where does it come from?

**Mr Lions**—About 65 per cent of our income comes from sale of standards products and appropriate other products, about 10 per cent comes from membership and a percentage, which is about 10 per cent, is to come from a government grant.

**CHAIRMAN**—The Commonwealth government?

**Mr Lions**—A Commonwealth government grant which is the subject of reductions in the last budget, and we need to demonstrate the way we would use it. We need to bid for it to get the rest of the grant at this stage.

**CHAIRMAN**—You say a certain percentage comes from membership. Who would be your members?

**Mr Lions**—Our members are people who are interested in standards around Australia. We have members like BHP, Telstra, Australia Post, and right down to small one- and two-person firms. The fee structure is based on a sliding scale which we allow members to calculate for themselves. We do not ask them for the information. They calculate that on a turnover and payroll basis.

**CHAIRMAN**—You used the terms 'health informatics' and 'telematics' in your submission. I do not know whether these terms are to be found in the *Oxford Dictionary*. How do you actually define them and what do you mean by them?

**Mr Lions**—'Health informatics' is a term that has been coined to save a whole raft of words like 'health application of information and communications technology', which starts to become a lot of writing when you write it down. Similarly, 'telematics' is a term that grew out of the communications area, where you talk about telecommunications and information, transfer automatically; and the abbreviation has grown up and probably not been defined properly, precisely.

**Mr FORREST**—Are both those terms accepted internationally?

**Mr Williams**—They are. The Europeans tend to use 'telematics' to cover some of what we would regard as health informatics. The ISO group, which is, if you like, the

broadest group, uses the broader term of 'health informatics', and the US tends to use that term.

**CHAIRMAN**—It just seems to me that there are so many definitions for terms these days and that it is a pity that, particularly when recording new words, we cannot at least agree on what they are supposed to mean. At earlier hearings we have had numbers of people telling us that Telemedicine, in some cases, really ought to be referred to as Telehealth, and so on. It just seems to be a pity that, since we have this wonderful language called English, we are not able to all agree on what it means.

**Mr Treseder**—I will just make a comment here. The Europeans use the term 'medical informatics'. At a recent meeting I attended of the European Committee for Standardisation of Medical Informatics, they admitted that it was six of one, half-a-dozen of the other, whether they went to medical informatics or health informatics. Generally speaking, medical informatics is not seen as wide as health informatics—health being the broader concept of the care of the patient; medical being more of a problem oriented focus. However, both terms are used interchangeably internationally.

**CHAIRMAN**—I do not care what term we use just as long as everyone agrees to use a particular term. Could you provide definitions in non-technical language for the following terms: a 'standard', a 'code' and a 'protocol'? Are your definitions universally understood? If the Mater Hospital in Queensland, for example, expresses concerns about standards, would you understand what is meant?

**Mr Lions**—The term 'standard' is one of those things that you take as given.

**CHAIRMAN**—There is no standard definition?

**Mr Lions**—We have something like 6,000 Australian standards. Each of them starts with its own list of definitions and says,'This list of definitions applies to this standard only and should not be used with any other standard unless you check the list of definitions in it.'

A 'standard' is generally an assembly of information which might give a desired outcome or a performance specification for performance of a task or creation of a product. A code of practice will tend to give you the performance in more general terms but also indicate methods by which the performance might be achieved, so it can be more chatty, more practical to use. A genuine standard really should consist of a list of things that you should and should not do to comply with the standard.

**CHAIRMAN**—A lot of people would say that is as clear as mud.

**Mr FORREST**—What about the protocol?

**CHAIRMAN**—I was coming back to that.

**Mr Lions**—The protocol is one, I think, I would like to pass on.

**CHAIRMAN**—You might be able to get back to the secretariat with official Standards Australia responses to that particular question about standards, codes and protocols.

**Mr Lions**—Yes.

**Mr Treseder**—I use those terms a lot. I write standards.

**CHAIRMAN**—Would you first agree to get back to us formally with further information?

**Mr Lions**—Yes.

**CHAIRMAN**—I am sorry, Mr Treseder.

**Mr Treseder**—Yes, I use those terms a lot in writing standards. It is something that all committees which prepare standards need to address very carefully, particularly in the wording of standards that are likely to become an international standard. For example, Australia produced the first standards in the world on records management. The term 'records management' we found defined in about 100 different places, and they were all different. I think the greatest contribution the Australian standards on records management provided—and there are six in total—is an international focus on how to refer to the subject at hand. All of the stakeholders in Australia agreed as to how those terms would be defined.

The comment that we have received back internationally is that this is a very important step forward because nowhere else in the world had there been that agreement, and now there is. Those six Australian standards—agreed ways of defining things, agreed ways of providing guidelines to organisations as to how they take care of their records—will soon become international standards. The voting process has almost been completed. We have not had any obstacles referred to us. The Australian Committee on Records Management, the IT/21 Records Management Committee, has defined standards for records management that will apply to every single organisation throughout the world. So it is to our credit that we have defined them in such a way that, internationally, the applicability is there and, internationally, there have not been any problems in the way that we have defined such things as standards, methods, et cetera.

**CHAIRMAN**—I congratulate you on that. It seems that so often we do not appreciate that the world—I think the previous witness said this—is a global community. Your organisation is doing wonderful work in this area, in this country. One can look at

any other developed country, and maybe some other countries, and see that they are doing similar work. It is good to see this standardisation occurring. But it is concerning that, in the information age, we seem to be treating countries throughout the world as a whole series of islands. Everyone is doing good work; sometimes their work converges, but so often we appear to be having less standardisation rather than more.

**Mr QUICK**—On the first page of your submission, you state:

Whilst there are currently no international standards for health information technology, there is general agreement-

I am not too sure by whom—

for the convergence of electronic data interchange standards by 1999. However, the Australian health IT industry cannot wait until then to implement protocols for the interchange of patient information.

What has the World Health Organisation done through the UN over the years? How have they been able to implement world health strategies if we are all talking different languages? Surely there must be some commonality there in standards and protocols—

**Mr Treseder**—Health informatics is to do with the structure of health information systems. The formation of an international committee on health informatics has been lagging. That dialogue is now taking place, and it is likely that an international committee will be formed in the near future. So, yes, it has been lagging, there is no question about that. It is time that that work proceeded at haste.

The agreement for 1999 is between the various bodies in Europe, America, Australia and New Zealand on the need for a convergence in the way that standards are defined for health informatics. It has been somewhat of an informal agreement, but certainly one that has been acknowledged in many discussions. It is certainly a way forward in the meantime, before an international committee has been formed.

**Mr QUICK**—With respect to something like HIV/AIDS, which tended to be attacked internationally, would health informatics be leading the world as far as commonality of information?

**Mr Williams**—To take a very practical example, the relationship between the HL7, which has come out of the American market, and Edifact, which has come out of the broader UN scene and which is backed by people like the Western European boards and so on, has largely recognised the complexity of these things and the detail is horrific. They have largely recognised the need to move together, but the time scales in which they are moving is literally measured in years. Standards Australia can play a critical role in that.

In 1994, as a representative of Standards Australia, I attended the first meeting that ever occurred between the CEN group and US ANSI groups. That was the first time. I

was the only person in the room who had actually had involvement with both groups. Bob was recently at an international meeting which was considering these issues as well. Australia can play quite a critical role in helping to bridge that gap. The reality is that there is some mistrust between the Europeans and the Americans in coming to an agreement about these things. It has got better in recent times, but that has slowed down that international development.

**Mr QUICK**—It is similar to the left-hand drive, right-hand drive, we're right, you're right, we will get the market share so VHS and Beta—

**Mr Williams**—There are vendor issues in this because of the attitude of vendors to standards. Standards are about creating an open environment in which there is a broader market in which more things can sell. There are vested interests and there are, say, places like Seattle that may not want them.

**Mr QUICK**—So it is not necessarily being driven by health perspectives but, in lots of cases, by market share?

**Mr Lions**—Very much so. The Europeans, the Americans, and the Japanese to some extent, all regard Australia as their sales territory, so we get devices sold in Australia from all three countries. We tend to find the problems of getting those to inter-work because someone will buy a piece of equipment from one place somewhere and bring into the same hospital or the same establishment a piece of equipment from another country. We find that we have to get them to inter-work within Australia. We have become fairly adept at that and see the problems fairly rapidly.

It is very much in Australia's interest if the equipment coming from all these different manufacturers comes built to the same standards so that they can be interconnected. We provide that representation in the international fora very frequently because we see the problems coming from products from both the European and the American markets.

**Mrs ELSON**—In discussions with a range of witnesses before the commission it is evident that, at present, there is no single accepted system for information exchange which is employed by practitioners. Various systems have been referred to in evidence, such as HL7, Dicom-3 and ICD-9-CM. Could you give more detail of HL7 and Dicom-3 imaging? Which of these systems do you consider to be the most appropriate in the Australian context, bearing in mind that the international information exchange is also a major consideration?

**Mr Treseder**—I would be happy to comment on that. HL7 means health level 7. The number 7 comes from the seventh layer of the International Standards Organisation, ISO, reference model that defines the levels of structure within a network for communicating between computer systems. It is a high level. It is fairly much non-

technical, and that has great advantages because it means that users of computer systems can get together and talk about what they need to communicate with each other. HL7 is the only standard available internationally that is totally comprehensive for computer messaging between disparate computer systems within a hospital. It is the American national standard for that purpose. Version 2.2 of HL7 was defined in 1994. Version 2.3 comes out in March this year and extends outside the hospital system as well as inside the hospital system, and that is why that is very important for your particular question.

At Standards Australia we have been defining a number of standards for how to implement this protocol—I will use the word 'protocol'. I know, Mr Chairman, you asked about the question of a definition for protocol. Protocol in this particular case is—

**CHAIRMAN**—How do you know there is one?

**Mr Treseder**—The reason for it being a protocol is in fact that the seven layers of a network that were originally envisaged by ISO can then be looked as providing protocols, or an agreed way of performing each of the requirements from a user down through the various layers to actually physically sending information along a computer line to another computer. So it is very much interpretations between various pieces of information to break it down, send it along a computer line, get it and bring it back together again. It is very much like the kinds of protocols that exist in translating information between different countries. So it is the same kind of idea, but in a computer environment.

At Standards Australia we have produced the first standard in the world that says, 'This is the way to implement HL7 for every single hospital in the country, whether it be a public hospital or a private hospital', because of all other countries throughout the world that have used HL7, every hospital goes their own way. The benefits for Australia in defining it in a standard way, an agreed way, for every single hospital is that it will significantly reduce the cost of computer systems in our hospitals and significantly reduce the time that it takes to produce those computer systems.

To give you some kind of idea of the magnitude of what I am talking about, if a hospital spent $100,000 purchasing computer systems, it may need to spend $300,000 trying to link them all together; and it may take them three years. So our standards are directly addressing that need to significantly chop out that $300,000 of connection costs and significantly chop out the three years it would take to connect all those systems together. That is the function. I want to just give you a bit more information about the background of all of that.

In the area of Telemedicine, obviously your question is very appropriate there in terms of ACR/NEMA/DICOM, which is the standard that is used within Telemedicine for communicating images down a computer line. The difference that currently exists between the way that a patient is defined between ACR/NEMA/DICOM and HL7 is important.

There are differences. However, the Americans, to their credit, have defined a standard way of identifying all the elements between all the various standards bodies. ACR/NEMA/DICOM is the American College of Radiologists and their standard is to do with imaging. HL7 have come from the clinical area and there are differences in the way they define patient attributes, but they are now getting their act together and getting that commonality sorted out. So I hope that is given you some background there.

**Mrs ELIZABETH GRACE**—The Mater Hospital in Queensland has put in their submission that a very real obstacle for development of clinical information systems is a lack of pre-developed standards. That suggests that standard data definitions and standard data dictionaries should be developed now and not after the development phase when there are already several fully integrated clinical programs in use.

Is it correct to assume that this statement is suggesting that standards setting and definitions are lagging behind Information Technology systems? Is Standards Australia aware of these concerns that have been expressed by the Mater Hospital?

**Mr Treseder**—The data definitions are not the realm of Standards Australia. Data definitions are the realm of the National Health Data Committee. In fact, Mr Williams might like to comment on that.

**Mr Williams**—I think there is some legitimacy in their concerns. In terms of data definitions, as Peter correctly pointed out, most of the work that has been done in that area has been focused to date in the hospital sector and it has been driven through the national Health Information Management group, who I understand have separately presented to the committee. That has focused to date largely on the hospital sector, although they have recently had their first report tabled, which had a model and definitions for primary community based services.

An exercise has recently been completed that mapped the HL7 standard to the national health data dictionary and is looking at the reconciliation between those two. In developing the HL7, there was participation by the Australian Institute of Health and Welfare, who are the custodians of the national health data dictionary. When I talk about the differences, they are really quite small at this stage. But that has been a relatively recent development and really comes to fruition with the implementation of the HL7 standard. That will be an ongoing process, particularly with 2.3, which extends probably a bit more back in step with that because the national health data dictionary for institutional care existed long before the HL7 one was in place.

In terms of broadening HL7, the national dictionary and model and information definition interaction is being put in place for consideration now at the same time as HL7 is coming on stream and that development will work in tandem. I think there is an opportunity for us to gain on that.

**Mr QUICK**—Does Standards Australia monitor the compliance with HL7? Who has got the job of monitoring compliance?

**Mr Treseder**—It is not generally the role of Standards Australia to be the watchdog on the actual implementation of standards. Your question is most appropriate and I think it is one that the professions need to address, definitely.

**CHAIRMAN**—Whose role is it?

**Mr Treseder**—I believe it is the profession's.

**Mrs ELIZABETH GRACE**—On this business of who does what and where, and given that a lot of the radiologists are using this Dicom-3 imaging standard, how will the implementation of this HL7 affect them? You are saying it is starting to be standardised throughout Australia. Will they have to change completely or is it going to be compatible? Are they going to be able to modify it? What is going to happen there?

**Mr Treseder**—The differences that exist in the way that patients are defined with ACR/NEMA/DICOM and HL7 are being addressed in America. Within a relatively short time frame the differences that do exist will be addressed, but back at the source, rather than having to fiddle around with systems to try to get them to talk to each other.

**Mrs ELIZABETH GRACE**—That seems fairly practical. Following on that, what would be the costs and benefits for the future adoption and link-ups to a single HL7 standard?

**Mr Treseder**—Following a single standard is a lot more cost effective than following a whole lot of different standards. The benefit of following one standard is the improvement of communications. We have communications within hospitals; between hospitals and general practitioners; between general practitioners and pathology providers; between general practitioners and pharmacies; and all with the Health Insurance Commission.

We have, in fact, defined for the electronic medical prescription what is known as an object oriented data model. That is the way forward for the new developments that are taking place with future versions of these standards, in particular HL7—the new version for release in a couple of years time—will be based on that approach.

**Mrs ELIZABETH GRACE**—Do you see the Europeans are picking up with HL7?

**Mr Treseder**—They already have.

**Mrs ELIZABETH GRACE**—They have seen the error of their ways and have decided that this will be the universal program?

**Mr Treseder**—I would not necessarily say that but, certainly, a number of countries in Europe have agreed on the use. Germany and the Netherlands have certainly installed HL7, as has Japan, Canada and New Zealand.

**Mrs ELIZABETH GRACE**—That was my next question: is it going to be brought into the Asia-Pacific Rim; are they likely to run with it and use it?

**Mr Treseder**—We certainly hope so. We will be pushing very hard in the international standards arena for mature standards such as HL7 to be widely used internationally.

**Mrs ELIZABETH GRACE**—It is the logical thing to do, isn't it, because it seems to be the one that everyone has accepted?

**Mr Treseder**—It is indeed, and I think it is the way forward. The Australian way of implementing a standard in the same way throughout Australia is an important model for other countries internationally to follow. They have certainly recognised that; they think that the approach that we have taken is not only innovative but also very practical.

**Mr FORREST**—It seems to me that some of this work will be a moving feast, because I can remember the days when universities used computer languages such as COBOL and Fortran. We have now had DOS and the thing just keeps moving on. I am a bit concerned about how the evolution of standards occurs, whether your organisation is able to keep up with that, whether you actually have an involvement at the grassroots level—there are a huge number of pilots going on with Telemedicine around the country—whether you give hands-on advice on the compliance with standards and whether there is feedback on whether those suggestions have not worked, and whether there is a better way to do things. Does that all occur and could you explain that process?

**Mr Treseder**—It definitely does. In fact, in the area of Telemedicine, the G7 Telemedicine projects—no doubt you have the report from the Commonwealth department on G7—will all be appropriate for evaluating standards. I think that is the best way forward. Once a standard is defined, it needs to be evaluated, and those seven projects that have gone forward for inclusion with G7 are comprehensive throughout Australia and all provide that type of opportunity. It is a big challenge.

We have got 18 different groups that work within the Health Informatics Committee. There is a main committee; there are seven subcommittees; there are six working groups; and there are a number of focus groups within that. So there is a big structure.

I will give you a specific example. The pathology messages working group has got all of the stakeholders in Australia in it, and there are 45 stakeholders. You cannot bring it down any lower than that. The Commonwealth, all the states, the pathology providers and everybody who is a stakeholder is represented. The prescription working group has a similar number of stakeholders. They are all different, although they represent the Commonwealth, all states, the Pharmacy Board and the pharmacy society. The reason it is important that all states be represented is that the law-makers are also in there.

As the representative on the New South Wales Pharmacy Board said to me just recently, the great thing about being involved in the standardisation work is that he can now draft the legislation that will be required for the standards that are being produced for messaging between general practitioners, pharmacies, the Health Insurance Commission and what have you, rather than at some point in the future us saying, 'We have now produced a standard and we need legislation in that area.'

It is a big challenge. It covers a broad range—we have got hundreds of people working on the standards. They keep us well and truly totally informed, as we keep them well and truly totally informed about the developments not only in Australia but in Western Europe, pan-America, Asia, Africa, et cetera.

**Mr FORREST**—But how long does that process take? For example, I can understand the medical profession might be a bit nervous about making a diagnosis based on an X-ray electronically transmitted that may not be as good a picture as if he were looking at the actual film, but so long as it is the most up-to-date standard available, then he has sort of complied with any potential legal issue that might result. But then along comes a new technology—and it is not very long—then there is a process by which it becomes the new accepted standard. How long is that period?

**Mr Treseder**—I will give you a good example. The international time to produce a standard is five years. As far as my group is concerned in health informatics, it is totally unacceptable. In March last year we got all of the stakeholders involved in pathology messaging together. They all agreed that we needed a standard for pathology messaging between general practitioners, pathology providers and back again—vitally important. Eight months later they produced their first draft standard. They worked totally electronically. Every communication, all of the words that they needed to put into the standard, was transmitted electronically. We used list-servers.

That draft standard is now up on the world wide web. All of the committee members comment on it. In fact, the chairman of one of the focus groups was in America at a meeting last week and communicated comments from America. He was in Florida and sent those comments through the world wide web to my computer at Standards Australia. We are using technology to its fullest advantage.

There are not huge changes in standards. Certainly, all of the background that you

referred to there has provided concerns. Big changes have taken place in the area from COBOL, Fortran, et cetera. The kinds of standards that we are working on at the moment in defining provides a commonality for all of the various stakeholders in Australia to come to terms with a standard way of doing things—an agreed way—and provides a forum for them all to get together and then to produce a standard, a document.

I have a standard here for personal privacy protection in health care information systems. That is what a standard looks like. We produce the standards on paper and we are also putting, as I have suggested to you, on the world wide web to facilitate ease of communication between various members.

**Mr QUICK**—Are the states with the appropriate legislation just as prompt?

**Mr Treseder**—Absolutely. All of the state governments participate in all of our work and they are doing an excellent job. They are totally 100 per cent behind what we are doing.

**Mr QUICK**—All of them?

**Mr Treseder**—Every single one of them without question, including Tasmania.

**Mr ROSS CAMERON**—My question follows Mr Forrest's. You have put together AS 4400 in relation to personal privacy protection in health care information systems. How did you put that together? What was the consultation process to arrive at that standard? How are you going in terms of implementation? How widely has it been adopted across the profession?

**Mr Treseder**—Thank you very much for those questions; they are very appropriate. The standard AS4400 was several years under development. I did not come in at the beginning of it but probably part way through its development. We received comments from the public. It caused me to totally reorganise the committee to be able to address the kinds of comments that came back. Very important comments came back from the research community, and we had to address them.

We ensured that the standard enabled an appropriate approach for the NHMRC. In fact, we ensured that they signed off on that standard. It has the endorsement of all major health and medical organisations in Australia, and that is important. It is now a given, accepted standard for all work in health informatics standardisation in Australia. All stakeholders agree that it is an essential foundation stone for all health informatics standards. In terms of the pathology messages working group, that standard is an essential foundation stone that must be followed.With respect to the electronic medical prescription, again, the standard is something that must be followed.

**CHAIRMAN**—So what you are saying is that it is fully implemented?

**Mr Treseder**—It is not fully implemented.

**CHAIRMAN**—Why not?

**Mr Treseder**—That is a good question. However, it is agreed that it is essential by each state government—

**CHAIRMAN**—We are running out of time. With respect, you tell me that it is an essential element of this and that. I then ask you whether it is fully implemented and you say, 'Well, that's a good question.' Perhaps you could answer it.

**Mr Treseder**—With all due respect, sir, it is not Standards Australia's role to make it so.

**CHAIRMAN**—I think you may have answered a similar question earlier, but whose role should it be?

**Mr Treseder**—I believe the Australian government needs to ensure that such important standards have wide coverage.

**Mr Lions**—The status of a normal Australian standard is that it is produced by a consensus group, which we hope includes all the stakeholders in the process. They feel that they have ownership in the document. We hope that they will adopt it. Other than that, it is words on paper or words in an electronic store somewhere. About one-third of the Australian standards are adopted in legislation or regulation somewhere around Australia, so they start to get the force of law. Normally, they are taken up in contract arrangements between two parties by specific reference. Otherwise, they have no formal legal status.

**Mr QUICK**—So one-third are actually in usage and compliance is up to the people who are basically interested in it? So you have set a standard, one-third of them have been implemented and you do not monitor them?

**Mr Lions**—One-third of them have been called up in legislation. It is the responsibility of the regulator or legislator to ensure that they are complied with. Many others are used for various other reasons. I would hesitate to suggest that the standard for screw threads or something like that is caught up in legislation. But a very foolish manufacturer would not follow that sort of standard.

**Mr QUICK**—We are basically interested in the health issues. What is the percentage of them? If there are 27 standards in this area, of that 27, how many have been put into legislation and who is monitoring them?

**Mr Williams**—I will give a couple of examples that are particularly relevant. In

the example of HL7, when New South Wales Health enters contracts for any Information Technology, there is a standard clause that says it will be compliant with HL7. We have had that clause there for a while because we have had this problem. The significance of the development here is that when we were relying on the international one, a vendor could virtually put any interpretation they liked on that and say that they were compliant. We now have something that we can assess that compliancy against. That is a major step forward, from our point of view.

I want to talk about personal privacy protection. We have developed our privacy code, which is a policy document in New South Wales, in the terms of that standard, and make specific reference to that standard in our privacy code. In ultimately developing the legislation that will operate in New South Wales, we have made that information available to the Privacy Commissioner as part of health concerns and where that legislation may go in ensuring that it fits that understanding of the industry. So it is used in those sorts of environments.

But it really is very much up to the person. I do not see it as Standards's role, although, interestingly enough, in that case they have been approached by a couple of organisations about accrediting their use of that standard. Bob might like to comment on that. That is where some organisations have sought that role from Standards.

**Mr QUICK**—You are aware of what New South Wales is doing and you are on these working groups, obviously. What other states have complied with the HL7? Are all the other states up with you guys?

**Mr Williams**—Very much so. Peter is probably in a better position to comment in terms of the HL7 working party. All states are represented on that and have worked very closely.

**Mr QUICK**—I know they are represented, but have they gone to the stage of New South Wales? Of the 18 million Australians, are only five million being looked after in New South Wales while the rest of the states are lagging behind?

