REPORT OF PROCEEDINGS BEFORE

STANDING COMMITTEE ON STATE DEVELOPMENT

INQUIRY INTO SCIENCE AND ITS COMMERCIALISATION IN NEW SOUTH WALES

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At Sydney on Friday 19 September 2003

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The Committee met at 1.00 p.m.

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PRESENT

The Hon. T. S. Burke (Chair)
Mr I. Cohen
The Hon. P. Forsythe
The Hon. C. M. Robertson

Transcript provided by Spark and Cannon

ROBYN CAROLINE KRUK, Director-General, New South Wales Department of Health, and

GREGORY JOSEPH STEWART, Deputy Director-General, Public Health Chief Health Officer, New South Wales Department of Health, sworn and examined:

CHAIR: If I could address my comments generally to both of you. If you should consider at any stage during your evidence that certain evidence or documents you may wish to present should be heard or seen in private by the Committee, the Committee will consider your request. However, the Committee or the Legislative Council itself may subsequently publish the evidence if they decide it is in the public interest to do so. If I could invite you to make a brief opening statement.

Ms KRUK: Thank you, Mr Chair. I am very pleased to appear before the inquiry today. What I would like to do is make an opening statement covering four areas which I think are directly relevant to your terms of reference: firstly, the characteristics of the health sector that are of particular relevance to commercialisation of health and medical research; secondly, the current policies within NSW Health and programs that support commercialisation of health and medical research; third, the potential opportunities for boosting commercialisation of research in the health and medical sector and, finally, to touch on the current review of medical and health research.

Firstly, the commercialisation of research in the health and medical sector. There are particular issues that are relevant to commercialisation of health and medical research, particularly the altruistic culture of the health sector and the complex interrelationship between research in universities, hospitals and independent medical research institutes, so it is worth giving in that context by way of background.

Health and medical researchers, in some cases, display negative attitudes towards commercialisation. That is one of the challenges we face. For example, in a survey of 500 health and medical researchers conducted this year by Research Australia, only 20 per cent of researchers reported that the emphasis on commercialisation had a positive impact on their work, and I think that is significant to your inquiry. Overwhelmingly researchers ranked improving health outcomes, seeing the results of their work used in practice and generating publications, as more important outcomes of their work than patenting their research findings or generating new business. We, NSW Health, have taken what I believe to be a proactive approach to identifying and addressing barriers to commercialisation of health and medical research and therefore welcome this inquiry.

In 2000, we conducted a study in three hospitals to identify current knowledge and practices regarding protection and commercialisation of intellectual property [IP]. That was seen as both a major and potential inhibiting factor, but also arguably a factor which we could use to drive innovation and to drive effort in this area. The study found that all three hospitals had intellectual property policies and had mechanisms in place to assist with the protection and commercialisation of intellectual property. It found, however, that many of the hospital researchers were unaware of these policies and mechanisms, and that many only had a very limited understanding of what was meant by intellectual property, and I think that is a significant finding. This finding was supported by the aforementioned Research Australia survey in which only half of health and medical researchers said that they knew how to go about getting help if they identified commercial potential in their research.

NSW Health has been working on policies and programs to address these barriers, and I would like to describe these for the Committee. The health sector is perhaps unique because of the complexity of the relationships that exist across researchers in hospitals and other health services, universities and independent research institutes. Health and medical researchers, I think it is worth mentioning, frequently wear multiple hats. They are clinicians; they are academics, as well as being researchers, so they are not sole practitioners in this area. Many clinicians in teaching hospitals, as well as researchers in independent medical research institutes, have conjoint clinical academic appointments—that is potentially complex as well as being an opportunity. This interaction brings major benefits to both parties.

Opportunities for involvement in research are important in attracting and retaining top clinicians to our hospitals, and that is obviously one of our major interests. A culture within hospital that values research facilitates a quick implementation of research findings into practice. Through interaction with their clinical colleagues, university based researchers remain attuned to the realities

and priorities of the health service environment. However, this interrelationship also brings with it a complexity when it comes to managing intellectual property arising from research in the health sector.

I am only going to touch quite briefly on some of the current policies and programs to give you some background. I think you are more than familiar with them, so I will not labour on those. I will go on to the further sections. Firstly are research infrastructure funding programs. I know a number of Committee members are actively involved in some of those programs and certainly aware of them. A bit of background. We allocate infrastructure funding for health and medical research organisations through an open and competitive process. Infrastructure includes the salary of senior scientists and administrative staff, as well as physical infrastructure: rent, power, computers; literally as the name implies. Infrastructure funding is in excess of $60 million, and it will be allocated over a three-year period, 2003-04 to 2005-06. Without this infrastructure support, health and medical research organisations in New South Wales would be unable to effectively compete for project funds with other sources, or to conduct world-class research. Although commercialisation is not a specific focus of these funding programs, they are critical for enabling researchers to make the discoveries that will subsequently be commercialised.

Certainly, on a more informal basis, I know this program is recognised by its peers and interstate as being leading edge in that regard. No doubt you want to ask some questions. BioLink and BioMed North, I think they are important players in our environment. I am conscious that the Committee has followed that up with some previous witnesses, but it is probably worth talking about how we relate to them within this context. We obviously fund them, and the major aim being boosting commercialisation of health and medical research. BioLink is a new business alliance created to expedite the commercialisation of life science research in New South Wales. Background: as you are aware, it was announced in December 2002; the funding basis $650,000 per annum for four years; the funding provided in stages; the legal entity for BioLink is in the process of being established. Chair, can I take it as a given that you are aware of the purposes of BioLink, or would you like me to spend a bit of time on that?

CHAIR: I would ask that you could, only that one of the witnesses from the UTS in their submission was concerned about how well the purposes and objects were mapped out.

Ms KRUK: I do not want to take up your time unnecessarily. I am quite happy to run through it.

CHAIR: That would be helpful.

Ms KRUK: BioLink will firstly increase awareness in the research community of what constitutes intellectual property; secondly, facilitate the early identification of intellectual property, and that is a significant issue; third, organise the evaluation and protection of intellectual property, for example, registration of patents; and finally, link intellectual property providers with appropriate commercial partners. The foundation participants in BioLink include the Garvan Institute for Medical Research, the Westmead Research Hub and the Hunter Medical Research Institute. IBM Australia, ATPinnovations and the Australian Graduate School of Management are also associated. It is intended that BioLink will attract and actively recruit additional participants, and that it will not require direct Government funding after its first four years.

BioMed North Limited is a cluster of member organisations in industry, research and Government sectors. It has the specific focus on accelerating the commercial development of intellectual property assets in Area Health Services initially within the North Sydney area, and that is obviously where its base lies. BioMed North began operations in November 2001 with a grant of $200,000 from NSW Health to support its establishment. In December 2002, Minister Knowles announced further funding of $250,000 per annum for the next two years. I understand, and this was confirmed when I met with BioMed North recently, that discussions are under way for BioMed North to become a formal partner in BioLink and I think that is probably an important issue for your Committee.

NSW Health and intellectual property. As I indicated this is a significant area for us and one that work is now at the forefront. The Department has developed a comprehensive intellectual property policy for health research undertaken within the public health system. It recognises the value

of this research and the important role of public health organisations in the acquisition and dissemination of research, knowledge and skills. The objects of the policy are: firstly, to encourage health research in the public health system and the acquisition and dissemination of knowledge and skills; secondly, to manage intellectual property with potential commercial value in a manner which benefits the public health system as a whole; third, to foster an environment within which intellectual property issues can be identified and developed; and finally—and I think this is a critical aim—to recognise and reward innovation by staff of public health organisations and so to provide the right incentive structure.

In developing the policy, the Department has consulted very extensively. This has included consultations with the university sector, public health organisations, central agencies such as the Premier's Department, the Audit Office and Treasury and relevant industrial organisations. The consultation process is now being completed and the policy is in its final stages. It will be subject to ministerial consideration in the next few weeks. The policy aims at establishing a consistent standard of governance for intellectual property through health research throughout the New South Wales public health sector in a manner that will benefit the public health system as a whole.

The key features of the policy—and I remind members that it is a draft policy subject to ministerial endorsement—are as follows. There may be some variation but this is the backbone. It requires public health organisations to establish intellectual property committees to manage their health research intellectual property interests. Secondly, it requires employees to notify any intellectual property arising from health research that they create in the course of their employment to that intellectual property committee. Third, it sets up structures to deal with managing intellectual property created by visitors, including visiting practitioners and clinical academics.