**Mr Williams**—No. I know that South Australia and Queensland require it. As far as I am aware, all states require it.

**CHAIRMAN**—I was wondering—this is a very interesting and complicated area—whether you would mind if the secretariat were to contact you as we progress towards the writing of our report to perhaps get additional assistance and advice from you. We are very keen, as a committee, to ensure that we get it right. If there were some matters you were unable to answer, you could respond to the secretary, who will circulate that material to members. Thank you very much for appearing before the committee this morning. A draft of evidence will be given to you for checking. You are welcome to stay as long as you wish. Before you go, though, could you see the lady from Hansard to see whether she needs any clarification on anything that you have said.

[10.55 a.m.]

**BRITT, Dr Helena, Director, Family Medicine Research Unit, Department of General Practice, University of Sydney, New South Wales**

**MILLER, Dr Graeme, Medical Director, Family Medicine Research Unit, Department of General Practice, University of Sydney, New South Wales**

**CHAIRMAN**—Welcome. I now call the witnesses from the Department of General Practice, University of Sydney to be sworn in. Could you just summarise some of the highlights of your submission to focus our attention in questioning?

**Dr Britt**—First of all, we would like to thank you for giving us the opportunity to talk further about our submission. Having been here yesterday, we would also like to table copies of three recently published papers from the Family Medicine Research Unit which may later help to clarify a few issues for the committee. One question is: why code, why classify? Another issue is: which code, which classification, and an outline of what is happening in community health and primary care information developments in New South Wales.

**CHAIRMAN**—Thank you very much. The committee is pleased to receive those.

**Dr Britt**—The Family Medicine Research Unit is the research wing of the Department of General Practice at the University of Sydney. We are quite a small organisation, but our major concerns are research and development. We are concerned with the building blocks, building the structures that are needed underneath the issues that you are speaking of. If you are talking about Telemedicine, or about smart cards, or centralised data warehousing, or any of these things, there are certain things that need to be developed. They are classification systems; standards for the structure of a medical record, and functional requirements for a medical record within a practice.

More than that, we are also concerned with developing analytical methods. You talked yesterday about outcome measurement and cost effectiveness. To get that sort of information, you have to have data, and you have to have it in a recognisable manner. But you also need to fund the development process to find out how to analyse the stuff so that you can say, 'This a measurable outcome.' That research and development funding is not occurring at the moment in this country.

We are known best for our research in large-scale data collection and development of analytical techniques. But we are also well known for the development of the International Classification of Primary Care plus—that is, ICPC PLUS—for data classification in a computer at the point of consultation.

Yesterday, Rosemary Roberts said, 'The world of coding is divided into two

groups: hospital coding systems, that is, ICD, which we have sunk a large amount of money into in this country; and primary care coding, which is ICPC.' I need to give you a little outline of ICPC PLUS. ICPC is an international classification developed by the World Organisation of Family Doctors. It was designed for paper based records in a general practice, so that people could write down a code for a medical concept.

That was fine. But once we get to computerised medical records, it is far too broad, and ICD-9-CM, or ICD-10-AM, are no good because they are much too detailed. They are really hospital based, death based, diseased based. There are a lot of issues in primary care and community health that have nothing to do with physical illness, social, or psychological problems.

But ICPC was not detailed enough, so we have expanded ICPC to put into computers. The GPs no longer code; they enter a term into the record and the computer gives them a choice of terms connected with that word. Then they can say, 'Yes. That is what I want.' They never see a code.

So, when Rosemary Roberts suggested yesterday that it may take two weeks to train a GP to code, I suggest that we should not even be talking about coding; we should be saying, 'Here is the information. You pick the best description of the disease or the social problem that you are managing and the computer will code it for you.'

Since our submission, there are a few things we would like to update on ICPC PLUS. Firstly, in Australia, under federal funding we have completed mapping of ICPC PLUS to the hospital system, so that you can communicate between ICD-9-CM or ICD-10-AM and ICPC out in the community. We are working with the Royal Flying Doctor Service to test the application of ICPC PLUS in two of their centres in New South Wales and Western Australia. Northern Territory health is developing a computerised medical record system which is now being tested, including ICPC PLUS as a classification, in several centres in the Northern Territory. Victoria health is testing ICPC plus for community health. Aboriginal health is testing ICPC PLUS. In New Zealand we are giving a final presentation to the government in March, and hope to have that accepted as one of the standards for coding classification in community and primary care in New Zealand.

And last but not least, the group of states that we talked about yesterday, and New South Wales health, have just completed a funded study to look at the application of ICPC PLUS for community health services. A final decision on its adoption is due in the next few weeks. And, I think, that Dr Miller should give you a run down of what is happening overseas.

**Dr Miller**—I think that it is important with—

**CHAIRMAN**—Could you keep it to about a minute, please?

**Dr Miller**—It is important that we get this into the perspective of the international circumstance. The International Classification of Primary Care is being widely used overseas, particularly in Europe, and similar projects to extend it for use in computer systems are being undertaken in Scandinavia, particularly, in Holland, in North America and Canada. In a recent study trip, we entered arrangements to assist departments of general practice at the University of Oslo and in Denmark in developing local systems. We also entered arrangements in France with French general practitioners. But of greater interest are the developments in information systems in general practice overseas. I would like to table a document describing a health communications network system in Denmark. It is a very good model which electronically connects general practitioners, hospitals, pharmacies, pathologists and radiologists. In fact, all of the messaging is electronic for the vast majority of general practitioners and hospitals. All prescriptions are transmitted electronically and all discharge summaries and admission documents are transmitted electronically. It is a working system that works effectively. It is a good model and it is something that might be of use—

**Mr QUICK**—With privacy safeguards?

**Dr Miller**—Yes, with full privacy safeguards. The safeguards in Europe are quite explicit. The connections are secure. It is all password controlled and at some levels they are also encrypted.

**CHAIRMAN**—Would the privacy levels in Denmark be sufficient to satisfy the Australian Privacy Commissioner? We could refer that to him.

**Dr Miller**—The circumstances in the EC are such that you cannot transmit data from one country to another unless you comply with the EC requirements. The changes in the legislation here are required to enable us to be able to communicate with the EC, whose rules are much stricter than ours.

**CHAIRMAN**—You are aware of a number of Telemedicine projects around. There has been concern expressed that we seem to be continuing with pilot programs and reinventing the wheel in different parts of the country. There does not always appear to be adequate sharing of the results of those pilot programs, with the obvious consequence that other jurisdictions will then do another pilot when that trailblazing work has already been done in some other part of the country.

Why do you consider there is such a reluctance to share the results of pilot programs? Is it something to do with the fact that many of these are involved with research, particularly on the part of universities? Could it be that in today's competitive university environment, universities are very keen to cut their teeth and to establish their own research capacity without sharing that with other institutions?

**Dr Britt**—I do not believe so. Universities are well known for trying to publish as

much as possible. If we do not publish we perish. We actually disseminate the results of our work much more than divisions, much more than small groups of GPs in different states who do not publish their work nationally or internationally. The underlying problem is that there is not a plan. A pilot should be a test of a hypothesis. Having done some research and development you can then say, 'This should work, let's pilot test it'. But those pilots should be part of a major plan. There is not a plan.

**CHAIRMAN**—Are you saying there is not a plan in any part of the country, or are you saying there might be six or seven or eight different plans but no national coordinated approach?

**Dr Miller**—One of our problems has always been, not only in health, the duplication of governments and the fact that we have so many of them. Therefore, you get differences in plans. You get state plans and you get federal plans.

In a lot of the general practice work and a lot of information there has been a lack of coordination and a lack of planning. I was co-author of a conjoint project between the College of General Practitioners and the Medical Software Industry Association which widely canvassed opinion as to where we should go with this. It was a project to look at the development of standards, which we defined. But a very consistent theme that came through was the lack of an information management plan for health in Australia that was integrated across the states.

General practice is in the position that it is funded by the federal government. It has difficulty in interacting with state health departments because there is no responsibility on state health to have anything to do with general practice. So the development of impressive communications and information systems at the state level has no connection across to the major primary care providers in general practice.

We came up with a recommendations that the brief of the National Information Management Group should be widened to undertake that kind of role of coordinating and integrating health information management planning right across the system. The English model is very typical of how this has worked effectively in the UK to have an integrated system, and the Danish experience is exactly the same.

**Mr QUICK**—We have heard all this evidence in the last few days and Dr Britt encapsulated it all by saying, 'There is not a plan.' What is your solution to the problem? We have heard Standards Australia saying, 'We are setting all these standards. The compliance is up to the profession.' You are talking about different levels of responsibility and the states are running agendas. We have got privacy acts covering federal departments, but the states have not implemented their own. We are inventing all these standards and protocols.

**Dr Miller**—This is why we suggested the need for an integrating organisation. The

choice of the NHIMG was because it exists and because it is a framework under the cooperation of the various governments. I do not, at the moment, see any other organisation that is capable of doing the sort of planning and integration that is needed. It needs, obviously, to have its membership broadened to include many more of the stakeholders who are not involved at the moment in that kind of process and it would need financing and an infrastructure in order to do this.

At the moment the comment about all the pilots is that they get done, but nobody implements them because there is no integrating plan in order to do that. This is one of the major difficulties that we would see.

**Dr Britt**—A lot of funds are going into these pilots, whether the funds are going through the divisional funding process or through the general practice evaluation process. If some of those funds could be earmarked for directed planned research, I think it would be a far more effective way of generating a widely publicised response. So you would have—as with RADGAC funding under the old NHMRC funding—directed research where they say, 'We need to know this, we need to know this,' and the results can all fit together in the plan.

**CHAIRMAN**—What would you say would be the role of government—state and federal—in all this?

**Dr Britt**—First, as funding bodies, and, second, under the NHIMG you could develop the plan with state and federal agreement.

**Mr ROSS CAMERON**—In your submission on ethical, privacy and legal issues, you talked about the code of practice for medical records being developed by the College of General Practitioners. We just heard testimony from Standards Australia that they have developed AS4400, which seems to me to address precisely that same set of issues. What is the relationship between those two standards?

**Dr Miller**—I am the convenor of the RACGP working party that developed this standard and this process has been going on for over two years and has been in operation and trialled during that period of time. Both the AS4400 and the proposals from the Attorney-General's Department really lay responsibility on organisations and professional groups to develop codes that fit within those standards or those proposals and comply with the information privacy principles.

In that respect, we have had a member on the Standards Australia committee and we have held discussions with the Attorney-General's Department. We would expect that with further development the RACGP code will become one of the gazetted codes within the proposed legislation from the Attorney-General's Department which will also be at the same time a compliance subset of the Standards Australia standard.

So if you see these are a high level standard, you need then to make them specifically applicable to industry, and in this case to general practice. There are circumstances about general practice that require certain differences, one of which is the problem about retrospectivity of access, which is a subject of discussion between us and the Attorney-General's Department because of the major concern.

There is another one. The Acting Privacy Commissioner mentioned the requirements for research to be accommodated within privacy principles and the privacy legislation proposed. The other things that need to be taken into account are processes of quality assurance within health care, that are also not taken into account in the proposed legislation.

Some methods of quality assurance would be effectively prevented by that legislation unless this is taken into consideration, because particularly things like medical record audits, which are an important part of quality assurance, could effectively be limited. Accreditation processes could also be limited—for instance, the hospital accreditation of the Australian Council on Health Care Standards would be limited by some of the privacy considerations at the moment.

**Mr ROSS CAMERON**—So what you are really saying is that there is a kind of hierarchy of standards from a fundamental law and then a more specific—

**Dr Miller**—It is at the top 10 privacy principles of the OECD.

**Mr ROSS CAMERON**—Then how many individual standards are needed? We are saying we need one for general practice. Are we talking about one for every area of specialisation as well? What do you think the need is?

**Dr Miller**—This is governed by the amount of difference and the amount of variance between various groups. I think the Attorney-General's Department sees there being a different standard for each industry in the private sector. But in some industries there is a division between them. The general practice one may be applicable to all primary care, for example, but you may need a different type of code for institutional caring hospitals, so those two separations may be the only two within health.

**Mr ROSS CAMERON**—So in terms of the way that works in practice—let us say you have developed a code of practice for general practice; does it require a doctor to consult a patient before, for example, getting a second opinion on their case?

**Dr Miller**—Yes, this is a normal part of practice, as was mentioned by the Privacy Commissioner. There is a very strong ethos of privacy and confidentiality within health and particularly within general practice. Compliance with these sorts of codes is about people and about people's behaviours rather than about compliance mechanisms or enforcement.

**Mr ROSS CAMERON**—Are you going to get a situation where a patient goes to see their GP for the first time and sits down to fill out the form, in which the GP will simply say, 'Do you in effect give me permission to raise your case with my colleagues in the profession if it is necessary to get a second opinion?' How is it going to work out in terms of that interface?

**Dr Miller**—The college's suggestion on this is that this sort of information be included within practice information sheets which are supplied to patients, and particularly to new patients coming into a practice, to set out the sorts of policies that an individual practice might have. Of course, in medicine there is an ethos that has developed in which there are implied consents given that, if a patient comes to see you, there is an implied consent to you recording that in the medical record. It is something one does not specifically ask the patient because there is community acceptance of these particular processes.

If you write a letter to a specialist and give it to the patient, again there is an implied consent to the information going to the specialist, mainly because the patient takes it there. A lot of this is implied and it works. A lot of it is just codifying and putting down on paper what is in fact good common practice.

**CHAIRMAN**—And what is happening now?

**Dr Miller**—Yes.

**Mr ROSS CAMERON**—So there is not going to be a problem with doctors being presented with a kind of bureaucratic or administrative obstacle to the free sort of exchange of concerns and problems in relation to individual cases because they feel, 'If I want to make that phone call to my colleague I first of all have to call the patient or get some sort of written consent or authorisation'?

**Dr Miller**—I believe that if the standards are professionally based—and these ones in this case have arisen from a consensus from the college, but with expert advice and with consultation with consumers, et cetera—this is a process which can be made entirely workable. But I think it is why it is important to have these specific subsets, because I do not believe that you could enforce the Australian standard, as it stands, exactly, in general practice—nor the Attorney-General's proposals, which is why you need the subset. I believe that the Attorney-General's approach in saying that the Privacy Commissioner can sort of stamp as appropriate professional standards is a good way to go.

**Mr FORREST**—One of the terms of reference of our committee was to assess the feasibility of Australia becoming a regional leader in the marketing and use of this whole Telemedicine and information area. That is why I was concerned to read in your submission your statement that there has been great international interest in your new pharmaceutical code and that it is in fact the Commonwealth department that is holding

back the opportunity for you to take advantage of that. Could you explain the source of that problem and what we might be able to do about it?

**Dr Britt**—When we were conducting a major study, one of the pilots of the Read clinical codes, we discovered to our horror that there was no single pharmaceutical database in Australia that was complete and classified, and you need to classify it if you are going to put it into medical records and be able to get the information out in a meaningful manner or look at outcomes from particular management.

So we set about, as part of the project, and this had not actually been included in the first place, developing a basic classification system which could be applied in any country, not only our own. We reported that to the federal government and it was widely read and praised. We had a very large meeting in Canberra with representatives from federal and state governments, and the pharmaceutical industry, et cetera, where it was regarded as an excellent idea to put into systems. We also had, when we presented overseas, great interest from a number of countries.

When we approached the federal government—remember this was a federally funded project, and if you develop anything under a federal government contract it says in the contract that they own half and you own half, at the most—and asked for permission to distribute or to market this product to those countries who had already expressed an interest, we were told that it was going to the legal department. That was over 12 months ago and it has been two years since that report went in.

**CHAIRMAN**—Have you followed that up?

**Dr Britt**—Yes.

**CHAIRMAN**—That seems to me to be unacceptable.

**Dr Miller**—The intellectual property rights in most of this contract work are vested mainly in the federal government and therefore it is their discretion as to whether it is used. The concern expressed was whether, if the Australian government eventually decided to do something different, by us promoting this overseas there may be a conflict. So until they decided on doing something, it was not to their advantage to do this.

**CHAIRMAN**—Rest assured that we will have the department in the hot seat before the committee again and we will follow it up with them. We, like you, will be very interested to see why it takes them 12 months to two years to do something.

**Dr Miller**—We are in a position to market this. It is important because we are the Asia-Pacific distributors for the International Classification of Primary Care, under contract to the World Organisation of Family Doctors, so this is a complementary thing. We are already marketing overseas.

**CHAIRMAN**—So you are saying that you could lose that market because of delay.

**Dr Miller**—Potentially.

**Dr Britt**—Certainly we will not expand as we should. One of the things we made sure of was that the development of ICPC PLUS was not government funded, so we can market that.

**CHAIRMAN**—It just seems that there is absolute bureaucratic incompetence somewhere in the department.

**Mr FORREST**—Absolutely.

**CHAIRMAN**—I do not know how on earth any department could take between 12 months and two years to give a response. I think to treat you with such absolute contempt as to not even get back to you to say why they are so inefficient is unacceptable in today's society. We will certainly be very strongly putting a question to the department to find out just who was responsible for such an outrageously dilatory approach to such an important matter. We will arrange for the committee secretary to contact the department before they come before us on that. I do not think we can allow any further delay to occur.

Thank you for appearing before the committee this morning. A draft of the evidence will be sent to you for checking. We found what you said particularly interesting and very helpful.

[11.20 a.m.]

**GILL, Dr Robert Wyatt, Senior Principal Research Scientist, Ultrasonics Laboratory, Division of Telecommunications and Industrial Physics, Commonwealth Scientific and Industrial Research Organisation (CSIRO), PO Box 225, Dickson, Australian Capital Territory 2602**

**CHAIRMAN**—I now call Dr Gill from the CSIRO to be sworn in. Welcome. Would you please outline the capacity in which you appear?

**Dr Gill**—I am appearing here in my capacity as the coordinator of the health services component of the service sector committee of the CSIRO.

**CHAIRMAN**—We have received you submission and read it. I now invite you to highlight in a very short space of time some of the more interesting elements of it.

**Dr Gill**—I guess there is absolutely no need to talk about the challenges facing the health system in terms of cost control, improved quality of service, improved access for remote people and so on. But I think it is very clear that Information Technology, in many different forms, has a tremendous lot to offer in addressing those challenges. That really is the framework within which the thinking in my submission was placed.

The health system is extraordinarily information intensive, as must be very obvious to you. There is an enormous amount of information ranging from management information to information on practice, individual patient encounters, claims, diagnostic challenges, et cetera. This information tends to be very complex, relatively unstructured, very diverse, very scattered and so on. I think one of the challenges is to address things—as other speakers have done—and to have something a little more coherent on this information, using standardised terminology, standardised messaging systems, codes and so on.

If we stand back and look at many of the problems in the health system, where you have got data, they follow a classical problem. And, as I said, that can involve large amounts of complex data. You analyse that data in some fashion, turn it into information and then use it to make decisions. Again, this ranges from the management end of things down to the individual clinician dealing with an individual patient and making decisions. One of the areas that I would like to highlight is that there are new techniques being developed in the areas of mathematics and statistics for dealing with some of these issues, where the data is of this nature.

The term ‘data mining’ is coming into use now. That essentially covers a range of techniques that can deal with the complexity and quantity of data that we are talking about here. CSIRO has, as a matter of strategy, been building up skills in this area for application in many areas, from industrial through to government. We are very interested

in seeing whether some of these techniques could be applied in the health area. That is the first point that I would like to highlight.

**CHAIRMAN**—Could you clarify what you mean by 'data mining'.

**Dr Gill**—I am not an expert in this area; my background is engineering rather than mathematics. But it is a way of describing, I think, a collection of techniques which range from methods of analysing large data sets, of finding patterns, of asking questions, of dealing with the inadequacies which may relate to imperfect quality of data, missing pieces of data and not having precisely the information that you want, and having to find surrogate information to get after the particular question that you are asking, through to ways of presenting this to people to make sense of it.

**CHAIRMAN**—If you are aware of other forms of coding health data, could you discuss these with us. Could you also tell us why organisations do not come together to formulate a national system to be accessed Australia-wide.

**Dr Gill**—I am not an expert on coding systems, and I think there are people with far more expertise in that area appearing before you. As to the question of why people are not getting together and doing things on a more national and coherent basis, I very much agree with your point that that is what should be happening. In fact, one of the things I highlighted in my submission is the fragmentation of the system at the moment—that is both in terms of multiple governments and in terms of the mix of public and private.

I believe there is very much a need for taking a more coordinated approach. Indeed, one of the final points in my submission is that CSIRO would like to be part of a coalition of people who come together to address that. We would like to work with governments, with industry and with health care providers to contribute to that sort of an effort. This coalition of people would also include universities and other groups. I believe there is a need for this.

**CHAIRMAN**—Should that organisation also include the AMA and the Royal Colleges?

**Dr Gill**—Yes, I think the professions should be represented by their various bodies. Absolutely.

**Mr QUICK**—It is obvious from reading your submission that you have enormous skills in lots of areas. It is also obvious that people have not tapped into it; it is a case of sitting back and waiting, and then suddenly realising, 'Hey, we have this skill.' I guess in the current climate it is user pays, cost recovery and that sort of thing. Countless speakers have mentioned that we have state governments, we are running pilots and we have probably got 300 or 400 groups with an interest in health—universities, colleges and the like. Yet we have seen a small document of 20 pages in which the Danes have sorted it all

out. Why are we fudging around? And are we ever likely to solve the problem, for goodness sake?

If you have all the statistical wherewithal to mine this information and come up with the cream, and the doctor in Dover in southern Tasmania says, 'I need to figure out what this is,' and he can plug the computer in, the cream rises and he can take it off and say to the patient, 'Looks like you have got X, and here are the treatment regimes,' then away you can go and you are happy. It can be done in a split second. We have got the technology; we have got the information. Do we say to the state health departments, 'You are bloody hopeless. We need a national coverage. We need to have national privacy legislation. Let's stop pussyfooting around.' It must be an enormous waste of money.

**Dr Gill**—You have made a number of very good points there. In terms of the CSIRO, yes, we have expertise and, in the past, it has probably not been well recognised. One of the reasons I am here is that CSIRO has a new structure which essentially has groupings specifically addressing areas of application of our work, as well as the disciplinary structure that we have always historically had. I am here precisely because, for the first time, CSIRO has said, 'We work in the area of services and we work in the area of health services.'

The organisation also does work in areas such as pharmaceuticals and human nutrition, but the area I am involved with essentially is Information Technology in health care. We are doing some nice work. It is often on a very small scale at the moment. I am here because we believe that now is the time to say that we, within the organisation, are drawing things together coherently. We would like to find the right partners to work with to make this really effective.

**Mr QUICK**—But we have all these working groups.

**Dr Gill**—Yes.

**Mr QUICK**—There seem to be working groups ad nauseam and we are running pilots. The states are lagging behind.

**Dr Gill**—I agree with the comments about pilots in terms of, say, Telemedicine, encoding systems, and so on; that we have passed through a phase of a multiplicity of pilots, a certain amount of reinventing, and presumably also a certain amount of going up blind alleys and finding what does not work. To some extent, we are talking about something which moves through different phases. I believe we are at the time now—and the meeting of this committee is very appropriate—where these things really should be drawn together.

We have learnt the lessons from the pilots. Practice overseas is rushing ahead. Telemedicine is very widely used now in Scandinavia, in the United States—all over the

place. Yes, we have passed beyond the time of doing little pilots. We can draw on our own experience, and other people's experience, and really start putting it together. Standards will help enormously with these things, but I believe we also need to group the researchers together and to get them together with industry, the medical profession, the providers, government, and so on, and really get on with it.

**Mr QUICK**—We heard evidence that the Commonwealth department is absolutely hopeless in some aspects. Where there is a program, and we can gain enormous export dollars, some people might say that we will give it to the Commonwealth department because they have oversight of the whole of Australia. But how do we ensure that we have a national approach?