Another important aim of the policy is to achieve greater consistency with the intellectual property policy for medical research in the university sector. That is one of the issues I referred to earlier. There has been a perceived imbalance in the opportunities existing between the health and university sectors in this area of health research. The most significant discrepancy, just by way of a bit of a background is opportunity existing in the area of profit sharing. Universities typically allowed for the sharing of proceeds for the commercialisation of intellectual property with the creator of the intellectual property, whereas the public health sector did not provide for such profit sharing opportunities.

The draft policy seeks to address this balance. It allows for the proceeds of the commercialisation of health research intellectual property to be shared, firstly, between the creators of the intellectual property; secondly, the department or section of the public health organisation which originated the intellectual property; and finally, the public health organisation; clearly a third by third by third basis. The policy will apply to all health research, including laboratory, pre-clinical and clinical research and development in all its forms.

The third issue I would like to address is what we believe to be some opportunities for boosting commercialisation of health and medical research. This is obviously work in progress but we have, for the benefit of the Committee, turned our mind to that issue. Firstly, a more co-ordinated whole of Government approach to the commercialisation of research across all areas of science could achieve a number of ends. Firstly, it could assist to establish a more entrepreneurial culture in New South Wales for the commercialisation of intellectual property. Secondly, it could promote co-ordination and co-operation across research and technology sectors. Third, it could promote the establishment of networks for commercialisation purposes; for example, to generate venture capital, which is a major problem in this area. Fourth, it could increase community education about the benefits of commercialisation.

Some specific opportunities that we have identified within the health and medical research sector include the following: further harmonisation of intellectual property policies and research governance policies across universities, hospitals and medical research institutes. We believe this will enhance cross-sectoral collaboration and make it more likely that public sector institutions will benefit from commercialisation of their intellectual properties; secondly, strategies to more effectively provide infrastructure support far New South Wales health and medical researchers, build critical mass and better linked research with the industry. I know that this is an issue that has faced CSIRO as well, so I think we are drawing on some experience in that regard. Finally, strategies to boost the

success of health and medical research in New South Wales by gaining more competitive grant funding and funding from the industry and philanthropic sources and by attracting top researchers to New South Wales.

Such strategies arguably will arise from recommendations of the current review of medical and research in New South Wales, which I would like to touch on next. Of course, it is clear that any effort to boost commercialisation of health and medical research cannot occur at the expense of the large majority of such research, which strives towards improvement in health outcomes, clearly our core business, but may not produce commercial results. That is a very clear issue. I would like to touch on the review of medical research and health research in New South Wales, because I think this will be a major vehicle to address some of the issues that your Committee is looking at. Certainly it will be influential in shaping the policy in our area.

The Committee would be aware that an independent panel has been appointed to conduct the review. Its members are Mr Greg Wood, Dr George Morstyn and Professor Judith Whitworth. Chair, should I mention the terms of reference or are you aware of those?

CHAIR: I am aware—yes, we have those.

Ms KRUK: Am I able to run through those quickly, with your agreement? The terms of reference for the review include: review all existing New South Wales government-funded medical and health research programs; recommending strategic priorities for New South Wales Government expenditure on medical and health research; recommending how to optimise investment in medical and health research in New South Wales; identifying future directions for the development of health and medical research in New South Wales. As the terms of reference will suggest, this is arguably a watershed piece of review which will guide policy in this area to look at the fundamentals of how we operate the grants program, the area to which grants are targeted and how arguably we can make best leverage of funding in this area. The review will be completed by December 2003.

It is clear that the areas of common interest between the review and your inquiry in relation to the commercialisation of health and medical research—there is obvious synergy of interest. I understand that the review panel has already met with you, or intends to meet with you, during the course of your inquiry. Otherwise I would be very happy to facilitate this interaction. Members, thank you very much.

CHAIR: Going through a number of the issues I was going to raise that are already—

Ms KRUK: Hopefully I have targeted the right areas.

CHAIR: That is right. No, there will be some issues that I will go over, to get in greater detail. First of all, if I can ask, is it possible to obtain from the Department a list of scientific research programs which are currently administered or funded by NSW Health. Part of the role of the Committee is a mapping exercise.

Ms KRUK: Chair, we would be happy to provide that.

CHAIR: Thank you very much. Medical research in New South Wales universities, we have had some evidence to say that the trials for that often take place in other States. The example that was given was from UTS. They developed heart device technology being used by Ventracor, stock listed on the ASX, but the trial is happening in Melbourne.

Ms KRUK: Chair, I am not aware of that being common practice. There may be particular cases where that has been the path that has been pursued. I am very happy to investigate a particular situation and give you some background. Dr Stewart may wish to add to that.

Dr STEWART: There are occasions when research crosses State boundaries. That is not necessarily a bad thing, particularly if there is complementarity between the research organisations, and there is certainly overlap in Australia between the functions and roles of research organisations as overlap in New South Wales. It may simply be that. I am aware, for example, of research studies that have been undertaken between New South Wales and Victoria in relation to the area of positron

emission tomography [PET] but I agree with the Director-General, it is not a common thing but we would be perfectly happy to look at specific examples, if they are examples of lost opportunities for New South Wales.

CHAIR: On that example they referred to inability to get insurance for clinical trials in New South Wales.

Ms KRUK: We might have a look at the particulars of that case. if you could give us some more background and we will come back to you with some further information.

Dr STEWART: I might say though, in general terms, because a lot of research is undertaken in New South Wales hospitals and because there is a well-established system of ethical review and, therefore, endorsement by governing bodies, boards of area health services, the issue of insurance is not usually an issue that we have to address. In normal circumstances it is a straightforward matter.

CHAIR: As a State, how does New South Wales rank, both nationally and internationally, in terms of R and D spending?

Ms KRUK: I might get Dr Stewart, who I notice has some figures before him in relation to the NHMRC funding base, to elaborate on that issue.

Dr STEWART: I will talk about NHMRC funding but I might start more broadly. One of the things that the review panel—the panel commissioned by Mr Sartor—is looking at is getting a better handle on the amount of research funding spent in New South Wales, because NHMRC, whilst being a significant source, is not the only source and particularly when you take into account industry sources. The second point to make is that in relation to NSW Health itself, if I can narrow, our infrastructure grants program which the Director-General mentioned which allocates now $20 million a year; that is growth, this is now the third formal triennium of allocation of infrastructure grants. We had a more ad hoc system before that.

I would say, as a matter of information, the growth in funding of that infrastructure grants program has been significant over those trienniums. It was about $5 million per annum before we had a formal program. It was $10 million on average in the first program. It was—now I will go to three-year numbers I am afraid, because those are the ones I have in my mind—$53 million over three years for the program just completed, and it is $60 million over this year and the two years ahead of us. That is, on the information that I have, the most generous infrastructure grants program funded by a Health Department of any Health Departments in Australia. From that point of view, we can say that the New South Wales health system, the New South Wales Government, in terms of its allocation of infrastructure grants does well.

If I can turn to the NHMRC, it is true—and the Committee may know, but I have some figures which I am quite happy to provide to the Committee—that New South Wales has traditionally received less money from the NHMRC than Victoria. That has remained the case since the Wills Report, when the amount of money allocated has approximately doubled since 1999. On average New South Wales gets about 25 per cent of all-up NHMRC funds and, on average, Victoria gets about 40 per cent and there are historical reasons for that. Victoria has always been historically the place where big institutions have been established—Walter and Eliza Hall, Baker and so on—New South Wales has not in fact had any longstanding institutes. The ones that we now talk about as being major players like the Millennium Institute, Centenary, Victor Chang and the Garvan, apart from the Garvan which has a significant history, those others have only been in existence for a decade or so.

Victoria has historically done better than us and they have historically had a bigger infrastructure. The NHMRC moved from a block grant funding system to a program and project funding system a few years ago—I am not exactly sure when that was. The block grant funding system inevitably benefited existing organisations. One of the reasons it was changed was because there was an argument that it did not allow appropriate redistribution of funds. Notwithstanding that, the numbers that I have in front of me are that New South Wales still gets about 25 per cent. There has been a slight glimmer in the latest round of NHMRC funding; that is project funding which is beginning next year—and I know this has been to the NHMRC—and New South Wales and Victoria got roughly the same amount of money in project funding for next year, about $55 million each.

CHAIR: Ms Kruk, when you went through the programs that are being developed in terms of facilitating knowledge and assistance of IP development, I can understand there are good arguments for the scientific research that is relevant to a department being very closely related within that department. Are there any issues relating to intellectual property that create a reason for each department running its own IP advice, or is that something that could be facilitated across departments?