**Dr Gill**—Probably the department has some work to do in that area. I do not know it intimately, although at one stage my group actually was a part of it before we were transferred to CSIRO. At the moment I am having discussions with people in various parts of the department about some of the work we are doing on techniques for making the use of ultrasound and other tests in pregnancy more efficient and reducing unnecessary usage of that particular test. What we are finding, as we expected, is that there is a fragmentation; there is no obvious group to talk to within the department. We are speaking to people in the NHMRC and in half a dozen different parts of the department. Fortunately, we are getting some help from people within the department to wend our way through that mess, but obviously that mess needs to be sorted out.

I understand the NHMRC is beginning to take a bit more of a strategic role than perhaps it has in the past, and a bit more of a pro-active role in identifying important areas and trying to set up some sort of coherent plans. If they can carry that forward to the point of taking some responsibility for building coalitions of people to work in specific areas, earmarking funds and so on, that will be a tremendous step forward.

**Mr QUICK**—What can we learn from looking at what has happened in other countries? How have they said, 'Okay, we have got this huge mess out there—it is like a Petty cartoon,' and got to something as succinct as the Danish solution?

**Dr Gill**—Well, I presume there is a lot more paperwork behind their nice little brochure.

**Mr QUICK**—That is right.

**Dr Gill**—As I said, I tend to be an optimist, but I do believe we are probably at the point where we are moving from one phase to another. That first phase is a very messy, exploratory, fragmented sort of a phase where many people are trying many things and they do not always communicate very well. For example, it would seem fairly evident that now might be the time for someone to call a national conference or workshop on Telemedicine and systematically share all our experience from all around the country.

There is such a lot that has happened, but it has been all over the place. But I do believe we are at the point now where we will begin to draw the threads together. We have got to work on it, we have got to push the people responsible, and I assume that the department has a major role in doing that.

**Mr QUICK**—I am also interested in rural and remote areas. Tasmania, compared to some other areas, is not all that rural and remote. But it is obvious from the expertise that the CSIRO has that Telemedicine could be able to virtually blanket cover the rest of Australia.

**Dr Gill**—Yes, I am absolutely convinced that Telemedicine has a role to play that is going to be very important. As I said, that is evident from the experience in other countries where it is more advanced than it is here. The other thing I want to emphasise is the possibility of using Information Technology to break down the isolation of rural practitioners. There have been some nice experiments done, for example, by people from Monash University where they took a group and linked them by computers, by electronic mail and so on.

They found that that really did help to break down that sense of isolation, both in terms of discussing clinical problems with one another across the country electronically and to some extent socially, and also in terms of being able to access up-to-date information on their profession and on related issues such as vaccination, current practice in some specific area, drug interactions, or whatever it might be. So networking of practitioners is particularly important for the people in remote areas and can do a great deal for them.

**Mrs ELSON**—A number of people appearing before the committee have suggested to us that they are worried about the dehumanisation of medicine with all the latest technology. Yet I see in your submission that you suggest that Information Technology has the potential to humanise the face of medicine. Could you elaborate a bit on that statement?

**Dr Gill**—What I spoke about is one aspect of that. For practitioners, particularly in remote areas, Information Technology can allow them to feel more part of a community of their colleagues. Also, as an example from a patient's point of view, if the various people involved in an individual's care are in good contact and share information, then that patient gets better care and does not feel as if they are being bounced around a system where each part of it does not even know what the other has done—and there are examples of that.

For example, with the asthma project in southern Sydney some time ago where general practitioners and the regional hospital were sharing information both on incidence and outbreaks of asthma and why they were occurring, and also on the care of individual people, and they were sharing the information back and forth, there was much better

continuity of care. So the patients got better care, but also, psychologically, they felt as if their GP knew, for example, what happened when they went into hospital and knew the state they were in when they came back out again. That also extends more generally.

If you take a group of primary care people and say, 'What can Information Technology and the existence of digital patient data do for you?' one of the first things they say is: 'We would love to have good discharge summaries when our patients come back out of hospital; to know what was done with them, what was wrong with them, and what is expected of us to follow up.' It is a very simple thing. At the moment it is done by paper, but it is done with varying levels of efficiency and sometimes those summaries arrive apparently weeks or months late and the doctors do not even know what has happened.

So even simple things like that are tremendous advantages from everybody's point of view. The technology, as an earlier speaker said, is neutral. It is the way we choose to use it that makes the difference.

**Mr FORREST**—That is a breath of fresh air. I was pleased to see that comment in your report, too. It is the benefit of an engineer looking at the technology and what advantage we can make of this.

**CHAIRMAN**—You have an affinity with that.

**Mr FORREST**—We have to be positive. I am a bit surprised that a lot of the focus of all the evidence we have taken has been on the negative aspects. We are worried about privacy. Yes, it is an issue, but I am sure we can resolve that. We have to be positive about delivering better health outcomes.

I just want to change tack a bit and talk about the government's role. One of the things put to us today, which surprises me, is the suggestion that there is a lack of a national strategic plan, such as what Scandinavia has. Incidentally, they do not have the restrictions of a federation, either. Are you able to make any suggestions there from where you sit on the CSIRO's point of view? Can you offer some suggestions about what should be a strategic plan to get Telemedicine back into the positive?

**Dr Gill**—Only in a very broad sense because I do not have a good, sharp, clear picture of who all the players are. It is such a diverse picture.

**CHAIRMAN**—It is a murky picture.

**Dr Gill**—Yes. And it is a picture that mixes so many different agendas, too. You have some groups like the recent Western Australian project, which looked at the Asian Telemedicine centre. It had very much a commercial focus and, in that case, an export oriented focus. Then there is the opposite extreme, where there are very clinically oriented

sorts of things.

There are coordinating bodies that bring the state and federal ministers of health together to develop policies, strategies and so on. I would have thought that could be a good starting point to get some agreement between the governments at all levels that the time has now come to put together a coherent strategy in the area of Telemedicine. Then it could be put to the various departments but, presumably, with the federal taking the lead.

**Mr FORREST**—It is obviously something which I want to see personally come out of this inquiry—a national strategic plan.

**Dr Gill**—Yes, and I think the time is right.

**CHAIRMAN**—Without pre-empting anything, it might even appear in our report. Are there any further questions? There being none, Dr Gill, I would like to thank you for appearing before us. A draft of your evidence will be sent to you for checking. Feel free to stay for the rest of the day. I would now like to call Mr Rupert Northcott to come forward.

[11.38 a.m.]

**NORTHCOTT, Mr Rupert John, Director, Medical Director Australia Pty Ltd, Suite 6/55 Grandview Street, Pymble, New South Wales 2073**

**CHAIRMAN**—I now call Mr Northcott from Medical Director Australia Pty Ltd to be sworn in. Mr Northcott, I understand that congratulations are in order in that your company appears to have captured an enormous percentage of the market in a very short space of time.

**Mr Northcott**—Yes. I am happy to elaborate on some of those reasons, if you would like.

**CHAIRMAN**—Yes. First, could you summarise some aspects of your report of which you would like us to particularly take note.

**Mr Northcott**—Yes.

**CHAIRMAN**—We did have a witness at an earlier meeting who tried to read a very long document, and we had to pull her up.

**Mr Northcott**—Their marketing plan, perhaps. I will be brief.

**CHAIRMAN**—Actually, I think the person was from one of the government departments. I think she thought she was being paid by the word.

**Mr Northcott**—Ladies and gentlemen of the committee, I am very grateful for this opportunity to discuss our exciting software product, Medical Director, with you today. In this session, I intend to spend only a brief time bringing you up to date with the latest developments and initiatives that we have undertaken in the five months since the submission was presented, so that we can leave the maximum amount of time for questions.

With your permission, Mr Chairman, I would like to make a few points. Before embarking on this exciting journey into the area of electronic information and Telemedicine, the users—who are doctors—need, first and foremost, an easy to use and intuitive platform which complements the way they care for their patients each day. The reason Medical Director currently has an 80 to 90 per cent share of the clinical software market is that it is simple to learn, easy to use and contains features of real practical benefit to doctors, particularly busy GPs.

**CHAIRMAN**—And you give it away free.

**Mr Northcott**—That helps, yes. Certainly, we perceived that the cost of software

was a huge barrier in the traditional marketing sense. GPs were being asked to fork out $20,000 or $30,000 for software and systems which did nothing much more than look after their accounts and a few other things. Clearly, we saw an opportunity to go to the other end of the spectrum completely and to start expanding the usage of computers across the board: that is, removing as many barriers as we could. It is our contention that, without first establishing a simple clinical interface, all other efforts to provide electronic health information and Telemedicine will find it very difficult to get established.

The IBM consultancy report, issued last year by the Department of Human Services and Health, set out criteria for an ideal clinical workbench which, when implemented, promise to increase the standard of medical practice and create significant savings. We believe that the Medical Director program comes closer to fulfilling the criteria for the ideal workbench than any other program available today.

**CHAIRMAN**—Why?

**Mr Northcott**—I am happy to discuss that. If you look at the points that were raised in that report—as in 'We would like this, we would like that'—there are a number of items, including such things as drug databases, Consumer Product Information, drug interaction warnings and a whole list of features with which I will not bore you. If you assess the features of our program and tick off what our program currently does against that list, I do not believe there is any other program that comes close to what we do.

**CHAIRMAN**—What do you expect your program will do in the future?

**Mr Northcott**—We expect to be the basic clinical workbench that the general practitioners of this country will use on a daily basis. We do not particularly want a monopoly, but—

**CHAIRMAN**—Removing the jargon, though, how would your program help the average general practitioner to provide clinical services to patients?

**Mr Northcott**—In many different ways. If I could take one second to get you in the seat of the general practitioner—

**CHAIRMAN**—Slightly more than one second.

**Mr Northcott**—Yes. On any given day, the average GP—female or male—has some 7,500 drugs that he can choose from to prescribe for patients. In my submission I mentioned a report which indicates that the number of drug interactions that are actually created by general practitioners in any one day could be as many as one a session. So, theoretically, this morning we may be looking at something like 15,000 drug to drug interactions that are being created while we are talking. What our program will do is to warn the GP that prescribing drug A with drug B may not be in the best interests of the

patient. We will not actually tell them, 'You cannot prescribe it', but we will warn them and remind them that there is a problem there.

If the GP who has just been caught out by that warning message then wants to find out more information, he can click one little button on his computer screen: he is immediately into the full prescribing information for that drug. It will take him straight into the interactions warning section of that drug, which is the full prescribing information provided by the Australian Pharmaceutical Publishing Company who provide the PP guide. That guide is an extensive tome used by virtually every pharmacy in the country. It is a definitive independent source of drug information.

**CHAIRMAN**—You say that at the moment you have got 85 per cent of the prescriptions using your program.

**Mr Northcott**—Yes.

**CHAIRMAN**—Some 40 per cent of GPs use computers for practice administration, but only a relatively small proportion use computers for clinical application. What plan do you have to encourage those people who generate prescriptions using your program to see the other virtues of the program and to use it for clinical purposes?

**Mr Northcott**—We are in the process of an evolution. A typical example would be a four-man practice, where one of them is enthusiastic about computers. He gets a copy of Medical Director and starts playing with it. His colleagues start getting interested in what he is doing. He starts getting very excited about what it is doing for his practice and the word spreads. So then his colleagues, numbers two and three, decide they are going to buy a computer and get going as well. Eventually what happens is the whole practice says, 'Okay, we're flicking the switch. We're going to start doing all our scripts electronically and keeping our patient records electronically.' That is the sort of evolution that has been happening over the last year.

**CHAIRMAN**—But it still has not happened to any great degree.

**Mr Northcott**—We estimate that about 4,000—

**CHAIRMAN**—Perhaps not many doctors get excited.

**Mr Northcott**—Like any market, we expect that a third of doctors are just hoping that this whole computer business will go away and that they will be able to get out of practice before they really have to come to grips with it. Half of them or the next third are probably just looking for direction. They are looking for somebody to say, 'Look, this is the right thing to do,' or perhaps a government incentive, say, 'If you buy a computer, we will encourage you.' They are looking for that sort of thing. The first third have already

taken steps to buy their own computers, educate themselves and start using the software.

**CHAIRMAN**—It just seems interesting to me that you have doctors using your program to generate some 85 per cent of prescriptions, yet a lot of those very same doctors—who clearly must have computers because they are generating prescriptions—are not using Medical Director for clinical purposes.

**Mr Northcott**—It does vary. Again, the usage is an evolutionary thing.

**CHAIRMAN**—But the facts speak for themselves: 85 per cent of prescriptions are provided using your program.

**Mr Northcott**—Sorry, that is not correct. They are electronic prescriptions.

**CHAIRMAN**—Electronic prescriptions.

**Mr Northcott**—I am afraid the data is not firm in this area; we are not able to get firm figures out of the department. They simply supply paper to the practice. So we can get some idea of how many practices have requested electronic prescription paper, but we have no idea which doctors are actually writing the prescriptions.

**CHAIRMAN**—Fair enough.

**Mr Northcott**—Again, that could be found perhaps by assessing how the script is presented at a pharmacy.

**CHAIRMAN**—I noticed in your submission that you said there was a belief amongst a certain number of medical practitioners that the government is going to somehow give doctors computers. It is not for us to set government policy, but I would be very surprised if any government of any political colour basically donated computers to doctors or, for that matter, to any other professional. What governments might do would be to use the health insurance system or some other system by way of carrots and sticks to encourage the usage of computers. I am just amazed that somehow in the medical profession such a rumour could spread and be believed.

**Mr Northcott**—If you refer to one of the leading tabloid journals, I think there was some sort of indication there, about the time when the IBM consultancy was released, that the government is likely to be giving away computers. I am not sure if the words were exactly ‘give away computers’, but there was certainly a strong understanding to ‘just hang out there for a little longer, and you’ll get a computer of some sort’.

I believe the effect of that was to actually slow down the momentum to some extent, because those people who were undecided said, ‘Oh, well, we’ll just hang out a little bit longer.’ The implications from a financial point of view for a six- or seven-man

practice is really quite large.

**CHAIRMAN**—Would you like to comment on the possible development by the government of a strategic plan for the management of health information within the Australian health care system?

**Mr Northcott**—As in, do we need one, or are we waiting for one or what it should contain?

**Mr QUICK**—Why haven't we got one?

**CHAIRMAN**—What recommendations would you have for the government?

**Mr Northcott**—The first bit of advice is not to try and do too much too quickly. We are tackling a sea change. We are persuading a profession to transfer its work practice from a paper based system onto a silicon chip based system. I am sure that any of you who have taken the plunge into computing will know all the sorts of fears that are associated with putting it onto something that is invisible and not having a piece of paper that you can touch. Having said that, though, I think the benefits now of being able to use a computer in your daily practice are sufficiently strong that doctors are now being persuaded to make that change.

From the government point of view, I would caution them against being too intrusive. Probably the worst thing they could do is study an overseas model and say, 'Right, that worked in country A. Let's just drop it in here and make it work here.' Wherever there has been an element of, 'Doctor, here is your computer, you have got two weeks to learn how to use it and then you are up and running,' there has been a passive resistance to the machine and the system.

What we would like to encourage and demonstrate is that, if you provide the platform which has sufficient benefits for the doctor, you can actually have willing usage and participation with that system; that is, it is not imposed on them. This becomes absolutely critical when you get into areas such as data collection where a GP may be required to enter a reason for diagnosis. You can very easily end up with what we call junk data if he is not very diligent about how he enters that information. All the way down the track the system will not function smoothly and have the cooperation and support of the profession as you would like ideally.

**CHAIRMAN**—You mention that the software is provided free. You charge $150 for a quarterly update.

**Mr Northcott**—Not quite. We charge $150 per annum per practice which provides them with a quarterly update.

**CHAIRMAN**—Basically, for the $150 they get four updates.

**Mr Northcott**—Yes.

**CHAIRMAN**—Where do you access information for the database and does the update come every three months without fail on time?

**Mr Northcott**—Yes, it does. As we speak, we are printing disks in Melbourne and in Sydney. Our users will have their disks by Monday.

**CHAIRMAN**—And where does the information come from?

**Mr Northcott**—The information we supply is the updated pharmaceutical benefits information—which unfortunately was supplied a week late this time—from the department. We simply go through line by line in the yellow book and ensure that every entry is correct there. In addition to that, every quarter we write to every single pharmaceutical company. We present them with a list of their drugs packs, sizes and that sort of thing and we ask them for any changes. We average about 85 per cent response to that. Some companies respond every other quarter, some respond every quarter. We are also supplied with data by the Australian Pharmaceutical Publishing Co. with the PP guide data.

That forms the core of our database. They also supply the Consumer Product Information as well. We then also each quarter provide embellishments to the program and improvements. There is one very significant one that may be of interest to the committee that is going to be available as of next week. Back in October last year the Minister for Health and Family Services, Dr Wooldridge, mentioned that he was concerned about the low rate of vaccination. As of next week, every time users of 'Medical Director' go into information concerning a patient who is a child, a warning screen will come up to remind the doctor that the child's immunisation status is not complete, if they have not had their shots when they should have done.

**CHAIRMAN**—That is a very positive step forward.

**Mr Northcott**—Yes. It is an example of how we pro-actively work, think and try to apply situations which are of direct benefit and usefulness to the general practitioner. At the same time, the doctor is able to click on a couple of buttons and complete the record and also initiate an automatic recall for the next shot. So in three months time or whatever a warning notice will come up saying, 'Little Johnny is due for his next DTP shot.'

**Mr QUICK**—This is 3,000 general practitioners and specialists out of how many?

**Mr Northcott**—It is about 4,300 now.

**Mr QUICK**—Out of a total of what?

**Mr Northcott**—It is hard to say. There are 12,500 full-time GPs. There are about 16,000 GPs who regularly go to an office of some sort. The surveys we have done indicate that it is the busier, wealthier GPs who are using 'Medical Director'. It is not the people who have nothing better to do; it is the people who have the problem. They have too many people to see each day and this is a way of getting through their workload better and more effectively.

**Mr QUICK**—We heard from the University of New South Wales that this year the medical students going through have virtually got the whole curriculum on Internet. They are that one-third that is coming through. Do you assume that in another five or 10 years time you will have everybody on 'Medical Director'?

**Mr Northcott**—Yes, it is a transition—not necessarily 'Medical Director' but a clinical workbench of some sort. Hopefully it is, but we are not after a monopoly. We recognise that there will be two or three variations on the theme. However, there are enormous advantages in having only one or two systems there. For instance, if locums come into a practice or people go into private hospital or they are trained on a system in university, they find that all that works when they get out into the community.

**Mr QUICK**—And it links in with pharmacies?

**Mr Northcott**—That is another project that we are working on whereby it will be possible for a doctor to initiate a prescription on the ward and that drug item will be understood by the dispensing software that is in the pharmacy. The reason is that we are using the same coding system for our drug list. I think we have the most extensive drug list in the country at the moment.

**Mr QUICK**—And it links into the HIC?

**Mr Northcott**—It can do. The dispensing software will link into the HIC and make the claim electronically, if the HIC wants it that way.

**Mr QUICK**—Because I raised the point yesterday, who is driving the agenda.

**Mr Northcott**—We are, basically. We are just doing what we think the GPs need and what we can see as a next logical step for them to want to get into.

**Mr QUICK**—So we have this tidal wave coming and, theoretically, you are going to swamp the state and Commonwealth health departments to the extent that they will suddenly float up, put their heads above the water and say, 'We need to get involved in this. This is the only life raft that is available.' Is this the right way to develop a strategic health plan for a country?

**Mr Northcott**—Flippantly, it is really not my problem. In the absence of any

direction or, if you like, a vacuum, then opportunities abound. We are simply taking advantage of all those opportunities. We are driven by what doctors want, what they will use and what they need. Arguably that is one of the best ways to formulate a policy in any case.

**Mr QUICK**—How do you incorporate the privacy aspects into this when the programmer is saying, 'Well, this is the best thing since sliced bread.' If doctor X or the locum is carting his little bag of disks around between one thing and another and happens to leave his bag, what sort of a privacy system is in place if someone picks them up who is computer literate, wacks them in a computer and says, 'Hey! Look at this'?

**Mr Northcott**—The system is password protected. That does not mean to say it is absolutely foolproof, but then a brick going through a glass window is not exactly foolproof either. If you walk into most doctors' surgeries, you can generally see all the patient files very close to wherever you happen to be standing. I do not know that there is any requirement that they are locked, security guarded and all the rest of it.

Clearly there is the possibility that the wrong pair of hands could get hold of the computer and may, if they are very clever, be able to unscramble the data. But we put encryption on our drug database and various other aspects of the program. So it would not be easy for them to just go in there unless they knew the doctor's password, in which case we would be as vulnerable as anybody with a PIN number that gets lost.

**Mr ROSS CAMERON**—I think what you are doing is fantastic. We may say that it is private sector motivated in that you have recognised a niche and jumped into it.

**CHAIRMAN**—'Private' is not a dirty word.

**Mr ROSS CAMERON**—As a government we are sitting around saying, 'How do we encourage the industry to embrace new technology?' Yet what you are doing is offering them a fantastic product very cheaply, which they are taking up of their own volition and it is not costing the taxpayer a cent as far as I can see.

**Mr Northcott**—It has not cost them anything at all, I understand.

**Mr ROSS CAMERON**—My reaction is overwhelmingly positive. I think it is fantastic. One question that Mr Forrest had which also occurred to me as we quickly did the sums was how you make any money.

**Mr Northcott**—Yes, it is very hard actually. I am glad you mentioned that. I guess we are lean. One of the beauties about Information Technology is that you are able to keep your costs down to a very low level. For instance, we are printing CDs at the moment—about 4,000 of them—and they are going to cost me about $1.25 each. When you consider what is being provided on that CD, it is quite remarkable. Certainly, if you

compare it to the printing costs of the books that would be involved in that same environment, there is just no comparison at all.

We pay ourselves modest salaries. We do not have an international master to report to. We do receive funding from pharmaceutical companies by way of sponsorship, so when the doctor goes to print a prescription there is a dead period where he cannot really do anything and during that dead period an interesting commercial for a pharmaceutical product pops up for a matter of two or three seconds and then goes away again. That is essentially how we are able to provide funding.

**CHAIRMAN**—What proportion of your income with respect to 'Medical Director' would come from the $150 per practice per year update compared with the advertising you sell to pharmaceutical companies?

**Mr Northcott**—It is early days and what we have done is to not only give away a free program to the doctors but at the end of the three-month period when they are due to pay we are very lenient if they are not ready, have not bought their computer or are not quite up and running yet. Most of them take six to nine months before they pay us any subscription. Bear in mind that our Windows program has only been out now for 18 months, although we have been doing this since October 1992.

**CHAIRMAN**—So you are almost wholly funded by advertising.

**Mr Northcott**—Initially, yes. The balance will change. The break at the moment is about 20 per cent/80 per cent. As time goes on, though, we see that the sources of revenue will come from other areas, particularly in the area of information. We see that, in the long term, information is going to be the largest item.

**Mr ROSS CAMERON**—The reality is that once they are locked in you are in a very strong position.

**Mr Northcott**—Yes. Again, we are in a sea change—to use that description—and once you have cottoned on to that piece of software that you are comfortable with because it works, it is reliable and those sorts of things then you are not going to shift without—

**Mr ROSS CAMERON**—We are looking at export implications. Your submission says that changes required for other markets are relatively superficial.

**Mr Northcott**—Yes.

**Mr ROSS CAMERON**—Is that part of the grand vision?

**Mr Northcott**—We do not want to go rushing out all over the world making fools of ourselves. What we want to do is to prove the template in Australia, if you like. We

want to make sure we have a very reliable service that other people look to and think, 'Gee, I wish we could do that too.' It is then our intention to probably tackle the markets that need it most such as the Asian markets, India and these sorts of countries that are emerging where the thirst for knowledge and the need for that knowledge is on the spot—that is, the patient is there with the problem and 'I need to come up with a decision of some sort and I need this piece of information around me now. I do not want to have to go to a library or a bookshelf.'

**Mr ROSS CAMERON**—Yes.

**Mr Northcott**—The US and the UK—maybe but not so interested. It is very difficult.

**Mr ROSS CAMERON**—In terms of liability for professional advice, how do you handle that? You are getting a big chunk of your advice from government.

**Mr Northcott**—In what respect?

**Mr ROSS CAMERON**—You were saying in response to an earlier question from the chairman of how you put together the data on your disk—

**Mr Northcott**—Yes. The PP guide has been published for 30 or 40 years—I cannot remember how long now. We have nothing to do with that. We simply replicate that.

**Mr ROSS CAMERON**—How do you manage liability? You are effectively giving professional advice?

**Mr Northcott**—Yes.

**Mr ROSS CAMERON**—How do you manage that?

**CHAIRMAN**—Do you have insurance?

**Mr Northcott**—We have examined the possibility of getting insurance and when we reviewed the contracts we found they were so wriggly. It is a classic insurance document—you are insured until you make a claim and then, 'Sorry, mate, there is no way we are going to pay you for this and this and this.'

**CHAIRMAN**—So you have no insurance?

**Mr Northcott**—We bear the liability ourselves personally at the moment.

**CHAIRMAN**—It is your risk.

**Mr Northcott**—It is our risk. It is a very good incentive to get things right. We have approached certain institutions with a view to them helping us in this regard. I guess it has been a combination of things. First, it has been rather difficult for them to come to terms with. Second, we feel uncomfortable about leaving such an important issue in the hands of pharmacists or somebody who is an employee who does not have the sort of incentive that we do to make sure it is absolutely right and that it is put together by professionals. There is an indemnity clause obviously, but we would much prefer it if the government were to review our data, as they do with pharmaceuticals.

**Mrs ELIZABETH GRACE**—I would like to ask you about coding and dissemination. You indicated in your submission that after searching for an ideal code you chose the Melbourne based DOCLE in preference to the Read code used in the UK and the international classification of primary care Australian variant, ICPC plus, which we have heard about this morning, and the international classification of diseases, version 9, clinical modification, which is the ICD-9-CM.

The committee is also aware of the adaption of this, which has been developed by the National Coding Centre of the University of Sydney, and the ICPC plus, which has been developed by the Family Medicine Research Unit at Sydney University. The Family Medicine Research Unit has also developed an extension to the accepted World Health Organisation anatomical, therapeutic and chemical drug classification. Could you tell us about the DOCLE code? What does the acronym actually represent? Why did you choose this one in preference to the others?

**Mr Northcott**—There were two issues basically. One was cost and one was friendliness from the user's point of view. I think you will find that the coding systems generally are written by the academics or the theorists who say, 'We want data that looks like this. Now, everybody, start using our coding system.' What you find in some markets is that GPs do not have time to bother with coding systems where they have to jump from hierarchy to hierarchy and classification here, there and everywhere.

So we took a different view. All the GP wants to be able to do is type in 'Hypertension' and click—done. That can then be searched and accessed at a later date. Right now our users are able to do a search of their database at any time and say, 'I would like a list of all the diabetics aged between 55 and 70 who are taking drug A and drug B and who also have hypertension. Click the button and up will come the names and addresses of the 20 or 30 patients that meet that criteria. So he has his own database searching engine on his desk. The reason he has that is that we have the coding system which links in with our drug coding system and, if you like, is a self-contained unit.

The flexibility issue was also a major issue. Trying to get some of the international companies to add Ross River virus or something is a classic case. I think it took over a

year to get some sort of code for that particular disease. We also saw that they were running into limitations with their hierarchical structure. Without going into too much detail, essentially the DOCLE coding system works around a model that was developed by Linnaeus in the 14th century and is the basis for the botanical classification. Any coding system that has done 600 years is obviously doing something right with the new explosion in plants and animal life that we have discovered over that period.

The same model can be applied to medicine. We are in an era where we are going to be discovering all sorts of diseases. We have no idea what they are going to be called or what class they come into. We are also going to need to be very flexible about having one disease belonging to two different classes yet still being able to measure it as only one instance of that disease. So there are a number of complications which the standard, rather rigid coding systems may or may not be able to cope with terribly well.

We also wanted local flexibility. So as of next week our users will be prompted to insert a disk into their computer and if they use any terminology to describe a disease or a procedure which does not actually appear on our list of 12,000 entries we will be able to provide them with a code for that particular term that the GP is using which will then relate to the appropriate disease area and disease section. In other words, rather than impose a structure on GPs saying, 'You must use this terminology,' we are saying, 'You can use what terminology you like and we will get you to the end result.' So we believe that we will be able to produce some very hard data.

**Mrs ELIZABETH GRACE**—Isn't that what ICPC PLUS does?

**Mr Northcott**—No. It is a much more rigid system: 'Here's our list. You've got to pick either A, B or C and that is it.'

**Mrs ELIZABETH GRACE**—And you do not have that flexibility.

**CHAIRMAN**—The way in which you do what you did, doesn't that create a lack of standardisation? You are giving general practitioners a code, your competitors might be giving general practitioners a code for the same disease but it would be a different code. What you are doing might be very helpful for the purposes of your program but does nothing to achieve standardisation of terms throughout the country.

**Mr Northcott**—Except it is not such a huge issue because codes can be linked.

**CHAIRMAN**—But are they?

**Mr Northcott**—For instance, our A-Z DEX drug index database has eight different numerical fields so it links with wholesalers coding systems and Fauldings is different to Sigma is different to QDL. It links to ATC coding and a number of other codes so that you can actually end up in the right place. The important thing though is that the user must see something simple. All he wants is a list to pick from.

**Mrs ELIZABETH GRACE**—You were saying before that in looking for a database you can press a certain button and up comes a list of names of people who have the problems that this particular GP is looking for. Where do those names come from? Are they just names within his own practice?

**Mr Northcott**—Yes.

**Mrs ELIZABETH GRACE**—So they are people he already knows and is aware of but it puts them all into the same group. Is that the idea?

**Mr Northcott**—Either he or his receptionist has put in the name and address and as he is going through his working day—you know, a bit of amoxil here and a bit of whatever there—he is building his database. So it is not a matter of saying, 'Now I will stop doing everything and I will start entering information to make my database.' It is just part of his work practice and the computer is just silently absorbing all this information as he just goes through is daily routine.

**Mr QUICK**—Obviously this works. Is your next step to do something for hospitals along the same lines?

**Mr Northcott**—Yes. We are being approached by hospitals left, right and centre at the moment. The issues are slightly different there, but much of the same principles can be applied. Again, we want to get our base firmly and solidly entrenched for general practitioners. We see the general practitioner as, if you like, the lead candidate because from the general practitioner then flows everything else. The pharmacist cannot do anything until the GP does something. The nurse, the hospital and everything else does not do anything until the doctor does something. So you have to get the doctor right first.

**Mr QUICK**—So you see two models working: one for the GPs with their links to the pharmacies—

**Mr Northcott**—Yes.

**Mr QUICK**—and then you would have something with the hospitals with the discharge link back to the GP.

**Mr Northcott**—Absolutely. We are involved in a study at the moment where there will be transmission. For instance, we can very easily produce a summary of drugs and everything else for a patient. We are working in a trial at the moment where that information will be transmitted electronically through to the hospital and what we obviously want to do is to have a discharge summary provided from the hospital—electronically, whatever—back to the GP.

We are already moving pathology results directly from the lab's computer through

the phone line into the medical director's individual patient file. So if I were in your patient file now, I could click and see all the prescriptions you have had, I could click and see all the various diseases you have had and I could click and see all the pathology results you have had over a period of time, all in that one file. And then x-ray and all these other things will start rolling out.

**Mr QUICK**—What do we need state health systems for, apart from providing money?

**Mr Northcott**—I am not sure what they do. Sorry, I think I will pass on that one.

**Mr QUICK**—I thought it was their role to develop some of these things—

**Mr Northcott**—I do not know. We have not discussed this with them or approached them. Queensland Health has indicated some interest in putting it through their hospitals but I think in some areas millions of dollars have been invested in other systems. It is all a little bit difficult to change things.

**Mrs ELSON**—After listening to your program, it is something that I believe every doctor should access. What I am trying to determine is: when you approach these doctors, is it lack of computer skills the reason why they do not want it? Your software is being offered free. Do you offer training to go with it? I know myself I did not learn a computer until five years ago. I would not touch one but now I can do just about anything with a computer. I think maybe there are a lot of doctors who will not admit that they cannot use one.

**Mr Northcott**—Yes. And they are very busy people too. Learning a computer does require a commitment. You have actually got to access one to begin with and then you have got to sit there and go through that for two or three hours a day or whatever to get familiar with it.

**Mrs ELSON**—Do you think that is what stops them from taking it on?

**Mr Northcott**—Yes, I think so. It just seems a bit too hard. A lot of these individuals are extremely hard pressed, their time is an absolute premium, and their families are on their backs all the time. Does it sound familiar?

**Mrs ELSON**—Do you offer free training with it—that you will come and sit there with them?

**Mr Northcott**—We have done training. What we do is a little roadshow. I have now presented it to over 1,000 doctors around the country. If you see a man walking around with a trolley stacked up with suitcases, they are actually full of laptop computers. We set them up in a room and we give them a two- or three-hour training session

wherever it might be. I have been to all parts of rural Queensland and South Australia and Western Australia.

**Mrs ELSON**—Individually, or do they have to go somewhere?

**Mr Northcott**—We try to get about 20 in a room at a time.

**Mrs ELSON**—That is probably the problem.

**Mr Northcott**—For many of them it is probably the very first time they have ever touched a computer at all. I must admit most groups turn out to be very excited, very motivated and very keen to do something. They then go out and start talking about buying a computer and they realise that it will be $3,000 to $4,000 later, so they decide to wait and see what happens.

**Mrs ELSON**—If a doctor were prescribing a medication that should not be given to a child, would that show up if they put that product in the computer? Would it say, 'Not to be given to a child under a certain age'?

**Mr Northcott**—Yes. One example of that is the tetracycline warning that we have in there. The one thing we have not broached yet—and this really is a very difficult area—is the dosage question. If an inappropriate dosage is prescribed for a child, for instance, we do not have a warning on that yet. But, for instance, we do breast feeding warnings, pregnancy warnings—

**Mrs ELSON**—My local hospital said that a lot of practitioners in their area were giving incorrect dosage and they were seeing the children coming into the hospital overdosed and that is why I asked that question.

**Mr Northcott**—Yes, that is probably one of those areas where we will advance on cautiously. It is really a very difficult one.

**Mr ROSS CAMERON**—It seems almost ironic, but the implication from your submission is that the best thing that the government could do to encourage the uptake of technology is to indicate to the profession that we are not going to be giving them any special incentives.

**Mr Northcott**—That would be good. I might be shot for agreeing with that, but from our point of view it would clear the air. I would like to turn that around and say that the best thing you could do is actually to provide a small incentive for people to do something, some sort of $500 or $1,000 subsidy if they go and buy one and use it in their practice.

**CHAIRMAN**—There has been evidence before the committee that it would

encourage computer use if non-bulk-billing doctors could bulk-bill the Medicare rebate proportion of their bill and maybe get paid more quickly.

**Mr Northcott**—Yes. I do not want to branch into other areas but one of reasons Medclaims has not taken off is that there is no incentive. People say, 'Why should I bother as a GP?'

**Mr FORREST**—I used to operate my own private practice—not in medicine—but the government never helped me out with software. I had to go and buy it myself and modify it so I could be more efficient in the way I operated. So why is there an expectation that government will just provide a computer? I cannot believe it.

**Mr Northcott**—I do not know. Have you asked the colleges?

**CHAIRMAN**—No, we have not.

**Mr Northcott**—I think it is probably hope, rather than expectation.

**CHAIRMAN**—It seems a most amazing suggestion that people will just expect the government to hand computers out like confetti.

**Mr Northcott**—I think the precedent is set overseas. That is one of the problems.

**CHAIRMAN**—Thank you very much for appearing before the committee. Hansard will send you a draft copy of your evidence for you to check. Feel free to join us for the rest of the day. That brings us to the end of this morning's program.

**Luncheon adjournment**

[1.05 p.m.]

**HANSFORD, Ms Margaret Elizabeth, National Health Strategy Coordinator, Australian Council, Royal Flying Doctor Service, Level 5, 15-17 Young Street, Sydney, New South Wales 2000**

**CHAIRMAN** - I call Ms Hansford from the Royal Flying Doctor Service to be sworn. Welcome and thank you for appearing before the committee this afternoon. It goes without saying that the Royal Flying Doctor Service has done, and continues to do, a wonderful job throughout the country. It is obvious that the Royal Flying Doctor Service has been able to conform to changes in technology, right from the days of the pedal radio through to today. I imagine that you would see Telemedicine as another challenge to be faced and, presumably, adopted in due course as part of the facility you wish to offer to rural and regional Australia.

We have received your submission. We have read it carefully, but I was wondering if there were some aspects of what you had to say that you would like to emphasise in a brief opening statement?

**Ms Hansford** - Thank you, I would like to emphasise a few things. The area changes quickly and, in the six months since I have written that letter, a lot has happened in the Royal Flying Doctor Service. Perhaps I could explain at the beginning that the RFDS is a federated organisation. I work for the Australian Council which is the national body or secretariat. We consist of seven independent sections. We operate across 80 per cent of the country and provide a range -

**CHAIRMAN** - Does that include all of the parts of Australia removed from the metropolitan areas? In other words, do you ensure that the whole of the country is covered with a medical service?

**Ms Hansford** - Nearly - we do not cover the northern half of the Northern Territory, or rural Victoria or eastern New South Wales. We cover the whole of the rest of the country - and that is 80 per cent of the land mass.

**CHAIRMAN** - Mr Forrest would tell us that rural Victoria was almost metropolitan by comparison with some other parts of the country. I am sorry - back to you, Ms Hansford.

**Ms Hansford** - The RFDS has been using Telemedicine for a long time, since its inception. With the development of the pedal radio, we pioneered - and still use - remote consultations.

**CHAIRMAN** - How do you define Telemedicine in the Royal Flying Doctor Service context?

**Ms Hansford** - In that sense I am using it as non face-to-face medicine, so it is assessment, diagnosis and treatment which is carried out at a distance. And we do that all day and every day. We have approximately 40,000 remote consultations per year. They are consultations which happen mainly by telephone these days, but still sometimes by radio. We still have an HF radio system operating throughout the country.

**Mr FORREST** - Your submission uses the word 'Telehealth'. Do you have a burning reason why you use that?

**Ms Hansford** - No, I do not. I use the terms interchangeably and they are terms which, internally, we use interchangeably. In talking about our remote consultations I think it is useful to say that those consultations are supported by a mix of modalities, so that we can and do offer diagnosis and treatment at a distance. But that is supported by the strategic location of approximately 3,000 medical chests, which are chests of pharmaceuticals and equipment - bandages, thermometers et cetera - throughout remote Australia and it is also supported by nursing staff in small primary health care facilities or small hospitals.

**CHAIRMAN**—I am not wanting to downplay the vital role that the Royal Flying Doctor Service plays and the way in which you have been very pro-active in Telemedicine during the many years of your existence, but we are wanting to focus more on how you can become involved with further developments of Telemedicine.

For instance, the committee is aware of a number of Telemedicine trials that have taken place in rural and remote parts of the country. In fact, we were privileged to be present at the Queen Elizabeth Hospital in Adelaide to see their link with central Australia. We saw some of their outstations and saw that they are able to provide a very good service, their equipment is getting cheaper and the quality is improving. You are obviously aware of those particular projects. What are the benefits of that kind of Telemedicine consultation for the Royal Flying Doctor Service?

I imagine that you do not have specialists attached to the Royal Flying Doctor Service, so essentially you are a flying general practitioner service. One would imagine that if you have these medical chests in various parts of the country, you obviously would not have as many Telemedicine centres. But you might be able to identify regional areas where your doctor is able to fly to see people and be consulted and where the doctor, using the now reasonably priced Telemedicine equipment—video equipment—could get opinions from specialists. If anything, this could augment and improve the quality of the service. Obviously you would need extra funding for that, or you would need to raise it.

Do you see the Royal Flying Doctor Service being interested in that? Do you see your moving in that direction? Do you at the present time use any computer technology for the maintenance of patient information, for instance, or for accessing health databases?

**Ms Hansford**—We are currently involved in two pilots: one in Queensland, which I discussed in the formal submission, and one in the far west of Broken Hill, which we have just joined. The roles that you describe for Telemedicine are exactly as we would see the major advantages to the RFDS. That is not for remote Australia, because the populations are too small out there, but it is certainly so between small hospitals and larger facilities and for linking in with specialist advice and specialist assessment and diagnosis.

We see potential in a number of areas of the RFDS. One would be transmission of images, and a second would be shared medical records between remote nursing posts and small hospitals and the RFDS. We all carry records at the moment, but that can be clumsy. Obviously patient assessment via video link is a real opportunity that we identify. From discussing the issue with some psychiatrists who have been involved, telepsychiatry might be one of the best opportunities for us to become involved with it. We all know how hard it is to get psychiatric services out in rural and remote areas.

**CHAIRMAN**—We have actually spoken to psychiatrists, and they say that telepsychiatry works pretty well.

**Ms Hansford**—Yes.

**CHAIRMAN**—Are you in a position to discuss the pilot project in Queensland? You mentioned it a moment ago, and it is in your submission.

**Ms Hansford**—We are very early days with that. In fact, we are at the point of setting it up, and we are about to embark on some staff training to use it. Whereas the New South Wales project will focus mostly on the delivery of clinical services, the Queensland pilot will focus mostly on professional support, professional development, training and organisational development—organisational usages. We have already set up some strong links with the rural health training units up there and with other training facilities and organisations. We see that as a real opportunity to link staff at our bases.

For example, it is already planned that nursing staff in Mount Isa will be able to access an immunisation course from the coast—from Townsville, or it might be Cairns. That will save enormous funds in transporting staff and accommodating them while they are being trained. So it is that kind of use that we are focussing on in Queensland.

**CHAIRMAN**—Has the Royal Flying Doctor Service considered the costs and benefits of using Telemedicine or Telehealth and the option of computer technology in management and administration? Obviously, there would be some additional costs. How would you fund those additional costs and, while you are answering that question, you might just give us an overview of the way the Royal Flying Doctor Service is currently funded?

**Ms Hansford**—We are currently funded at a formula which is 45:45:10—Commonwealth, states and donations. In fact, we raise about 20 per cent of our operational costs. Of course, funding arrangements at the Commonwealth level are changing. We are aware that they will be changing. What was the first part of your question, sorry? How are we going to fund it?

**CHAIRMAN**—Basically, have you considered the costs and benefits of using Telemedicine, Telehealth, or the adoption of computer technology in the management and administration of the Royal Flying Doctor Service? Once you consider those matters, how would you fund them? My add-on question was: how are you funded on an overall basis, and you have answered that. I was wondering if you could direct your attention to the earlier part of the question.

**Ms Hansford**—It has to date been very expensive, as you would be well aware. We were keen not to be the first in spending money in areas which were untried. We were obviously keen not to be the last in either. We have found that involving ourselves in much larger state pilot projects has been a very useful way for us to experience the technology and to identify what are going to be the best uses for us. Like all organisations, we are becoming computerised in many areas. We are currently looking at extending our use of computer technology in the areas of electronic record keeping, data collection and information systems.

**CHAIRMAN**—How would you see the use of Telemedicine by the Royal Flying Doctor Service in 10 or 15 years? How would your operations change if you adopt this technology wholeheartedly?

**Ms Hansford**—That is a really hard question to answer. I am not sure that they would change all that much. I have not considered that question before this. Given the nature of our operations, which is providing health services, both general practitioner and emergency services to remote populations, I guess that the shape may not change all that much. What I can see it that it could very much enhance the range of services that we are able to facilitate access to by our patients, by our communities, and of course access to the range of specialist services. So we may be transporting people less, which would be obviously desirable for everybody.

**Mr QUICK**—Having lived in Port Augusta, I know the wonderful work you do. The issue of privacy always seems to rear its ugly head. Knowing the early operations of the Flying Doctor Service where there was no privacy, where everybody and anybody could listen in to the cries for help and provide encouraging words before the plane actually landed, what steps have gone on from there? Technology has improved so that the communal phone and the radio is not there any more. You are saying you are carting bags of files and things around. How have you addressed the issue of privacy?

**Ms Hansford**—We address the issue of privacy in the same way as the rest of the

health system does. You are quite correct, people in the bush have really welcomed telephones and that opportunity to have private consultations and private discussions. At the same time people also, as you may well be aware, say that it has cut down their interaction with their neighbours a lot. It is a double-edged sword.

When we do general practice clinics at small locations in remote Australia, it is usually the case that the records are kept by the facility there—say, the small hospital or primary health care facility. We do have some records and we keep those records under the same conditions as other facilities would. We have one pilot project looking at keeping electronic records and again the same conditions apply. We just need to make sure that access is not granted to other people other than our staff who are using records. I do not think it is much different from the wider health system, except that in some areas we do not keep the records for patients. They are actually kept by the local facility.

**Mr QUICK**—So we get to the stage where everybody in remote parts of Australia has their own little plastic card. When the plane lands, a little magic box comes out, they swipe the card and it comes up on the screen. The sister can say, That's right. I saw you three weeks ago.'

**Ms Hansford**—And the record goes with the patient as opposed to being in one location.

**Mr QUICK**—But you see that sort of thing happening in the next three or four years?

**Ms Hansford**—We have not been involved in the development of that kind of technology, although I am aware that it is going on in a number of sites in Australia. It would really help our work; it would be great. There is another issue, of course, which is remote Australia having adequate infrastructure for dealing with electronic transfer. I am on the National Health Alliance Council and one of our councillors just laughs when people talk about being connected by the fax or the Internet because neither her phone lines nor her local exchange is modern enough to cope with either of those quite basic technologies now.

**Mr QUICK**—So there are these working groups all over Australia and everybody is liaising with everybody else. As national health strategy coordinator, do you get to talk to Telstra, Optus, OTC or whoever is setting up? We see these great things being set up on top of hills and satellites beaming around the place, but do you get to talk to people and say, 'Look, this is what the Royal Flying Doctor Service really needs more importantly and this is the number one issue for us as far as health strategies go'? Or do you liaise with the Queensland Health Department on a working group and say, 'Look, this is what we need for Queensland'? Then do you liaise with New South Wales?

**Ms Hansford**—We do both, because our sections are located within the states and

areas. Our major interactions with those kinds of groups are at state level. In fact recently I have been talking with Telstra about electronic linkages for our bases. That was driven by an organisational need as opposed to a health need, but the principles are obviously the same. For those of us who work in remote and rural Australia, we clearly need access to infrastructure which is accessible, works, is cost effective and is not priced out of people's reach.

**Mr QUICK**—The defence forces have similar needs for telecommunication link-ups. I know at Kangaroo 90 or whatever it was they all had mobile phones and there was some sort of set up whereby, when they were all out there fighting each other, they all carried mobile phones. They were more secure than broadcasting over the normal airwaves pre-1996. Do you have links with the defence forces?

**Ms Hansford**—No, we do not actually. That would be an interesting link to set up, because the needs would be quite similar, wouldn't they?

**Mr QUICK**—Yes. A lot of us are concerned that we are putting all these blankets over Australia, but do we need 27 of them? Perhaps two strategically placed can cover everybody. As I said, we have all these working groups, but half the people do not know that somebody else exists. Whose responsibility is it to sit down with the Minister for Defence or the Minister for Health or the Minister for Communications and say, 'We have a primary health concern in remote Australia. If we all put money into a common tin we can then set it up so you can access it and Aboriginal communities can access it'—and there is another Commonwealth government department involved—rather than each of them setting up their own tins and then complaining that they do not have the money and therefore it will be three years down the track before the infrastructure is set up? Whose job should it be? Is it yours? If you are better at doing it because you have been doing it since the year dot, perhaps we give you the money and then you ask the other departments what they need. You can say, 'We will do it for you because we have the infrastructure set up already.'

**Ms Hansford**—I guess there is a range of approaches which may work in that situation. It would be important for the Commonwealth or an identified group to have leadership and to facilitate that development so that work is not repeated or wasted. Yes, in our system things can mushroom in different areas.

**Mr QUICK**—Do you have an input into any of the things that the National Health and Medical Research Council talk about?

**Ms Hansford**—No, we do not. We do, as other members of the public do. We do not have a formal input, but we will sometimes make submissions. I receive their documents, we get an overview of what is going on and submit as appropriate.

**Mr QUICK**—So 20 years down the track is the Royal Flying Doctor Service

really needed if we have set up all these weird and wonderful things? If people have access and imaging potential, do we need the fixed-wing aircraft to fly around Australia at all hours of the day and night? Ideally, if we set up these satellite communications the nurse at Oodnadatta can say to some remote tribe, 'Come in. I can link you to Royal Prince Alfred. Sit down here. Don't worry.' We will not need to call the plane out any more and stand out there with a torch in the middle of the night.

**Ms Hansford**—I do not think the RFDS would see Telehealth or Telemedicine as replacing the services that we currently provide, but rather enhancing them. It will provide us with greater access to specialist services and specialist advice. I am not sure that it would ever replace the face to face work that goes on.

**Mr QUICK**—And the counselling aspect of your work?

**Ms Hansford**—That is right, the contact.

**Mr QUICK**—Yes.

**Ms Hansford**—The health improvement that happens from having contact and access to people and knowing that that mantle of safety is there is very important.

**Mr QUICK**—And the preventative medicine aspect?

**Ms Hansford**—Yes, which we are doing more and more of, in fact.

**Mr FORREST**—Just on that infrastructure question, I have a jaundiced view that for rural areas it is really quite parlous. We have not considered the needs of remote Australia at all. In fact, I do not know that we ever will until we get low earth satellites in fixed orbit. But even with that, you have obviously been able to adapt some video conferencing and maybe use the old copper wire system. So you have done the best you can. Could you just describe the success of what you have done with video conferencing? Would that be a typical consultation out on a property—perhaps somebody with a leg injury talking to a doctor at the other end—or what type of format would that take?

**Ms Hansford**—I cannot talk about having much experience with video conferencing yet at all because we are just becoming involved in those pilot projects. One of the things for the RFDS is that we are already working in a modality which is often remote and where we fly out to people. So we have a very effective system of communication and transport supporting health service delivery. We are very aware that we can have our work enhanced by Telemedicine, but it is probably not going to give us the opportunity to do anything brand new quickly. As the technology evolves, that may well happen. They are probably areas that none of us can envisage at the moment because it will move so quickly.

In the pilots both in New South Wales and Queensland, we see opportunities to enhance already existing works to increase our professional development for staff; to link staff organisationally for program development meetings, for example; to link into specialist care more easily so that we may in fact avoid transporting people; to get better diagnoses by the transfer of images; to support staff in Wilcannia, for example, where staff from our base at Broken Hill visit three times a week; and to support staff when they are looking after people who are ill there. It will increase the efficacy of our assessment and diagnosis remotely.

At the moment they are the major opportunities that we see, and we are very interested to see how those pilots go and then to see what tracks we should take. We really are not keen to jump in quickly with large expense because we cannot bear that.

**Mr QUICK**—So the pilots are being generated by other people?

**Ms Hansford**—Yes, both of those pilots are sponsored by the state governments.

**Mr QUICK**—So if you had some money and someone asked, 'What pilots would you like to see set up?' what would you say?

**Ms Hansford**—We would like to explore those things that I have talked about in other areas. For example, in the west, with those huge distances and some very isolated communities, it would be really good to explore using that technology between our bases and some of the small nursing posts and hospitals. Increasing that spread would be a real opportunity.

**Mr QUICK**—We have been bombarded by standards, codes and protocols and the like. What has changed in reporting techniques over the last 10 years? Where do you see all of these HL7s and ICD-9-CMs in relevance terms? Does it have any relevance for the doctor and nurse on the plane who are going out to Wilcannia?

**Ms Hansford**—I would argue that it has to have relevance for them or it is probably irrelevant. All the sections are moving towards enhancing their data collection to better describe what we do and to compare what we do with other providers in different locations. We are talking with the family medicine research unit at the University of Sydney at the moment about developing a joint project to look at our data collection and at that comparability with other collections.

**CHAIRMAN**—They are still here to keep an eye on you.

**Ms Hansford**—And to pilot the use of some of the coding systems, specifically ICPC PLUS, for our primary health care work.

**Mr FORREST**—We have heard evidence of a very good project in the Tanami. In

fact, we hope to get a look at it ourselves. To a very remote community in the middle of the desert, that is obviously the sort of thing the Royal Flying Doctor Service has to be interested in.

**Ms Hansford**—Yes.

**Mr FORREST**—Which might even save a flight out there. Obviously the biggest operating cost you have is flying.

**Ms Hansford**—That is right.

**Mr FORREST**—They have been able to adapt to limited technology. With some manipulation, you could still use the old technology. That is the kind of thing you would need to consider rather than waiting for the flash new digital fibre optic.

**Ms Hansford**—Indeed.

**Mr FORREST**—That means you might have to put up with a stilted picture that is not as quick as the fibre optic option. Are they the sort of things that you have experimented with?

**Ms Hansford**—No, we have not experimented with them yet. As I said, we are just at the very beginning with those two pilots. But that is exactly the kind of thing that we are looking forward to experimenting with. We want to see how we can support those service providers out in very remote locations, such as the one-nursing posts and the people working with Aboriginal communities in very remote areas.

**CHAIRMAN**—How much of your work is done with Aborigines?

**Ms Hansford**—It varies across the country. Probably about 40 per cent of our client contacts are with Aboriginal people.

**CHAIRMAN**—ATSIC is no longer responsible for Aboriginal health. When it was, did it fund any of your activities?

**Ms Hansford**—No. I do not think so directly. I think that is the correct answer.

**Mr QUICK**—Doctors and nurses use basically what they can carry on a plane. However, they have probably trained at the University of New South Wales Medical School and the like and used the most modern technology there. There must be a sense of frustration for them in knowing what the potential is and what the cost associated with delivering that is. As John said, the wherewithal to deliver it is not out there. What role do you, as national health strategy coordinator, see for yourself in bridging the potential and the practical?

**Ms Hansford**—The technology, of course, is never going to be out there. It is never going to be next door to the station track where somebody rolls their car or motorbike.

**Mr QUICK**—I hate to interrupt, but with those low orbital satellites, the technology will be there.

**Ms Hansford**—The intensive care unit is never going to be next door. We do not want that. There is always going to be the need to assess, stabilise and transport people who are seriously ill or injured. We have quite sophisticated equipment on our aircraft. We can stabilise and transport very ill people successfully. The big enhancement that we can see, and which you were alluding to, is plugging into that specialist advice earlier. We can then enhance our skills at that critical first hour of care and that critical transport period, which is very important in the prognosis of the patient. So the opportunity is to be able to access that kind of advice earlier and in more remote locations.

**Mr FORREST**—I have a question on the role of government. What is the Commonwealth's role in assisting the Royal Flying Doctor Service to get into this technology? Here is your big opportunity to get it on the public record.

**Ms Hansford**—It would be wonderful to have some specific funding to be able to explore the use of technology and its wider use across the service and to widen that from our two specific pilots—as we learn from the pilots at the two current sites, to be able to transfer that to other states and sites and to see what is possible there and to be able to develop the services and fund the infrastructure and equipment. To be able to implement those strategies would be great.

**Mr FORREST**—There are probably some carrots in there for the telecommunications providers.

**Ms Hansford**—Yes.

**CHAIRMAN**—Thank you very much for appearing before the committee this afternoon. A draft of your evidence will be sent to you for checking. Could you see the Hansard staff before you leave just to make sure they do not need clarification on anything. We would be very happy for you, if you so wanted, to join the University of Sydney representatives and others who are listening to further witnesses.

[1.37 p.m.]

**BIBBY, Mr Anthony Edward, Honorary President, Health Information Management Association of Australia, Level 1, 51 Wicks Road, North Ryde, New South Wales 2133**

**CHAIRMAN**—I now call Mr Bibby to be sworn in. Would you like to give us a brief resume of what you said in your submission—perhaps in about 60 seconds?

**Mr Bibby**—That is easy to comply with because our submission is relatively brief. The two major issues that we focused on from the terms of reference were the ethical and privacy issues and the legal issue. In representing members, there is state variation at times, which causes our members concern. They are the sorts of issues that come back to us and which we explore at national conferences and like forums.

Another issue that particularly concerns us is the development of standards for the coding and dissemination of medical information. Yesterday, you heard from Rosemary Roberts, who is the Director of the National Coding Centre. Rosemary represents coding and the classification. My role, as the president of our association, is to represent the coders or the work force who actually undertakes that task. Since providing our submission, we have established an affiliate organisation called the Clinical Coders Society of Australia. I think they have something like 200 members now, and that is increasing rapidly. The Health Information Management Association of Australia was formerly called the Medical Records Association of Australia. The majority of our members are hospital-based medical record department personnel.

**CHAIRMAN**—How are you funded?

**Mr Bibby**—We were given a seeding grant by the Commonwealth, which has now finished.

**CHAIRMAN**—How much was that and over what period?

**Mr Bibby**—That was about $240,000 over 2½ years. We now have an office in North Ryde and full-time employees. Prior to that, it was a fully voluntary organisation.

**CHAIRMAN**—How many employees do you have?

**Mr Bibby**—We have about eight employees, most of them in education so that we are able to generate our own funds.

**CHAIRMAN**—Your submission states that the National Coding Centre, which was established in 1994 by the then Commonwealth Department of Human Services and Health, now the Department of Health and Family Services, was responsible for

maintaining standards for use of the Australian version of the international classification of diseases, 9th provision, clinical modification, ICD-9-CM.

The family medical research unit at the University of Sydney has developed an international classification of primary care, Australian adaption ICPC plus and the Aus-Read extension accepted by the World Health Organisation, Anatomical Therapeutic and Chemical, the ATC drug classification. Do these coding systems complement the ICD-9-CM developed by the National Coding Centre?

**Mr Bibby**—It is a good question. The members that I am representing would rarely be involved in the use of ICPC plus because that is undertaken by the general practitioner. The members I represent tend to be hospital based and that is the IC-9-CM classification which is more for the in-patient population.

**CHAIRMAN**—Could you look into that matter and perhaps pass that information onto the secretariat?

**Mr Bibby**—Certainly. In our submission we mention the coder accreditation program and we have now conducted the first examination. Thirty per cent of the people who sat that examination passed. The American system—

**CHAIRMAN**—But 70 per cent failed.

**Mr Bibby**—Yes. We would like to follow the American system to some extent where a good clinical coder or a competent clinical coder, at an agreed level, is au fait with a number of classifications. At the moment we had to say it was ICD-9-CM only because that is where the bulk of the work force is working and that is the classification they are working with at the moment.

**CHAIRMAN**—Are you aware that other systems are being used such as the so-called DOCLE system, which is Melbourne based? There is also the Dicom-3 imaging standard preferred by radiologists. Are the developers of these codes members of your association?

**Mr Bibby**—As a national association, we may not be aware of those classifications, yet individual members may well be. We have not been involved from a national viewpoint but that does not mean that members may not have been involved at the local level.

**CHAIRMAN**—Are the developers members of your association?

**Mr Bibby**—We only take full graduate members of the four university degree courses. If they are not health information managers, no.

**CHAIRMAN**—Should Australia be moving towards a national uniform coding system at all levels of the Australian health system? To date, what have been the consequences of this country not adopting a uniform coding system? What would you say would be the problems, if any, if a uniform coding system were to be adopted?

**Mr Bibby**—I might have to ask you to repeat parts of the question. Certainly, with the increasing numbers of coordinated care trials that are running nationally, there is a very urgent need to describe a patient's illness from beginning to end and that may or may not include a hospital in-patient component.

**CHAIRMAN**—So you say that, yes, we should be moving towards a national uniform coding system?

**Mr Bibby**—Yes.

**CHAIRMAN**—We have not done so to date. What would you say have been the consequences to the health care system with our not doing that?

**Mr Bibby**—The consequences are, and it is a personal viewpoint, that we are unable to describe the illness in one picture. We have to take a bit of this and a bit of that and add a bit more, but joining those data sets together is nigh on impossible.

**CHAIRMAN**—If we were to say as a nation, yes, it is an aim to have a national coding system, would we have any problems in doing so?

**Mr Bibby**—I am sure there would be many logistical problems in doing that but I am sure they can be worked through if we have a clear national strategy as to where we are headed.

**CHAIRMAN**—What is the situation with other countries? It just worries me that we are very much a global community these days and a diseases in this country is a disease in the other country. Sure, we have some disease others do not and vice versa. But most diseases are found around the world. It just seems to me to be crazy that we have not had more cooperation amongst the health care systems and the health management professionals from various parts of the world to try to ensure that wherever possible we can describe a disease in the same way. We all seem to be reinventing the wheel, operating as total islands.

**Mr Bibby**—There is a lot of information sharing for the in-patient population and, again, I am sure the University of Sydney people would support my view. There has been a lot of international cooperation, particularly because it is a reimbursement system. The in-patient classifications lead to DRGs. Many countries have explored that, many have implemented that. That is where our professional association attention has been drawn because that is where the work is. We are trying to plug that gap rather than look at a

classification that covers the illness from the first GP contact through to the clearance at the final GP contact.

**CHAIRMAN**—Can you inform the committee of the most popular coding system? Some have already been mentioned, such as ICD-9-CM and DOCLE, as have standards such as PIT format and HL7, currently in use in the Australian health care system. Why have organisations gone their own way in adopting a variety of codes and standards?

**Mr Bibby**—Again, I have to refer to in-patients, and I am representing a fairly large group. ICD-9-CM is well supported by our members, and we support the work of the National Coding Centre, and the move to ICD-10-AM and the MBS extended classification covering the procedures.

As to other coding classifications, it is generally about who is going to undertake the coding. There is no expectation that every GP would need access to somebody with a background qualification like mine to undertake their coding. Consequently, they have developed systems where you enter a description of a condition. It may be coded or may not be coded behind the scenes. However, it is able to be accessed in some form, whether it be by that description or by a number.

**CHAIRMAN**—Your submission details a number of projects conducted under the auspices of the national health information agreement, and these projects are coordinated by the National Health Information Management Group and the national health data committee. Could you discuss projects you are conducting under the auspices of the national health agreement and the extent to which information from these projects has been disseminated within the health system?

Other witnesses have appeared before us, and it seems to us that a lot of good pilot work has gone on but the results of research, for one reason or another, have not been shared as much as everyone would have liked. What often happens is that a pilot is repeated in another place—the wheel is reinvented at great cost—whereas in another place further research of a different nature could be done.

**Mr Bibby**—This does not necessarily indicate that we have had an involvement; the person who drafted our submission previously worked for the Australian Institute of Health and Welfare and is a member of our board of directors, thus we have some knowledge of what is going on at that level. I am unable to comment on any projects. I can comment that we actually approached the National Health Information Management Group, suggesting that we may have some expertise that would complement their work. They said that we were not signatories to the national health information agreement, of which I am sure you are all aware. They said, 'Thank you, we will consider it.' That is about as much as I know.

As to Standards Australia IT14 and IT21—I am not sure whether you are familiar

with the names and numbers—we have members representing the national body on those groups. At the local level, in the *National Health Data Dictionary* items are being refined and defined. Our membership is involved in that process.

**CHAIRMAN**—You state in your submission that your association is currently involved in a number of projects and initiatives aimed at gaining an improvement in the coded health data in Australia. Could you provide the committee with more information about the aims of the association to improve the coded health data and the areas in which improvements will be made? Are those improvements likely to lead to uniformity of coded health data?

**Mr Bibby**—We have a very close involvement with the National Coding Centre, and that is to ensure—it is ICD-9-CM at the moment—that ICD-10-AM will come in and that the education is standardised so that the work force population is receiving a level of education that is standardised. We aim to influence the state health authorities because they do not necessarily need to implement the recommendations of the National Coding Centre. Code ICD-10-AM or ICD-9-CM, Australian modification version, whatever they are up to, was implemented. I know one or two of the states lagged in implementing that.

As an additional way of improving data quality, we have implemented the coded accreditation examination to try to provide a benchmark of what is a good coding standard. We have conducted the first of those exams. The next one will be in April 1997. We automatically come across state variation in the interpretation of codes because we are running it as a national examination and we adhere very closely to the national guidelines.

They are two initiatives that we regard as focal to our organisation representing our members. We are trying first to standardise on what is being done and, second, to establish reasonable levels of competency.

**CHAIRMAN**—Could you inform the committee about your proposal to establish a society for clinical coders and discuss its aim and possible membership?

**Mr Bibby**—We were funded from the Commonwealth to undertake what is being called the national coder work force issues project. That project has just concluded. That was originally about looking at the work force of the coder population in whichever part of Australia they worked or resided. Its role was to look at their needs, to look at their working conditions and the work force, whether it was less than is required or greater than was required.

Part way through that project the Commonwealth changed tack a little bit and decided that, given the numbers of people who were out there working with feelings of isolation because of the various remote areas of Australia, it would be a good idea for the project to consider establishing a clinical coder society. The reason for doing that is that clinical coders need not have a Health Information Management degree, which to be a full

graduate member of our professional association you must have. It was decided that because a lot of them were clerical coders we should establish a society—not an association—affiliated with our organisation so that they had a forum where we could provide them with education or certainly an exchange of information.

**CHAIRMAN**—What is the difference between a society and an association? You said 'a society—not an association'.

**Mr Bibby**—I cannot debate that with you. It is just that with the association we establish certain levels; the society is open to all interested bodies. It does not have, 'You have to be qualification X to join this society.'

**Mr FORREST**—Just on the privacy and confidentiality issues, you have provided us with attachment A which was your association's position statement. But we have heard earlier that we have now got an Australian standard on this, so have you reinvented the wheel again, or how does it fit?

**Mr Bibby**—This needs to be reviewed against the standard. As you can see, the HIMAA has been handwritten because the process of redoing that is in train now, so that is the older version.

**Mr FORREST**—You have obviously had input into what the Australian standards have produced now.

**Mr Bibby**—Yes, we will have had, from our members.

**Mr FORREST**—Has that improved the situation?

**Mr Bibby**—It will probably clarify a number of issues. This morning we heard questions about how well the standard is implemented, and again it is back to the local members. They might raise certain issues that we would then try to clarify for them if we felt it was an issue that was concerning a number of members. We would include it in a statement such as this.

**Mr FORREST**—So we are making progress?

**Mr Bibby**—Sometimes our members, because of inconsistencies, ring us and say, 'What should we do about this?' We provide them with standardised guidance on how they might approach a situation.

**CHAIRMAN**—Thank you, Mr Bibby, for appearing before the committee this afternoon. There will be a draft copy of your evidence sent to you for checking.

[1.54 p.m.]

**McWILLIAM, Dr David Brian, Director, Department of Intensive Care, Royal Prince Alfred Hospital, Missenden Road, Camperdown, New South Wales 2050**

**CHAIRMAN**—I now call Dr McWilliam from the Royal Prince Alfred Hospital to be sworn in. Thank you for your submission, which we have circulated. Would you like to clarify some aspects of it or give us a very brief overview?

**Dr McWilliam**—I am the chair of the patient database management committee of the Australian and New Zealand Intensive Care Society. We made the submission as a society which is very clinically oriented and interested in Health Information Management, and particularly looking at outcomes in intensive care. It is outcomes based, and we see its primary purpose as a quality assurance tool. Could we measure the outcomes from intensive care in such a way that we could compare ourselves with our own unit's performance in previous years, with other units around the city, with different types of units? Could we even make international comparisons?

There are a number of severity of illness scoring systems used in intensive care which allow you to compare patients who have disparate diagnoses and to calculate the risk of mortality. Using these algorithms, you then compare the actual mortality rate with that which is predicted by the algorithm, to give a standardised mortality rate. You can use this as a rough guide to show you how your practice is changing over years—or compared with other units—or you can variously aggregate this information to look at differences between states, between countries and between levels of intensive care.

**CHAIRMAN**—Could you let us have details of the pilot project in which you have been involved, that is, the pilot project in intensive care. If the project has been evaluated and its outcomes analysed, could you discuss the results of the evaluations and the comparisons you have made with similar projects in, I think, the United States.

**Dr McWilliam**—The group started with a small group and then went into a larger pilot which is looking at intensive care units at all levels in Australia and New Zealand and, more recently, a small representation of South-East Asian intensive care units have expressed interest. The database is now quite large. It has about 100 regularly contributing units, and I think we have got more than 100,000 episodes of individual intensive care admissions.

The algorithms we have used are ones which have been developed in North America and Europe. The scoring systems are popularly referred to as APACHE and SAPS, which are acronyms. Using these scoring systems, which have not been fully validated in the Australasian environment, we have found that these algorithms do correlate with mortality. As the scores get higher and higher, so the patient mortality in that group gets higher and higher. They are valid in that regard.

When we look at the standardised mortality ratios—these are the actual to expected outcomes—we find that Australasian intensive care has a lower standardised mortality ratio than the algorithm predicts. Typically, it has variations around 80 per cent of those which would be predicted in North America or Europe.

The interpretation of this is a little uncertain. Obviously, the interpretation we would like to make is that we practise better intensive care in this country. Unfortunately, we need to look at the model in a little more detail. It may be that this particular algorithm needs better statistical matching to the Australian type of practice in intensive care, and that these algorithms should be recalculated. That is one of the projects we have in hand at the moment.

**Mr QUICK**—In your submission you state that you are using internationally agreed standards of coding, but we seem to have heard today that there is a whole heap of them and you can take a choice. What standard did you choose for the project, and why? You also mentioned, in relation to data collection, that systems such as DRGs have been shown to be very poor predictors of cost in intensive care models and there is need for development of an alternative model: do we invent another one or is there something else you would suggest in its place?

**Dr McWilliam**—The international standards that we have used have been related to a scoring system for calculating the severity of illness. This is a numeric method of calculating severity of illness. It may be associated with a particular diagnosis, or it may be independent of a diagnosis. It is a system of classification which is separate from diagnosis. APACHE, which was developed in North America, stands for acute physiology and chronic health evaluation. SAPS, the simplified acute physiology score, is a comparable and slightly simpler version, developed in France. These have been validated widely around the world—although not in Australia—as being predictive of outcome. Those are the internationally used standards that we have adopted for scoring severity of illness.

**Mr QUICK**—So you have two scores—both out of 10, 20, 100?

**Dr McWilliam**—APACHE has gone through various modifications. The one most widely used is APACHE 2, which is a score of zero to 72. Basically, as you become more and more deranged in your health status, the score goes up and so your mortality rises. Similarly, SAPS is a slightly different scoring method but it is based on the same idea of deviation from normal values. There are alternatives. APACHE has gone through a third version, APACHE 3, but the calculation and prediction of outcome from that is now proprietary to the United States company and they charge a very high fee for using this. So most intensive care units around the world have remained with APACHE 2 and SAPS 2, and another slightly different modification in the United States, which remain in the public domain with all the details of the algorithms being freely available.

**Mr QUICK**—Given our strong historical link to Britain, what do they use there?

**Dr McWilliam**—Britain tends to be using APACHE 2 as their severity of illness score but there is a slight disjunction between the United Kingdom and Europe. Europe has largely gone with the SAPS scoring system developed in France. The UK is mainly with APACHE 2 but they are heading towards a common pattern. So I think we will see modifications of APACHE 2 and SAPS 2, which are very similar.

**Mr QUICK**—Does someone like the World Health Organisation use both?

**Dr McWilliam**—As far as I am aware, WHO has not really addressed severity of illness in the form that is important in intensive care.

**Mr QUICK**—Is HIV-AIDS under the World Health Organisation umbrella when it is addressing issues in various countries?

**Dr McWilliam**—I am uncertain about that.

**Mr QUICK**—And back to the DRGs: you reckon that is a poor predictor cost in intensive care logs?

**Dr McWilliam**—Yes.

**Mr QUICK**—Have you invented another one?

**Dr McWilliam**—No. DRGs, as such, describe broad bands of related illnesses. Unfortunately, when you end up in intensive care, you are already a sort of an outlier. So what you find is the variation for any one DRG in intensive care tends to have an enormous spread and very poor predictive value. Most of the Casemix work done in this country has looked at adjusting the cost weights for DRGs when you go to intensive care. Probably the best surrogate for a cost estimate is length of stay. We are looking at other ways of measuring the amount of intervention required and whether this would provide a good cost model. We do not have any details on this as yet but there are some sorts of interventions which are typically associated with more severe illness, longer length of stay and much higher costs. Predictors of length of stay or something like this are likely to be a more accurate predictor of cost in intensive care than the DRG category.

**Mr QUICK**—Will we get to the stage of not relying on the European model or the American model and we can stand alone and bring our own in, or are we still totally reliant on cast-offs from either Europe or America because of the health system being the way it is?

**Dr McWilliam**—I think we are in a very good position in that intensive care, and I suspect many other medical specialities in Australia and New Zealand, is a pretty

coherent group. We communicate very easily, we work on things like this database project with a high degree of cooperation and we have a higher percentage of involvement in intensive care practice of this type than you would get in the United States or in Europe. I suppose, being a smaller population, we have a greater coherence, better communication, less driven by a broader faction or commercial interests, which seems to be often the case in the United States, and a lot more national differences in Europe which seem to stop them getting the same degree of cohesion.

**Mrs ELIZABETH GRACE**—I would like to move into the privacy area, please. You indicated in your submission that you addressed the ethical, privacy and legal issues by de-identifying—which I think is an interesting expression—data prior to its incorporation into the central database and you sought and obtained protection under the Commonwealth privacy legislation for that database project. Could you please explain in more detail how you sought and obtained this protection under the Commonwealth Privacy Act, particularly since the Privacy Act as it now stands is relevant only to data which is managed by Commonwealth government departments and agencies?

**Dr McWilliam**—When we originally set up the central database, we were reporting back to individual units their performance and their performance compared to other units, or actually pooled data, so that you could see your own unit's performance against a group norm. This was based on your individual patient data. We tried to, as I say, de-identify by removing identifying factors which would allow the identification of an individual patient by accumulating a particular unit's results before they were submitted to the central database.

The second aspect was the requirement that the individual units had their own identity kept separate. There was some concern within intensive care that we would publicly publish the standardised mortality ratios for individual units. This was seen as comparable to some things that had been done in the United States, where a number of hospitals have had their overall hospital mortality rates ranked and published as a way that individual people should choose the hospital on this basis, which was a grossly erroneous thing.

**CHAIRMAN**—It is an incentive not to take really sick people.

**Dr McWilliam**—Exactly. For this reason, there was some concern for individual units that, as a QA tool, we should seek protection under the quality assurance protection for this. We wrote to the minister at the time asking for designation under that legislation and were granted that on that basis.

**Mrs ELIZABETH GRACE**—Thank you for that.

**Mrs ELSON**—In your submission, it states that you have been able to expand the database to more than 70 units in Australia and New Zealand and that the project has

received interest from Indonesia, Malaysia, Singapore and Hong Kong, who have contributed to the database. Could you explain what expanding the database to more than 70 units means and elaborate on the extent of regional and international interest in your database?

**CHAIRMAN**—Also, in doing that, could you tell us whether you are generating any income?

**Dr McWilliam**—In short: no, Mr Chairman, I am sorry to say. Not at this stage. The division at the moment—by the basis of the number of admissions—has about 39 per cent of our admission data coming from New South Wales, about eight per cent from New Zealand, 20 per cent from Victoria and Tasmania, which we combine, South Australia, Western Australia, and the Northern Territory account for about 22 per cent and Queensland, nine per cent. Hong Kong is the major contributor from South-East Asia. Hong Kong and the other areas account for only two per cent at this stage of the total database.

The development, return and processing of this data has been of a pilot nature, but we now have a sufficient database to, hopefully, as I suggested, recalculate the algorithms and refit them to the Australasian data so that they better describe our practice. We think this will improve the value of the reports that we return to individual units. We intend to raise a charge for this to cover the cost of running the development which has, to this stage, been basically done out of research grants and money from the society, which you know is finite in its future directions.

We hope that we can do some cost recovery by charging for these reports, but we need to refine the algorithms a little more to improve the value to the end users. I think we are at that stage now that the reports are seen as being useful in individual unit management and in the direction of individual unit practice. They would accept charges for this. It is our intention to keep the project viable.

**Mr FORREST**—On page 2 of your submission, you refer to the design of data collection and some work done under the management of KPMG. Obviously there is some cost benefit driver to what you are doing. I can see you, with Casemix, not wanting to have a bad result, so there are other drivers. One thing this committee has been looking for is some documented cost benefit to the whole use of telecommunications in medicine. Are you able to elaborate a little on some of that work?

**Dr McWilliam**—It is difficult. We do not have a lot of cost information. As I have said, we started off primarily as a quality assurance tool looking at outcomes and the improvement of mortality ratios rather than what that improvement cost us. Gathering cost information in intensive care is considerably more complex than gathering basic information about medical care. That is one of the issues for us. The data we collect at the moment is a by-product of data collection and decision making for patient care. One thing

I would certainly look for in future directions is a greater emphasis on this data collection and using patient data for providing information about how the system works. That would include cost data as well. But the constraints in the day-to-day provision of services are such that if it is not directly needed in patient care, that is an add-on and the collecting of that data costs more money. We do not have the resources to collect cost information at the patient level.

**Mr FORREST**—Who appointed KPMG? Was it the Commonwealth?

**Dr McWilliam**—It was under one of the cost-weight studies. KPMG won the contract for intensive care, radiology and some laboratory services. KPMG consulted ANZICS—the Australian and New Zealand Intensive Care Society—on some aspects of the conduct of that study, which is how we got involved.

**Mr FORREST**—Would they have anything useful to tell our committee directly?

**Dr McWilliam**—They provided information on altering cost-weights for DRGs in intensive care. Their spread of data collection probably would be of interest to the committee in terms of what they did in those cost-weight studies.

**Mr FORREST**—We are also struggling to define the Commonwealth's role. We have heard about the absence of a national strategy on all of these things. Perhaps you can provide us with some of your wisdom on what you might see as the Commonwealth's role in the future of Telemedicine, going even beyond your own area of speciality.

**Dr McWilliam**—I am sure that you have heard on multiple occasions mention of the issue of standards. This is a complex area. I think it is difficult for the Commonwealth to actually legislate or direct.

**Mr FORREST**—It keeps changing, too.

**Dr McWilliam**—That is correct.

**Mr FORREST**—We made a mistake with digital and analog phones.

**Dr McWilliam**—What coding standards there are in medicine should be encouraged. We should constantly encourage Standards Australia, the medical communities and even special societies, such as the one I represent, to constantly look at standardising the coding. They should be aware of and stay in line with the coding systems that are currently in use for the exchange of information. The provision of statistical information to departments of health and the Commonwealth provides a way in which to enforce some standards.

There are a number of other things. Another controversial area is the issue of

identifiers. In intensive care, we have a little problem with identifying individual patients, particularly when we are looking at the transfer of patients. So if we are looking at the transfer of intensive care patients from rural areas to the city, which is not uncommon, or the redistribution of workload within the city to match the intensive care resources available, it would be nice to have unique identifiers for the patient, the hospital and the particular illness or episode event or whatever you might call it. We have invented, as we have gone along, various ways of achieving these identifiers. They obviously have considerable privacy implications. They help us to look at the wider picture in a much more accurate way.

**Mr FORREST**—Do you need that identifier for the person? Is it the record that goes with the person? Do you need the identifier to use the information somewhere else? To link it with the person coming from a rural location, a bar code on an armband would do.

**Dr McWilliam**—Yes. It is about that type of thing. With what we are currently doing, it is very difficult to identify transfers. If there is a patient in intensive care in a country hospital, the central database would get data on that patient. They are then transferred to the city. The city will have information on another patient who was admitted from another intensive care unit, but we will not be able to match the two. We will not realise that this is a rural to city transfer. We do not have that information because what we get from each individual hospital does not contain information on the transfer.

We only use patient identifiers which are unique in that hospital. So if we use a medical record number from hospital A, the patient will be given a totally different one when they arrive at hospital B. Similarly, we have built our own codes for coding hospitals.

**Mr FORREST**—It sounds a bit offensive, but we can successfully move cattle all around the place. You could do it with a bar code, could you not?

**Dr McWilliam**—We could use things like their Medicare number, but, unfortunately, that is at the family level rather than the patient level. So we need to add further information. There are a number of problems in using the Medicare number as a unique identifier.

**Mr FORREST**—I find it curious that an individual could consider their need for privacy above their need to have their health preserved. In a situation like that, I find that curious.

**Dr McWilliam**—Our society has been concerned that we are collecting data on patients. In effect, we regard medical information as highly personal and private. For example, we delete names and addresses and that sort of identifier, although we do keep postcodes to help us with distribution data. We find that that sort of information is

difficult to keep within what we regard as the privacy requirements of holding a database of private, personal information.

**Mr QUICK**—Is that as a result of our Anglo-Saxon background? Is it typical of the rest of Europe and some other countries in the world?

**Dr McWilliam**—Not so much in Europe; it is not so much of a problem there. They do not seem to have quite the rate of transfers in intensive care that we have. Transfers is one particular issue which is of interest, especially in distributing intensive care units. We cannot afford to put them everywhere. We move the patients to the resources. It is used more in this country than in other places.

**Mr QUICK**—So what is the Canadian experience? They have a larger country and their population is dispersed probably even more than ours. What is their experience?

**Dr McWilliam**—They would be similar, no doubt. I am not quite sure. There has not been an equivalent project to the database project in Canada that I am aware of.

**Mr QUICK**—You say in the last paragraph of your submission that your efforts are in touch with parallel developments in North America and Europe. What have they done with individual identifiers in the USA?

**Dr McWilliam**—In the USA, there is a project called project impact. Largely, we have been restricted to individual ICUs. Their project is looking at costs a little more. Theirs has a much more commercial interest in that they look at the particular types of equipment used. This is of particular interest to medical equipment manufacturers. This is the source of funding for their project. They do not look at transfers between units.

**Mr QUICK**—It really worries me, and I am wondering whether it worries you, that this intensive care database arose from your society's interest rather than being driven by state or Commonwealth health departments. If you decided that this was not a high priority and if state and Commonwealth health departments figured that they were not going to generate this, it would not have happened, and that really worries me.

**CHAIRMAN**—Why should governments generate everything?

**Mr QUICK**—Through you, Mr Chairman, we have been hearing evidence today in regard to Commonwealth and state and whether we need all the different levels. Some of us are suggesting that the state health departments ought to be out of it. You have developed this. It is obviously working well; it is a world leader. Why do we need state health departments? They have not got around to this.

**Dr McWilliam**—I must acknowledge the financial support of the New South Wales state health department in funding the research project, which we won in

competition, it must be said. They saw this as a worthwhile project and funded it in that way.

**Mr QUICK**—To what tune?

**Dr McWilliam**—The total has been around $200,000 over three years. It has been the major source of funding for this project. It has been something that has been done cheaply within the society because basically the individual units have been interested in collecting the data. They see it in their own interest and in good quality practice. That is something that we have found difficulty with—the development of data collection systems within hospitals—that it is valuable to collect this primary data in a way that is ongoingly useful. For example, it has happened in smaller hospitals, when we have tried to encourage people to install a personal computer to collect the data into a program that we have written for these purposes. They often say, 'Our administration will not give us a computer; they are sure that we will only play games on it' or something like this. It has occurred by considerable dint of the collations. I would certainly like to support more information resources going to clinical care—the primary process of looking after the patient—because that generates a lot of the information which then can be built up to describe the systems at a higher level. It seems to me so often that most of our health information resources have gone into the hotel, financial, payroll, supply and big overview types of services, rather than in supporting clinical decision making.

**Mr QUICK**—From the mid-1980s onwards, it was always driven by the spectre perhaps of having a health system like the American one with DRGs. By picking the eyes out of what is happening in Europe and in America, we have suddenly realised that, if we are going to make some decisions about where we are going to put our money, we need to have some statistical information. We have not had any for ages. The state and the Commonwealth and all these other working parties have been pussyfooting around, but now it is crunch time. In order for our own survival, we have to get some of this information so that organisations and societies like yours have put their hands up.

**Dr McWilliam**—Yes. That is certainly what has driven us. Firstly, measures in intensive care are difficult. We decided that there really was not anybody else other than us who could develop the models. We think that these models are now providing better descriptions of what the system is actually doing and how well it is coping.

**Mr QUICK**—How many other similar sorts of things do you need to invent before we can get a total health care package?

**Dr McWilliam**—I think that, when you are dealing with the lowest clinical level, the raw data that you use to care for patients day by day, to build that up into big systems, will take quite some time. Certainly, our system is expandable to all types of intensive care. It would be a little more difficult to move to other areas. However, I am aware of other specialties in renal medicine, in diabetes, in cancer medicine which have somewhat

similar projects of collecting data on groups of similar patients to actually measure what is happening and describing the practice, as well as specific research projects addressing one particular question about a particular type of therapy.

**Mr QUICK**—You could come up with the world's best system but, through a lack of individual identifier, the system would not be functioning at 100 per cent. So how do you see your role in the various working groups to say, 'Look, we've invented the system. Someone needs to go away and talk to the privacy commissioner in each of the states because we do not have privacy legislation'? This needs to be done ASAP so that, as John mentioned, if you travel from the city to the country you can develop a perspective of what is happening in the Woomera or the Mallee in the way of inadequate health services that need to be addressed and cost shifting and the like.

**Dr McWilliam**—Yes. We are trying to look at ways to address the issue where this particularly becomes important in transfers between hospitals. We are looking at individual solutions for that. The Australia card number would have been a nice way to deal with that, but that sort of thing seems unlikely to arise.

**CHAIRMAN**—It is not on our agenda.

**Mr QUICK**—Not this term.

**CHAIRMAN**—Or, I suspect, any term.

**Dr McWilliam**—There are alternative ways of working the same information to identify transfers although it is a bit more complex.

**CHAIRMAN**—Dr McWilliam, thank you very much for appearing before the committee. We will submit to you a draft of what you have said for you to check and okay. I would like to thank you very much not only for your submission but also for coming before the committee this afternoon.

**Dr McWilliam**—Thank you for the opportunity.

[2.26 p.m.]

**COHEN, Mr Paul Stephen, Group Manager, New Zealand Health Information Service, New Zealand Ministry of Health, PO Box 5013, Wellington, New Zealand**

**NEAME, Dr Roderick Laurence Beale, Managing Partner, Health Information Consulting, Homestall House, Homestall Lane, Faversham, Kent, United Kingdom**

**SWINKELS, Ms Wendy Lynette, Health Informatics Coordinator, Faculty of Medicine and Health Sciences, University of Newcastle, University Drive, Callaghan, New South Wales 2308**

**CHAIRMAN**—I now call witnesses from the New Zealand Ministry of Health, Health Information Consulting and the University of Newcastle to be sworn in. Thank you very much for coming to Parliament House today for the inquiry. Mr Cohen, I believe that you came across especially to talk to us today.

**Mr Cohen**—Yes, and other things as well.

**CHAIRMAN**—I was going to recommend that you visit some of our tourist resorts while you are here and spend a few dollars to help us boost the economy. At the outset though I would like to thank Dr Roderick Neame, the Managing Partner of Health Information Consulting, for preparing the explanation on protocols and codes. Essentially, we are very interested amateurs in this area. We are learning a lot as we go through the inquiry, but what you have done will be of immense assistance to the committee members individually as well as to the secretariat and committee members in finalising our report.

Thank you also for the submission from the University of Newcastle. Before I ask one of you to deliver a brief resume of that, I would like to place on the record the committee's congratulations to the University of Newcastle on the way in which it is training undergraduates in the field of Information Technology and computer usage. We have heard evidence from others that your university is one of those most interested in this and I believe that, if all medical schools could be as proactive as the University of Newcastle clearly is, a lot of the problems that we are wrestling with—encouraging the use of computers as clinical tools in medical practices, and encouraging doctors to deal electronically and to become computer literate—would not be problems. So, hopefully, if other universities adopt your practice, the country will be a whole lot better off in the future. Would you like to give us a brief resume of your report, emphasising those aspects of which you would particularly like us to take notice?

**Ms Swinkels**—Thank you for the invitation to speak to you. Our submission addresses issues for health information systems and services. The underlying imperative is education and training. Without appropriate education in Health Information Management, the implementation and use of information services will not succeed. Rod Neame and I

worked together for 10 years at Newcastle University implementing the program that is there for the students now. I am going to pass over to Rod so that he can address the issues in the submission.

**Dr Neame**—Thank you for the opportunity to talk to you. The little handout that I produced for you I thought might be useful to clarify that relationship because I heard all through yesterday a theme of concern as to how those various pieces related to one another. If there is anything that anybody would care to ask about that, I am more than happy to try to explain it further. I tried to use an analogy of the conventional communications environment to help the committee understand the relationship of, for example, HL7 to codes and to network protocols. Essentially, you need one of each of them.

**Mr FORREST**—We will have some questions about that.

**CHAIRMAN**—I believe that will be invaluable.

**Dr Neame**—That is over and above our submission, obviously.

**CHAIRMAN**—Dr Neame, we will incorporate this as part of the submission. Is it the wish of the committee that the document be incorporated in the transcript of evidence? There being no objection, it is so ordered.

*The document read as follows—*

**Dr Neame**—There are a couple of points that we would like to draw out which I think are fundamental issues. The first is the difference between vertical and horizontal communication. During these hearings you have heard quite a bit about standards. All of those standards—or by and large with the communication standards—have related to what we would call highly structured communications. These are the sorts of communications that are appropriate to sending messages to administration where the content is quite clear and it does not change very much, and where automated processing is principally the method of use.

However, when you come to dealing with the horizontal communications, which is the communication between providers, those paradigms are not appropriate or are rarely appropriate because of the variability of the content and because of the flexibility of the ways in which it is used. So we want to draw a clear distinction between vertical communications and horizontal communications where there are fundamental differences.

The second issue that we want to draw out—and there are some notes on the second page of that material that I gave you just to act as an aide-memoire—is that of the messaging paradigms. The traditional, conventional approach to electronic messaging, to structured messaging, is that the person who has the data pushes it to the person who needs it. That presupposes that they know who needs it today and that they can guess who is going to need it tomorrow and the day after. That is clearly impossible because you have no idea where the patient is next going to turn up and what the doctor who is treating the patient next is going to need.

The paradigm that is appropriate therefore to the horizontal communications—the doctor to doctor communications—is a quite different one. The person who needs the data can pull it from wherever it happens to be, using, for example, the World Wide Web. That is exactly how the World Wide Web operates: data is stored in places around the world and the users decide what they want and when they want it, and bring it to their screen.

So those are the two things that are very important to get across as fundamental concepts behind all of what we are saying in our submission. At this point I would like to hand over to Paul Cohen.

**Mr FORREST**—Just on that, which one is the easier to secure?

**Dr Neame**—Could I deal with security separately because I feel that you are probably going to want to ask us questions about security in a moment? I will come back to that if I may.

**Mr Cohen**—I just want to make a short comment about the New Zealand Health Information Service. It is basically the genesis of the system that is outlined in the paper there. I manage the NZHIS. I am responsible for developing, holding and driving a vision for the management and development of our national health information systems in New Zealand. I am also responsible for providing information which enables the health sector to improve its decision making in order to achieve better health outcomes at the most cost-

effective level. We want to improve our purchasing decisions as a nation, so we provide information for improved purchasing and also government policy making on information, as opposed to making policy in the absence of information, which is often the case.

In New Zealand, we have a system which involves links to all of the public hospitals, as well as our private hospitals. It also includes transferring information about patients using a unique identifier. So we have a national unique identifier. It covers the whole country and that protects, obviously, the patient's privacy. We are now implementing the integration of hospital information with our GP and community information.

**CHAIRMAN**—Sorry to interrupt, but is that national identifier for hospitals and for medical practices?

**Mr Cohen**—It is for an individual when they go into a hospital or a medical practice.

**CHAIRMAN**—So you have the one identifier for in-patient services and also services in private practices?

**Mr Cohen**—Yes. The failing has been that the identifier up to now has been focused largely on the secondary side, so when you go into hospital you get allocated a number. What we are currently doing is rolling numbers out across GP registers, so it covers you when you go and visit your GP or when you go into hospital and you have the same number.

**CHAIRMAN**—So it is rolling numbers out across GP registers.

**Mr Cohen**—Yes. At the moment, the population of New Zealand is covered in so far as they have been into hospital within the last, I think, 12 years that the unique identifier has been in place.

**CHAIRMAN**—What proportion of the population would that be? About 20?

**Mr Cohen**—No, far higher. There are about 2½ million individual records, but I can clarify the exact details afterwards. It is about 90 per cent, so it is higher than that.

**CHAIRMAN**—Ninety per cent of people have been in hospital in the last—

**Dr Neame**—Have got allocated record unique identifiers.

**Mr Cohen**—You get them allocated at birth.

**CHAIRMAN**—Yes.

**Mr Cohen**—So over the period that we have had them they have been expanding

out, but we are now currently rolling them out so that everybody has them?

**CHAIRMAN**—I thought you were saying that proportion of the population had been in hospital in that period.

**Mr Cohen**—No.

**CHAIRMAN**—I thought the health care system needs a tonic.

**Mr Cohen**—Yes. Some areas maybe. So the system has been a secondary focus. I would agree with the other speakers who have been over here in the last couple of days and have said, 'You have to start looking at your primary care and stick in place information systems that cover what happens to you in primary care.' So what we are currently trying to do is implement integration of our hospital information with GP and community information. The reason for doing this is to give a much more complete picture quickly to GPs, clinicians and other health care providers.

Our predominant focus is not to re-invent wheels. We are trying to develop partnerships, wherever possible, with groups who already collect information. My objective of being in Sydney is to forge links between the two countries in order to share the experiences that we have had and you are having as well.

**CHAIRMAN**—Links between the two countries or between New South Wales and New Zealand?

**Mr Cohen**—No, between the two countries and what has happened in Australia.

**CHAIRMAN**—So you would have to forge these individual links with each of the states, wouldn't you?

**Mr Cohen**—I am talking about networking relationships—listening to the last speaker about the experiences that he has had in developing a system and then talking about issues that we have come across; that sort of level.

At NZHIS we have 55 employees. Our revenue is around $6 million—largely Crown revenue. We have some third-party revenue targets. It is about $350,000 per annum, which is about five per cent. So far this year we have earned about $700,000. Our focus is now on trying to get out and make the information that we have available to people across the sector. I notice you have asked a lot of questions about whether we have earned any revenue.

**CHAIRMAN**—We are always interested when revenue is being created. Could you outline for the committee the key goals and aims which should underpin a national plan for the management of health information?

**Dr Neame**—Yes. I think the important issue there is to create a national

framework, a national vision and a strategic plan which can then be implemented in large part at the state level or the local level. I think the key is to put that framework in place. A lot has been said about standards, and they are definitively a part of that framework, but there needs to be a strategic information plan for how information is moved from place to place and for what purposes.

**CHAIRMAN**—Who should be responsible for that plan in the federal system?

**Dr Neame**—I think the federal government should be, because it needs to spread comfortably across the states.

**CHAIRMAN**—There could be constitutional limitations. What you are going to say is that it is our problem, not yours.

**Dr Neame**—It is—that is exactly what I am going to say.

**CHAIRMAN**—What are the benefits to patients and the professional in adopting a system of technologically driven Health Information Management?

**Dr Neame**—In developing a system like this—as we have been working on in New Zealand—it is vital to ensure that there are benefits for everybody. I think our prime focus is on ensuring that there are benefits to patients. The benefits to patients particularly are in terms of trying to provide integrity and continuity of care. What we are trying to do at the moment is to provide a level of self-determination and control over their own information and, indeed, what happens to them. From the provider's point of view, it is important to provide sufficient information for them to have a degree of certainty in what they are doing.

It is often the case at the present time that, without that information, a clinician is faced with making what you might call a seat of the pants decision because the information on which he would like to base a rapid decision is simply not available in the right place, at the right time and in the right form. I think from the funder, the purchaser's point of view—in this case, the Commonwealth government's point of view—it is important to try to eliminate duplication of effort and, therefore, the cost that goes with that. This is because there is a considerable amount of repetitiveness in doing the same thing again and again simply because access to that information is not available at the right time.

**CHAIRMAN**—You indicate in the submission that New Zealand has successfully developed national health information systems and that the central systems developed to meet the needs of New Zealand could be directly applicable to our Australian situation. Could you expand on a statement about the central system developed by New Zealand directly applying to Australia, bearing in mind our federal system and geography? You might well say that, as a nation, we just have to make it happen—I do not know—but how would you see that as occurring?

**Dr Neame**—One obviously has to recognise the sovereignty of the states in this, and there are two ways, therefore, that one could proceed with it. You would either have it at a national level with all the states subscribing to it or—

**Mr QUICK**—A cooperative arrangement.

**Dr Neame**—Cooperative. Equally, you could do it at a state level, state by state, and then have a linking mechanism, which is relatively easy to put in place, to provide the transparency of linking between the two, because clearly patients do cross state borders not infrequently in relation to care.

**CHAIRMAN**—Some of them even go to New Zealand or more often come this way. Do you think we have been tardy or slow in developing a national health information system?

**Dr Neame**—I left here two years ago. Perhaps I can give you a bit of history. In 1991, I was involved in some of the consulting for the health communications network. At the same time, I started consulting to the New Zealand government on setting their system in place. In 1993, the New Zealand Health Information Service, as we know it, came into being. Perhaps what I could say is that I am surprised some kind of similar progress has not been achieved here, because we basically started from the same point at the same time.

**Mr FORREST**—New Zealand does not have the constraints of a federation, right?

**Dr Neame**—Exactly.

**Mr QUICK**—But there is the perception that New Zealanders are basically more conservative than Australians. The issue of privacy, did that raise its head over there?

**Dr Neame**—Absolutely.

**Mr QUICK**—How was that addressed? We are talking about educating people. We have got our way of educating people which, I guess, is to have pilot projects willy nilly all over the country. You obviously do not have pilot projects any more—you have solved the problem.

**Mr Cohen**—There are two issues to the privacy question: one is actually putting in place a system that protects privacy, the other is explaining that system to the public so that they understand that their privacy is protected. Within New Zealand, we worked very closely with our privacy commissioner through the development of both the national Privacy Act and the privacy code that applies to health.

We developed the system side by side with the privacy commissioner. In terms of protecting people's privacy, that was done. What we have not done is actually explain the unique identifier to the public and exactly what it means for them and how it protects their privacy. We have addressed a lot of the technical privacy issues.

**Mr QUICK**—If I emigrated to New Zealand, someone would send me a letter from the health people and say, 'You have obviously just come into the country. Here is your magic number. Remember your PIN number and destroy it and it will be quoted when you go the hospital.'

**Mr Cohen**—The first time you attend any health care provider, you will be provided with a number. They will connect into a national system and you will be allocated a number. Then that number will be used for all of your health care transactions as you go through the hospital system, the GP system, as it is being rolled out at present.

**Mr QUICK**—Can you give us an example of a number?

**Mr Cohen**—It is an alphanumeric code. It would be something like ZY1276B.

**Mr QUICK**—Like an English number plate. Do people tend to remember it?

**Mr Cohen**—No. You do not remember your number. The plan at the moment is that it will be quoted as your GP orders a prescription for you. The chemist will use that number to claim back. The patient management systems within hospitals will have that number in them.

**Mr QUICK**—So, if you go and get grandma's script at the local pharmacy, do you have to quote grandma's number? You would say, 'I am here for Mrs Evans and she lives in such and such a street.' And the pharmacist says, 'She is 87. I understand that you are her nephew.' How do you ensure privacy?

**Mr Cohen**—The pharmacist would get the number from the system. Mrs Smith does not need to remember.

**Mr ROSS CAMERON**—This diagram you have on page 7 of your submission sets out the relationship between the info bank and Infocorp. Is that the arrangement that is in place in New Zealand?

**Mr Cohen**—No.

**Mr ROSS CAMERON**—The idea is that you generate the data on the basis of a unique patient identifier. Then you strip that away for general use of the information and that is just generic information about episodes of care and the nature of the treatment. So that is presumably Infocorp. Is that a public sector agency?

**Dr Neame**—The names that were put here are as a consequence of some work we were involved in with the National Health Service, which is wrestling with the self same problems. Those names were names which it felt comfortable with. That is the only reason those names were there. It is not in place there; it is not in place anywhere. Perhaps I could just take an opportunity to explain what it in fact means.

What essentially one has for a patient is a folder, or a whole lot of folders in a whole lot of different places. That is part of the problem, that the patient's record is distributed in many different places. The thing that makes it sensitive—this comes back to your question—is the fact that each of those pages has two things on it. It has the patient identity and it also has the provider identity. Those two things make that document a sensitive document. Regardless of what it says, it becomes sensitive. If one does the simple paradigm of taking those off, this can be perfectly safely put on, for example, the World Wide Web. It tells you some information, but about nobody. It does not say who generated it. It does not say who the patient is.

**CHAIRMAN**—Sometimes, given some conditions, just even the information you are holding up could well identify someone.

**Dr Neame**—It would be quite unusual for it to do so. There may be, for example, references to family members, which is a possibility. Those also, therefore, need to be replaced and one can have a paradigm for doing that. Normally, that would tell you very little that is useful to anybody. So the paradigm, therefore, is that you separate the information into those parts. This is where the putting the patient in controls comes in. Having done that to this, what you need is for the patient to be able to put that back together again when he or she feels it is appropriate. For that purpose—and this is basically referred to in the previous diagram in that submission—you can therefore refer to all of these pages, which can be held on World Wide Web servers, and that is the paradigm that we are currently working with. It can be done by providing the patient with a device—and in this instance it is actually likely to be a smart card, which has been talked about a lot in the last couple of days—where the links, the pointers to these various records, are embedded so that the provider can identify which, if any, of those he or she wants to look at, and using very simple technology, which is widely available, call the information back and match it again with the patient's ID. Of course, the provider's ID is embedded on the card too. So that is in fact the paradigm: whether we are looking at a page of notes, a prescription, a test, an investigation, a result, an X-ray, whatever it may be, you can deal with it in essentially the same way.

Therefore, the security issue is managed by this, as opposed to by all the encryption or any other technological devices you wish to put on a network. As I think everybody has probably told you, at the end of the day you cannot guarantee network security.

**CHAIRMAN**—For the purpose of the readability of *Hansard*, I can state that Dr Neame was holding up a whole series of colourful and interesting diagrams to illustrate the words of wisdom that he was kind enough to express before the committee.

**Mr FORREST**—They were very useful, but where does that last process operate on figure 2? Not by the private company, you suggest. Who runs that process—the medical profession?

**Dr Neame**—In figure 2, the information corporation has simply got these, and that

is where all the information and statistics can be derived from, all the analysis. That is the commercially useful information, if you will. The stripping off—you will see a big black line that goes down between those two parts there—that is where the detachment takes place.

**Mr FORREST**—But I am a computer hacker and I can work these processes out. How secure is it really?

**Dr Neame**—The answer is that, yes, it is secure. It is quite difficult to go through all the details of how it works at this point, and this diagram probably does not express it as well as it should. I will go through it, if I may. A provider essentially has this in his records. The only place it exists in that form is in his records. He then takes the bits off and puts this on a web server so that it is essentially available to anybody. But only this piece.

**Mr FORREST**—That is basically the bank. He puts that in the info bank, does he?

**Dr Neame**—Yes, on a web server, wherever it may be, whether it is a central one or in fact, as we would anticipate, each unit or group of units is likely to have their own. Those are therefore all available. All that is not there are the pointers to enable them to be retrieved in association with a particular patient identity. He puts also a pointer on the card which says where it is, so the patient has something which enables them to say which ones belong to the patient. There is also a requirement in many instances for a report to go to the purchaser and various other people. That would point to this and at one level would identify who the patient is. That, of course, depends on the commercial arrangements between the various parties, whether or not the patient is identified.

The idea of the information bank is that they would have the fact that there was an event in front of them and the patient to whom that event related. They would check that the patient was insured or that there was a responsible payer, validate that and simply hand
the event through, saying, 'This is one of yours.' There would be a capacity to audit that. If the purchaser or somebody else who had a need or a statutory requirement to be able to identify a patient wanted to do so, they could go back to the information bank and say, 'We need to know who that patient is,' for the purposes of audit, validation or whatever it may be and they would be provided with the links that put them together. All the other processing would take place without knowing who the patient is because the purchaser, by and large, does not need to know who the patient is once they have established it is one of their patients.

**Mr ROSS CAMERON**—If a patient goes to see a doctor and, let us say, the patient has had episodes of care potentially with other doctors—specialists in hospitals, et cetera—

**Dr Neame**—Absolutely.

**Mr ROSS CAMERON**—The patient is really controlling access to that information through the smartcard, is that what you are saying? What information will the doctor have—whatever information the patient gives them through the smartcard and whatever he or she has personally done?

**Dr Neame**—Correct. We believe, in terms of the growing concern about privacy, that it is a matter for the patient then to decide whether they wish that care provider to have more detail or not. I think people were talking yesterday about the fact that a number of patients do consult more than one provider, sometimes for reasons that they want to separate parts of their record. I think most of us would recognise that they have a right to do that if they so choose, and that is exactly what they would do in this way.

**Mr FORREST**—That is a very good explanation. Getting back to my original question to your—I forget how you described it, but very well—push and—

**Dr Neame**—Push and pull.

**Mr FORREST**—I am not quite sure which one figure 2 is. I think it is a bit of both by the sound of it. Is there a preference in terms of better security for either one of those processes?

**Dr Neame**—No. If you de-identify the data then there is no difference. The problem with securing the data is that any form of encryption you care to name can be broken—it depends on how much time and effort somebody is prepared to invest. Therefore one can never, with hand on heart, say to the public, 'This is secure. It cannot be broken'. What you can do is give the patient the control and say, 'There is nothing to be broken. All that exists is this.' There is nothing that says you are the patient or that this was the doctor, so there is no way that anybody can associate it with you. You have the key and that provides the only security. The security has to be done through information management, not through technology.

**Mr ROSS CAMERON**—As a practical matter then, you will go to see your doctor. The system relies heavily on both the patient and, through the patient, the health care provider being able to get access to the card at the appropriate moment, doesn't it?

**Dr Neame**—Yes. Can I just put it another way round: if the patient has lost their card at any point in time, forgotten the pin or whatever, they are no worse off than they are today. They go in and the doctor has to do the best he can in the knowledge of whatever he has in front of him.

**CHAIRMAN**—And that would apply to someone who was unconscious following a car accident?

**Dr Neame**—Yes. However, there are ways that you could provide a break-in capability which is auditable and writes an indelible trail.

**CHAIRMAN**—You are not suggesting a tattoo, are you?

**Dr Neame**—No, I am not. I apologise for my remark a few moments ago from the sidelines when I was suggesting they were tattooed at birth, decorative though they could be.

**Mr FORREST**—My cat now has a chip injected to say it has been de-sexed, so all things are possible.

**Dr Neame**—I think that some people might feel that was an invasion of privacy.

**Mr FORREST**—Dr Neame, in the submission you give a British address. That means you obviously consult all over the place. I am just wondering how you could describe where Australia is—I think you already have in answer to other questions in regard to New Zealand—with regard to Britain and Europe. Are we ahead of the charge or behind?

**Dr Neame**—Britain is struggling with exactly the same problems, and the one thing that has stopped the whole of the British information management systems and technology development is their failure to take the issue of privacy seriously. They have been brought to their knees and the whole of the network has been closed for the simple reason that the doctors have pulled the plug on the basis that all the information collections are identified. They are identified collections of data held in commercial hands.

There is now extreme discomfort to the point where the General Medical Council has said 'This is not acceptable.' So everything has had to stop, essentially because the NHS refused to take the issue of privacy seriously. It said that it is not an issue. Within the family of the NHS, as they like to put it, there is no privacy or confidentiality issue, and the British public does not agree.

**CHAIRMAN**—I never thought I would hear the National Health Service in Britain called a family.

**Dr Neame**—Nor did I, because it is a fairly large family with over one million members, and I think that is what causes—

**CHAIRMAN**—Quite an uncaring family you have got, if we believe what we are told.

**Mr FORREST**—What about Europe then?

**Dr Neame**—Europe has moved heavily into the smart card route already. France is midway through the issuing of a national smart card. The provider cards are already out; the patient cards are in the process of going out at the moment, and they expect to have them all in place by 1998—50 million of them.

**Mr FORREST**—They do not have the same preoccupation with privacy we have, or is all the security you have described to us in place?

**Dr Neame**—With parts of that security in place, but possibly inadequate.

**CHAIRMAN**—Would what you are suggesting give the patients a lot more control over their own medical records?

**Dr Neame**—Absolutely.

**Mr ROSS CAMERON**—I suppose your argument is that you soften the risks associated with a unique patient identifier by ensuring that the patient, himself or herself, is the access point for the information?

**Dr Neame**—Absolutely, because at the end of the day it is them that runs the risk.

**Mr QUICK**—It is like me with my Visa card; if I lose it and have my wallet and the PIN together, all they can do is damage me but they cannot get into the rest of the system.

**Dr Neame**—Again, it is the risk, and you have to accept that risk if you want to be part of the gang.

**Mr ROSS CAMERON**—Do you recommend an opt-in or an opt-out process to set up the infrastructure?

**Dr Neame**—If I were to suggest how it was done I would suggest it started as an opt-in process and move quite swiftly to an opt-out with, in the middle, a promotion campaign saying that these are the benefits, and there are many benefits that you can have coming out of that, including rapid payment. For example, and there is a lot more to this than I have said so far, if the patient and provider cards have to be in the reader at the same time, you have a date-time stamp, patient and provider cards which demonstrate that the encounter took place so all this worry about billing for encounters that never actually took place has disappeared—it must have taken place; all the people had to be in the same place at the same time. So there are many benefits that come out of doing it in this way.

**Mr FORREST**—So all the more reason for these codes and protocols and things, but I have a question about that that I am not sure we can ask until we have actually admitted this evidence.

**Mrs ELIZABETH GRACE**—My original question was answered when asked by the other end but, following on from what you were saying then with the fact that you have got the two units in the machine recording the fact that the encounter took place, how does this follow through then to Telemedicine? You are consulting with someone who is geographically separate. Can it be still used in a similar sort of way, so then we can get a fair remuneration for the person who is providing that service?

**Dr Neame**—That is just as possible. The card itself is addressed as if it were a computer, and it is indeed a computer. Whether that computer is physically located here or is physically located the other side of the world makes no difference to the system. So the fact that the two cards are in readers at the same time and that there is a connection between the two can enable you to achieve just the same date-time unique stamp.

**Mrs ELIZABETH GRACE**—So that means you could get a legitimate payment for someone who does distance consulting, remote and rural?

**Dr Neame**—Yes, correct, you can demonstrate that consultation took place.

**Mrs ELIZABETH GRACE**—Thank you.

**Mr FORREST**—This morning the Chairman asked a question about the difference between a standard, a code and a protocol—you may have heard the question. Your extra submission goes some way to explaining that. I read it but, with so many acronyms, I am just as confused, I think. The protocol is the electronic version of the way the numbers are aside that make up a digital code, or have I missed the drift again? What is the protocol?

**Dr Neame**—The protocol is the rules for use of a network, so that if you have a network—whether it be a road network or a rail network or an electronic network—there is a network of physical connections, and there are a whole series of rules as to the traffic that can be put across them. Those rules, and the way in which the networks work, that is, who speaks first, what happens if two messages collide in transit—and some of these are things that can only happen on electronic system—and what happens if the two connected systems drop out and they have to re-synchronise in order to send the message again, those are all part of the networking protocols.

**Mr FORREST**—Who drives on the right-hand side of the road and who drives on the left?

**Dr Neame**—It is those sorts of things, exactly. Above that, you have a series of messages—if you are talking about communications—which may be structured—such as EDIFACT or HL7 messages which have been talked about earlier—or may be less structured, such as what is called HTML—hypertext markup language—which is the language which is used in the web. The structured one is rather like a set of carriages where everybody has an allocated seat. All those seats have to be full; they have to be in the right order. You may not sit in the wrong seat; you may not have the wrong thing in a particular seat; everything has to be absolutely exact. That is the structured message. A less structured message is a bit like a goods wagon: you can put a whole heap of things inside it. It does not really matter how they are organised, but they are carried around a system in a goods wagon.

**Mr FORREST**—Are those protocols pretty much agreed internationally now or are they still evolving and changing?

**Dr Neame**—As a bit of background, I was the previous Chairman of IT-14 here. I then moved to working with the European Standards Organisation. We are still developing a lot of structured messages. There is currently a slowdown because the need for less structured messages is becoming very clear, as a result of the need for horizontal communication versus vertical communication. The structured messages deal mainly with vertical communication and a limited part of the horizontal communication. But the need for less structured messages is becoming clearer and clearer. There is now a move to stop structured message development and look very clearly and carefully at the issue of less structured message development, for example using hypertext markup language and document type definitions. This is probably a bit technical for some people but it is, essentially, a framework within which you can put natural language. As Michael Crampton said yesterday when you asked, 'What's the coding system used by physicians?' and he said, 'English'. Maybe that is the best way of dealing with it. At the clinician level, they do not want codes. Clinicians want to exchange words with each other. Codes do not mean anything; they have to find a table to look them up.

**Mr FORREST**—Do you then need a protocol to convert the code back into the English?

**Dr Neame**—No, you do not put it in code. If it is clinician to clinician, you do it in English. That is the way they understand.

**Mr FORREST**—I worry that there is some sort of conspiracy abroad. You just get used to this language—it was FORTRAN when I was in university—and now I have got to buy another costly piece of software because I am trying to communicate over here and it tells me I have not got the right protocol. Or is it a natural evolution? Sometimes I get very frustrated between the conspiring that appears to go on and what is then described as better technology—does it faster or something. What is the real story? It will punish us forever trying to keep up. The government has no hope; the government cannot legislate to keep ahead of this technology.

**Ms Swinkels**—That is where the principles and concepts are important. We should define rules and protocols around principles and concepts because the technology will change. That is one thing we can be very sure of.

**Mr Cohen**—The answer is that it is actually both. Some of it is a conspiracy. There are lots of consultants selling software systems and languages and a bit of it is natural development in technology.

**CHAIRMAN**—You pointed in the direction of Dr Neame then. Are there any further questions? There being none, I thank you for appearing before the committee today.

[3.18 p.m.]

**CLELAND, Associate Professor Leslie, Chairman of the Electronic Communications Subcommittee, Australian Rheumatology Association, 145 Macquarie Street, Sydney, New South Wales 2000**

**McCORMACK, Mr Colin, Australian Rheumatology Association, 145 Macquarie Street, Sydney, New South Wales 2000**

**CHAIRMAN**—I call Professor Cleland and Mr McCormack to be sworn in. We appreciate receiving your submission. Would you like to summarise in about 60 seconds some of the key aspects or at least draw to our attention some elements that you feel are of particular importance?

**Prof. Cleland**—I think there are things we might pick up on if we go to the terms of reference. I see the issue before us as one of improving health care delivery through computer centred systems and see it as a way in which Australia can show leadership in what is essentially an international cooperative venture. I think that that distinction from competitiveness with its more obvious commercial connotations is one that needs to be made.

In terms of pilot projects, about eight months ago I put to the Australian Rheumatology Association that the time was ripe to develop a national library for the association which would be electronically based and, by virtue of electronic transfer, was an achievable goal.

I should say that prior to that I had had a relationship, in terms of ideas about computer aided issues and opportunities with using computers to better access information for medicine research with Colin McCormack and Peter Heffernan, who is the other principal of Shared Technology. We have had quite an interesting time exploring ways in which the library concept might be implemented. I think, just very briefly, it is fair to say that we have encountered a lack of cooperation from publishers of electronically encoded text and journals.

**CHAIRMAN**—Why is that?

**Prof. Cleland**—Their argument is that it is for commercial reasons. I guess there is a fear that pervades access to electronic information that it is too easy to copy.

**CHAIRMAN**—Do you feel that is a reasonable response?

**Prof. Cleland**—In terms of information that is typically generated by researchers who are often government funded or funded by charitable institutes who are asked to pass over their copyright to journals in which they typically pay to publish. When the

information is the foundation for the scientific basis of health and medical practice, I feel that position is quite unreasonable frankly.

**CHAIRMAN**—Thank you. Are you able to discuss any information management project which has benefited the association?

**Prof. Cleland**—The project is in evolution. I think it is fair to say that what we have done at this stage is identify the obstacles to implementation which are largely of a people or attitudinal nature rather than a technical nature and that this has been a barrier to implementation of the type of shared access to information that we have in mind. I think it is fair to say at this stage that we have not generated any tangible benefits but we have certainly identified some strategies that might allow us to bypass some of the obstacles in our way.

**CHAIRMAN**—Are you familiar with any pilot project trials into Health Information Management, and has the Australian Rheumatology Association been—or sought to be—involved in any Health Information Management pilot trials?

**Prof. Cleland**—I am not quite sure what you mean. I am aware that other associations like the American College of Rheumatology are using Internet based strategies to enhance distribution of information. I am aware of the activities of the Royal Australasian College of Physicians and the commercial relationships that they have entered into to develop strategies for accessing information electronically. I think it is fair to say that what we have in mind is somewhat different from that.

**CHAIRMAN**—I was interested in your suggestion about a repository of information to be created by the government in partnership with medical postgraduate colleges and their affiliated specialist societies. How would you envisage this institution would be set up? Would it be organised by the federal government with co-funding from the states or territories? Would you see any financial input from the medical colleges, and what role would other industry participants have in such a scheme?

**Prof. Cleland**—I think it is entirely proper that any or all of those three players in the overall health delivery system could and should have a role. I think there is a need for something of an attitudinal change—I guess it is fair to say. For example, by comparison with some of the strategies that the college of physicians is using, perhaps there are more cost effective ways of advancing, but at this stage it is the lack of strategic programming expertise that has led them to those solutions. But obviously that is just our view.

**CHAIRMAN**—I, along with some of my colleagues, had a concern arising from a lot of people appearing before the committee saying that everything should be anchored on the government or some government bureaucracy. Should governments really have a substantial role or should these things be market driven?

**Mr McCormack**—You may be aware of a database called Medline, which contains abstracts from scientific papers published all around the world. It is maintained by the National Library of Medicine in the United States. They redistribute it in America to American citizens, basically at cost plus.

They also enter into international arrangements. In the case of Australia, it is with the National Library of Australia, whose brief it is under the Medline's agreement to redistribute that information. It has been my experience over the last two years while interfacing with the National Library of Australia, which is a federal government institution—quango, I suppose—that their response to their specific obligations to redistribute is to refer one to companies who will sell Medline database access to practitioners, basically for the cost of the entire database to Americans. So there is already an expenditure from the federal government in maintaining that system. It is just not done effectively.

**Mrs ELIZABETH GRACE**—When you suggest that health care professions throughout Australia should have access through the internet to repositories of information, how do you think that would work in rural and remote Australia, given the challenges we have with telecommunications and distance?

**Mr McCormack**—My understanding is that we are graced in Australia by a fairly good telecommunications system. I believe Telstra's equal access policy has laid down right around the country digital equipment that is sufficient to support the delivery of the sorts of systems Professor Cleland is describing.

**Mrs ELIZABETH GRACE**—We had some comment yesterday from the New South Wales Farmers Association that some systems cannot even work a modem; they are not powerful enough. Because of remoteness and the use of solar batteries and things like that, on days like today it would get a bit difficult if you are working on solar batteries. Have you any other alternatives or any suggestions for those sorts of situations?

**Prof. Cleland**—Firstly, it sounds like a worst case scenario argument rather than a common situation. Secondly, Medline and other databases can be put on to CD-ROM at very low cost, which is an alternative strategy. We should always look at internet-linked and CD-ROM based approaches as being complimentary according to what the specific needs and the frequency of access are, and so on.

**Mrs ELIZABETH GRACE**—It sounds sensible. Thank you.

**Mr McCormack**—I will respond to the technical notion. The minimum service requirement that all Australian carriers have to provide is 64 kilobytes per second equivalent. It is not true to say that a modem will not punch through that. I am sure the appropriate modem technology is available. I do not know what the specific problems are. It would be something to take up with Telstra.

**Mr FORREST**—Possums and rats, all sorts of things that eat.

**Mr McCormack**—I suppose digital mobile is the answer, then.

**Mr FORREST**—No mobile access.

**Mr McCormack**—Satellite access.

**Mr FORREST**—Callous neglect, basically.

**Mr McCormack**—Is that the case?

**Mr FORREST**—I will support the New South Wales Farmers Federation.

**Prof. Cleland**—Certainly CD would be—

**Mrs ELIZABETH GRACE**—That is very logical.

**Mr McCormack**—More to the point, we also have interests in developing rural systems. We have got some ideas on that which we have been developing over a period of time.

**Mrs ELSON**—My question was to do with the rural area, and it has been answered previously.

**Mr ROSS CAMERON**—Your submission talks about the gross commercial exploitation now prevailing in the distribution of materials for medical education in CD-ROM format. We had evidence this afternoon from a private commercial CD-ROM supplier. For $150 a year per practice, they are providing doctors with a pretty comprehensive service which includes quarterly updates on CD-ROM. That seemed extraordinarily cheap to me—and to a couple of others, I think.

**Prof. Cleland**—Perhaps that example gives one some comfort that it is not as generally exploitative as we have depicted it. Colin McCormack's example of the fact that Medline has been sold to Australian users at the same price that it is sold to American suppliers highlights the mark-up involved in these things.

There is no doubt that there are areas of exploitation. I can give an example. There was a series of articles in rheumatology printed in a journal. I have spoken to at least half of the authors—if that is a representative sample, which it should be—and none received any remuneration for their contributions. As the articles were all written by members of our association, we approached the journal to obtain the data to place in our library, for the use of students and others. We were told that, for commercial reasons, it was not available: they wanted to collate the articles and sell them to someone else. Here we have

members of our association preparing material in their own time, for no remuneration—as is typical for most scientific literature. Then access is blocked to us to use it.

**Mr ROSS CAMERON**—But you get an exemption from copyright for the purpose of a course of study or research.

**Prof. Cleland**—Yes. It is an individual use situation. I am not quite sure where it sits now, because I discussed this and they asked me to write. I wrote, and I have received no reply. Certainly, there is the ability to copy for individual use. This matter was reviewed in the *Scientific American* last year, together with the extra issue of the multiple copies that servers make—materials transmitted across the net can be interpreted as multiple copies. It is an area that may be a red herring, but I am aware of that individual use situation. That actually provides the foundation for one of the strategies that we see as being a way around this.

**Mr ROSS CAMERON**—The thesis in your submission is basically that governments should take a more activist role. That ought to take the form of government subsidisation of the interface between doctors and technology, to make the take-up of technology more attractive.

**Prof. Cleland**—Government could help by generating some incentives. The overall costs may not be as great as they might seem up-front; clearly, there will be trade-offs. The way in which people use and access information is going to change, if there are appropriate repositories. Currently, government is indirectly responsible for such monies as tax deductions for things that medicos count as expenses to support their practices. Such things could well disappear. We are not really talking here about highly unusual or highly advanced technologies. The technologies needed are fairly widely available. They just need to be serviced and sustained. Frankly, I would see provision of an information base that improves the quality of health care as being a reasonable area in which the government might be involved.

**Mr ROSS CAMERON**—There may be different views around the room but I do not really see government as—surely the profession is a better repository.

**Prof. Cleland**—Let us say that the National Library of Medicine supports the dissemination of Medline to medical practitioners in the US and their explicit policy is that it be disseminated as widely as possible and used as effectively as possible. I see no reason why the Australian National Library could not service a similar function. Obviously, that is just an example of a way in which government might be involved.

**Mr McCormack**—I presume, when misdiagnosis occurs or treatment does not occur properly, that government pays in health dollars. If information provision to the coalface helps prevent some of that waste, it actually makes economic sense. It would seem to me that the cost of reversing an error or correcting a misdiagnosis after the event

is a lot greater than prospectively.

**Mr ROSS CAMERON**—Ultimately, the people pay—the taxpayer pays. In my opinion, the solution to any policy problem that the government should spend more money is usually the least creative policy option available but the most immediately attractive one.

**Mr McCormack**—I forget the figure but, up to quite recently, the Medline component was substantial—I mean, it seemed to me like a lot of money. It was axed and the provision of the service was passed to the private sector, to American companies. A lot of profit went overseas as a result of that so the money was not spent effectively. Government already spends on research but what we are talking about, I think, is more a matter of making the outcomes of the research more relevant to the outcomes of health interactions by doctors. I cannot see that that is a bad thing.

As Les pointed out, we are talking about convivial appropriate technology. We are not talking about the government taking over the responsibility of doctor's interfacing to the Internet. We are not suggesting you drop PCs, plus Internet connections, on everybody's desks. We are talking about the role of government as a centralised authority that has control over research. For example, copyright in Australia is in statutory legislation—we have signed an agreement that we are free to interpret. Those are appropriately roles that the government can occupy and take leadership in.

Is it right that Australian medical research goes overseas, having been funded by Australian taxpayers, to be converted into the private domain in America and sold back at a 90 per cent mark-up to Australian doctors? Does that serve the common health of the Commonwealth?

**Mr ROSS CAMERON**—I think that is a fair question. There are many situations where an expenditure of Commonwealth funds can be seen as having a potential impact—for example, in preventative medicine. There are lots of areas where you can spend more money on education which may help keep people out of hospital or help stop people contracting diseases. I am just conscious of the fact that somebody out there—in Parramatta or elsewhere in shops and factories—has got to make the money.

**Mr McCormack**—We have not had one dollar from the government, nor have we sought it. We have not sought funding and we do not really want it. We have produced some reasonable outcomes, given that it is likely that some of those will not be kept in Australia. A lot of them have been the result of international collaborations. Australia is not greatly interested.

Let us say you approach the National Library of Australia to have access to a database that it has agreed that it will maintain in the public good and distribute in the public good, and that the best they can do is point you to an American CD-ROM

manufacturer. That is very different from asking for a handout. We are just asking for access to the information that we think is a birthright. If the government were to undertake to give every GP, as he walks out the door with his prescription pad, a copy of *Medline*, updated, it would pay back immense benefits in terms of better health, better quality health outcomes and cost absolutely nothing—$2 a CD, $1 a CD.

**CHAIRMAN**—Thank you very much. I would like to thank you for appearing before the committee this afternoon. We will send you a copy of *Hansard* for you to check. Thank you for your assistance to the committee.

[3.42 p.m.]

**CALLIGEROS, Dr Danny, Director, MOnet, 63 Botany Street, Randwick, New South Wales 2031**

**CHAIRMAN**—I call Dr Calligeros to be sworn in. Welcome. For the record, I understand that we have to clarify that Dr Calligeros now appears in his own capacity rather than as representing the Prince of Wales Hospital. Doctor, thank you very much for the submission which you sent us that has been read by members. Would you like to make an opening statement?

**Dr Calligeros**—I am a consultant physician registered in New South Wales and actively practising in New South Wales. I have been interested in computers in medicine, enhancing the practice of medicine and making the life of medicine easier. Recently, as the results of my interests and the collaborators that I have accumulated, and one very important employee, we formed an organisation called MOnet which is an acronym for medical office network. We believe we have a platform that is building momentum, even though we are keeping it very private and enclosed. One of the comments that I would like to make very early is that I am very worried about the Internet. I do not believe the Internet is secure. It exchanges information. I think codes can be cracked, information can be assembled and information can be matched. There is no reason why the medical community does not have its own private communications layer which can have hooks into the Internet and information can be drawn down from public domains.

The other concern I have about the Internet is that there is a hell of a lot of rubbish out there. Patients come in to doctors—I do not know whether this committee has heard—having read this or that report. Some totally non-medical people are writing medical reports about one topic or another. I think the environment needs to be regulated by the medical profession or the health profession because there are nurses, there are non-medical people involved in health care, and government does play a role. Government has provided standards. Government has provided guidelines throughout the history of medicine in Australia. I think it should continue doing so and I think it has been doing an admirable job.

With regard to our environment, with your permission, Mr Chairman, I would like to say how it evolved. I have studied as a medical student in Sydney, in university teaching hospitals, I have worked as a resident in a public hospital system, I have worked as a registrar, I have worked as a consultant, as an honorary on those wards, I have worked in outpatient clinics and before going back to consultant work, I worked in general practice. Recently I gave up my public hospital appointment so I could pursue this matter a little more because I think it is important and it is a project that is going somewhere.

The problem that I have, and I am sure most doctors have, and why a lot of people do not take up technology is that, if I am sitting in a room with a patient, my time needs

to be spent asking that patient questions, examining that patient, thinking through their problem and coming to some sort of working conclusion or a plan of action, a plan of management, to expedite what I am going to do to that patient or tell that patient. I have not got time to go looking for this bit of information or find that CD-ROM or magazine. I think we have the technology where all that information can be brought to us on the desk in a little black box. That little black box can talk to an information system that is secure. It can provide everything that I need: the notes that I made, the letters that I wrote, the prescriptions that I dispense. If it is a generic system where multiple users are involved, there is a possibility to share information. I think my co-workers and I have come to a realisation of some universal truths in all of this: there are huge savings to be made.

In our immediate work setting we know—we cannot prove it; we cannot do a control study; we cannot do an analysis of what we do—we are businessmen and we know that we are saving money and we are more efficient in what we do. We can deal with our patients a little more effectively, and we can exchange information a little more effectively.

I do not think the issues of privacy and confidentiality are any different from the traditional issues of privacy and confidentiality. If I have time—

**CHAIRMAN**—I am pleased to hear you say that. People just chant this concern about privacy, but it is just a problem to be managed.

**Dr Calligeros**—I will quickly go through a step by step scheme of how we address the privacy and confidentiality issue in our environment. Firstly, any user of our system is told that there are privacy and confidentiality issues. In other words, they do not get employed in our environment unless they make an undertaking, as most doctors do in practising medicine, that they will protect the rights of their patients or their clients if they happen to be paramedical personnel. It is a very formal, very specific event.

The only people who have access to the information are health care workers. They have information which arises only out of a specific health professional-patient relationship—out of that relationship that they are directly involved with. In other words, the patient is interacting with a health professional that has established a professional trust relationship with a patient, and I think that is sacrosanct. The patient actually getting into that room with that doctor has established a professional relationship and a trust relationship.

Health care workers may need to have other patient specific information available to them by a referral from another user of the system or a referral from outside of the system. If I refer a patient to another doctor I write a letter of referral and I give them certain information that I think is suitable to that referral. If I do it electronically, the entry is made once. I send an electronic message to that person. There is no postage; there is no extra typing; there is no extra filing. It is all in the system, and it is backed up, et cetera.

There are savings there. I specifically release that specific bit of information to the other health professionals. This is entirely analogous of traditional methods of making information available. In our environment a request for information is actually a more formal event, because it is logged and there is an audit trail of who, why, when and where.

The person making the information available is making a professional judgment. He would not have a medical degree or a nursing degree or whatever the case may be if they were not in a position to make that professional judgment. Our information system has enough granularity so that the user can selectively release and direct any specific piece of patient information. In life threatening situations, a user with sufficient authority—a doctor in an emergency department, a practice nurse, a practice manager—can have the ability to open a patient's full medical record, but they will be responsible for their actions. There will be an event logged and there will be an audit trail. That person will have to answer for their actions. If it is a genuine emergency, fine. There is a system in place. We plan to have a medical review committee made up of the whole environment of our network and these issues are addressed.

The delegates of any health professional—my secretary, my nurse—are responsible to me and to nobody else. If they contravene that privacy—the trust relationship with my patient—they are liable to me, they are liable to the patient, and I would assume, in our environment, that legal actions could supervene. I think that would occur in a paper based system and it probably could occur in this sort of system.

What has not come out in the submission I have made so far is, because we really had not got into that area as yet, we can actually create a second tier of information. It is a little analogous to the Newcastle concept of a vertical information system and it is a little bit analogous to the accounting double entry standards. I do not think anybody except the primary health carers of an individual should have access to their personal identified information, but we can log de-identified information into a separate data base running along the same principles and it is not very expensive to do this—to log information that is useful to practice managers, to health care providers, to the Health Insurance Commission, to anybody who has a right, or a partnership, or a stake in that sort of information. That is totally de-identified. It also provides an independent audit trail of everything that occurs in our system, but it also provides an accounting-type audit trail of what has changed and what was wrong in the system, and it provides the summary information that we can draw upon for research, or epidemiology, or whatever.

We cannot completely eliminate the possibility of breaches of privacy, but as a community we cannot eliminate environmental pollution, we do not eliminate crime, we do not eliminate war. If we tried to do that completely we would stop functioning as a community. So I think the issues of privacy and confidentiality are reasonably addressed in our system and I would imagine the codes of practices in most medical practices that use—

**CHAIRMAN**—Doctor, how do you see your system compared with that of Medical Director?

**Dr Calligeros**—Our system started life as a database, and as I see medical director, it is simply a database collecting information and making it useful. We have gone further down the track in trying to make it an absolutely generic system where information can be pulled in from a variety of sources. If we have the correct database and the appropriate engines are built into that information system to analyse and to give back to the user useful information, then that system can adapt to the changing information that is available in the community, it can adapt to changing standards and to changing protocols. Another aspect of our system is protocols and I would like to try to re-define protocols from a medical point of view.

**CHAIRMAN**—We'd be thankful for that.

**Dr Calligeros**—I think the definition may be more generically applicable. A protocol is a set of steps or a schema of tasks, chores and events that must occur to perform a complex task. That's it. You have a task to perform—these are the things you need to do. That is what the protocol is. A communications protocol is: what does this computer need to do to successfully communicate with that computer, or what does this information system need to do to communicate with that system, what does this doctor need to do to manage pneumonia, or a road traffic accident, or a cardiac arrest?

**CHAIRMAN**—It seems to me that obviously if the practice was on MOnet it would not need to be using Medical Director.

**Dr Calligeros**—Absolutely.

**CHAIRMAN**—So you do everything they do, plus more?

**Dr Calligeros**—It is not as mature in some aspects. We are obviously resource strapped because it is only a small operation and we have not commercialised it yet. We have done that specifically on purpose so that we can really iron out how the database works, how it can grow, how it can adapt, how it can be generic and how we can ensure privacy and confidentiality.

**CHAIRMAN**—But you obviously would see your system as being better than Medical Director. I do not want you to necessarily criticise Medical D2sizeirector, but you would obviously see your system as being an improvement on it, otherwise you would not be pursuing it.

**Dr Calligeros**—I think we have to look beyond 1997, we have to look into the 21st century. We have to think like *Star Wars* or *Star Trek* consumers.

**CHAIRMAN**—I noticed in your submission that you said that you could foresee quite easily the expansion of your MOnet Intranet, to a state or national, or I think you may have said international, based system. What would be the generator for that expansion? Obviously, you can go out in the marketplace and you could enlist business from medical practitioners but, clearly, to get from your present situation to being an international system with a huge number of people locked in, there is a considerable distance to travel.

What do you see as being the motivating factors that could generate that expansion of MOnet from being something this size to being something all encompassing? Would you see that as perhaps not a strong possibility, given the fact you clearly have competitors out there in the marketplace?

**Dr Calligeros**—We have purposefully designed the system to be generic and scalable. We have moved with the technology whenever there has been a jump in technology. We started with desktop systems, went to multi-user systems and then network systems.

Our back-end, our data storage mechanism, can grow almost infinitely. The technology is there now to keep adding disc storage space, to keep adding computing power without any major changes in the way we do things. The system can just grow. We just go for bigger computers, more processors and so on.

In terms of attaching to our system, I can say literally if you are anywhere in the world that has a telecommunication system then you can plug that box into the wall and dial up into the network. I am pleased to report that I can dial in from home and my programmer can dial in from home on a standard 28-8 modem; it is a little slower than being on a 64kb-ISDN line. We have our three medical centres linked up with the 64kb-ISDN lines, but it gives us enough functionality that if I get rung by a diabetic patient at night, and I say, 'Oh, what did I give that patient?', I can turn the computer on, dial in and the information is there in front of me. I can even make an appointment while I have got them on the line to see them, if I need to see them again. The functionality is there from any sort of telecommunications.

I am at present awaiting the delivery of some digital equipment which allows the rapid deployment of a wireless network within buildings, without have to actually hard wire a facility. I believe in Holland there is a project sponsored by one of the subsidiaries of AT&T to provide wireless communications throughout a hospital. There are gross concerns there with electronic interference; however, the pilots are going on.

There are tunnelling technologies within the Internet to provide a secure tunnel on the public superhighways, although these technologies are very new and I am sure somebody will be able to hack into them eventually.

**Mrs ELIZABETH GRACE**—In your submission, you alluded to the lack of any state or national strategic plan for information management of the health sector. How would you suggest such a plan should be developed? Who do you think should be the major players?

**Dr Calligeros**—In my opinion, there is no easy answer to that. I am confident that our system will grow by demand. I know there is demand. There is a group who want to be on line, but we are concerned about security. If this information system or any other information system became large enough, then what we are proposing is extremely valuable to the community.

I will give you an example. Several years ago, a Health Insurance Commission officer came into my office and asked me how many thyroid patients there are in Australia, what is the incidence of thyroid disease. I said, 'In this state of knowledge, you or I will never know.' That is true until you actually get that information being fed into a central data repository. I think there is room for government, and in the community interest, to channel such information into a central data repository that is available to everybody—it is available to the NHMRC.

I think we need to know when there is an epidemic of legionnaire's disease as it is happening, not two or three days down the track when people are dying or there is an outbreak of food poisoning or whatever. That information system needs to be there, and I think it needs to be driven by government, but how—

**Mr ROSS CAMERON**—Does your system currently, for example, flag conflicts in combinations of prescriptions?

**Dr Calligeros**—No. We have not fully developed every arm because, as I said, we are resource strapped. We have spent a long time, a lot of hours, in planning it. We know how it needs to be done in our generic environment. At this time it needs resources and hours. We have thought through all these processes. It is an extremely complicated database system and the engines that drive it are very complicated, but a lot of time has gone in planning the entire operation rather than just stacking up databases.

**Mr ROSS CAMERON**—Right. You are a doctor who has had a particular interest in technology and you have invested a lot of time and resources in essentially building a tailored system for your practice which is transportable and scalable.

**Dr Calligeros**—I would not use the word 'tailored' in relation to my practice because I work in conjunction with three other practices. I keep general practitioners particularly in mind because they are our referral sources. We would like to get that information back in the most timely manner and continue our relationships with those referring practitioners, so it is generic rather than tailored.

**Mr ROSS CAMERON**—Okay. To date, though, would you say in terms of your business—you are a doctor running three medical practices with some colleagues—you are, in a sense, marketing or selling the technology?

**Dr Calligeros**—As of this new year, my active consulting time in medical practice has decreased quite significantly with the idea of putting this in. My programmicro-economic reform, the other interested parties in this and me are extremely paranoid about what we are doing getting to the Bill Gateses and the Microsoft corporations of the world, because if they learn the innards and even the interfaces of how we work, they will market this very quickly. So we have placed our trademark registration in the United States and we are also looking into patenting in the United States as well as in Australia. That is the main concern—the US. I do not think the rest of them—

**Mr ROSS CAMERON**—So the concern about intellectual property is an inhibitor at the moment?

**Dr Calligeros**—Absolutely.

**Mr ROSS CAMERON**—You do not feel the system is well enough protected to make it public?

**Dr Calligeros**—Absolutely.

**Mr FORREST**—I was interested in your comments about the Internet. You mentioned Bill Gates and Microsoft. They tried to take the Internet on and found out it was bigger than them.

**Dr Calligeros**—I am still not sure that Bill Gates cannot look into my computer when I am on the Internet.

**Mr FORREST**—When you log—

**Dr Calligeros**—They say that they cannot, but I still do not know what comes back into my computer when I am on the Internet, and I will never be sure. It could be any other hacker, for that matter.

**Mr FORREST**—When you are logged on real time?

**Dr Calligeros**—Yes. People can get through most of the protocols that are available; they are completely open systems.

**Mr FORREST**—What is the advantage of the Intranet system that you have? You say only authorised access, but it is only a telephone line. It is the same telephone line that logs you into the Internet.

**Dr Calligeros**—Yes, but there are multiple layers to our security system. We have a separate client, and there are a number of registration hierarchies and what people can actually do. The system needs to recognise who the person is and what they can actually do with the system. For instance, my typist can only type letters; she cannot do anything else on the system. That is all she will see. My appointments clerk will only be able to make appointments. I, obviously, can see everything, because I am highest in the tree. There is a very complex security hierarchy in how we implement that throughout the entire database. In addition, I believe that the Windows NT operating system, which is what we are operating under, is probably one of the most secure available. Again, I cannot be certain, and I do not think any computer engineer can be absolutely certain.

**Mr FORREST**—So it is password controlled, really?

**Dr Calligeros**—Password control and operating system control. We have given great consideration to a variety of mechanisms and one of the most attractive is what happens in the Commonwealth Bank. Each operator in the Commonwealth Bank has their own little card and that terminal will not work unless their card is in it. I think that is the way to go in the end, or something similar; or reading retinas or reading fingerprints.

**Mr FORREST**—I understand how an intranet works. A lot of corporate companies set themselves up that way. When you are talking about, ultimately, something running in parallel to the Internet, how does it work?

**Dr Calligeros**—You can actually make it part of the Internet. You can wall it off quite effectively and use the Internet. I am still not 100 per cent certain about tunnelling technologies within that communications load.

**Mr FORREST**—That is what they refer to as tunnelling?

**Dr Calligeros**—Yes, it is basically using a portion of the bandwidth. We are about to invest in a new communications access device, which will allow us to specify not only which user and which particular address can get into the system, but also which particular application. In other words, if we distribute the client front end to a new user then there will be a key in that front end to enable access. If you haven't got that key, you can't get in.

**Mr FORREST**—Obviously you have put a lot of thought in and your approach on the privacy concern is to go for an intranet. But that still means that somebody within your own intranet can look at my medical record if they are able to break a code.

**Dr Calligeros**—No, only if there is an established professional relationship.

**CHAIRMAN**—No, what he said was: if they were able to break the code.

**Mr FORREST**—So the code is a bit more complicated than the Internet. But if I can sit there long enough I will break your code too.

**Dr Calligeros**—They have to get through a number of hurdles. They actually have to get on to the system first. There is a logging mechanism of who is doing what. Our database is not a simple database; it is very complicated. It is very lean and it is very mean—if you will excuse me using that term—in terms of storage and how it works. It would take a hell of a long time to put this bit of information with that because the procedures that we have engineered are distributed in the servers in the background. It is very difficult. It is not like medical director where the entire program sits on the front desk. It would take even an expert programmer quite a significant amount of time to extract that information.

**Mr FORREST**—You put your hand on your heart and assure your patients that their information is 100 per cent confidential? I do not think you can, really.

**Dr Calligeros**—I do not think you can. There are holes because there is still human error. Somebody could leave a terminal unattended for a period of time. That happens; it happens in paper based systems. You know that, you have heard that. In my own practice I will often find a patient's folder sitting on the front desk and I will say, 'What's that doing here?' Anybody could walk in and open it. In the hospital system it is much more open. I could walk into any hospital and pretend that I am a doctor and open up virtually any medical record.

**CHAIRMAN**—Thank you very much for appearing before the committee this afternoon, Doctor. A transcript of your evidence will be sent to you. We do appreciate your submission and your taking the time to come and see us.

Resolved (on motion by Mr Quick, seconded by Mr Cameron):

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 4.10 p.m.**