Ms KRUK: This sits underneath the development of a policy—and this is not unique to New South Wales; certainly from my experience in chairing committees with CSIRO it was a similar situation—there was a need for consistency, and this was reaffirmed to me by BioMed North as well; is that people were not aware of the opportunities and one of the big benefits of having a consistent policy is as much awareness making: to put a structure in place, to put the issue at the forefront, to make it quite clear what the game rules, what the incentives were, having met with CSIRO and industry proponents in the past, it is also recognising the skills of the various parties and the lack of an intellectual property policy across the health sector was often perceived as creating an unnecessary uncertainty also from the commercial end of the equation.

I know industry would often find it difficult who they should speak to, what the process mechanisms would be, what the potential opportunities would be in place in relation to benefit sharing; so quite clearly what the game rules would be. So the policy is as much signalling a cultural shift, awareness raising, showing that there are incentives for innovation rather than, in effect, each and every Area Health Service having to deal with this issue uniquely. It was obviously important from our perspective to get wide buy-in, so it has taken some time to develop that policy and to do that within the appropriate public sector framework.

CHAIR: I guess what I am interested in your thoughts on is, while I can easily appreciate the reason for having something that goes across the whole department in that way, the question is really whether or not there is an argument which has been put to us for going to the next stage of centralised advice, which would be instead of the Department of Health having its IP expertise and the Department of Agriculture having its, and other departments which do less scientific research having their own sections, whether or not there is a case for a centralised whole-of-government approach to provide that IP expertise.

Ms KRUK: I think having dealt with it also in the natural resources area in the past, a lot of it was the difficulty in creating a consistent framework. You will have differences across the sectors. If I look at the funding base that sits behind a lot of the research in the agricultural area, that would be quite different than a lot of the research that drives, or originates, within the health sector. The important issue—and I think this is one which is common to the sectors—is the need for consistency and some certainty to structure those negotiations. You do not want to fetter it.

The question is—and that is ultimately a question for Government policy—whether centralisation will encourage that or whether at least a common understanding about the potential for benefit sharing is the more important component. Because you will have different drivers, you will have different emphasis in relation to the triple bottom-line approach as well. There would be a whole range of things which are unique to the sector of which the research originates, but the common factor—and certainly again I will draw on my experience with CSIRO—is that industry wants some understanding of the framework within which it is operating, and particularly because the growth of venture capital in many ways, and its attractiveness to invest in, in both New South Wales and Australia is dependent upon that certainty. Whether you need a central body or not is probably a second argument to the need for there to be some policy consistency and certainty. I do not in any way underestimate the importance of awareness raising. As I said, in Health, and this is understandable, this is our core business is health outcomes. Commercialisation is one component which can arguably help drive health outcomes, particularly through collaborative efforts, but it is still part of our business and not the major aim of our business.

CHAIR: On the point of venture capital, one of the issues that was put to us in our last lot of hearings was the example of the British Technology Group which provides a formal accreditation process which is then used as a useful benchmark for venture capital in determining not just on which research community is better at selling it, but determining some sort of benchmark as to the usefulness

for commercialisation purposes of different forms of research. I know that you have said in terms of improving relationships with venture capital, but is there an argument—what are your thoughts on the concept of having some more formal accreditation process; not in the sense of picking winners but simply in a sense of providing something that might be helpful to venture capital?

Ms KRUK: Chair, I am beyond my comfort zone in being able to answer this with any expertise. Certainly from my contact with BioMed North, all of the partners in that collaborative have indicated there is an issue across Australia in being able to attract venture capital. I would argue that any initiative that encourages that is a positive one. I am not familiar enough with the case study you mention, so I probably cannot comment on it intelligently. Dr Stewart may have a view.

Dr STEWART: No, I am not across that kind of detail. One of the reasons that BioLink was established as part of the BioFirst program was precisely to create some source of expertise. It happens that BioMed North had grown up spontaneously to some extent because of the particular interests of Carol Pollock and then Deborah Kuchler, who may or may not be appearing before the Committee, and it was worth supporting because by their own efforts. They were enthusiastically interested in better means to look at intellectual property within health organisations and then do some commercialisation of it. That, to some extent, Mr Chairman, goes to your question about centralisation. I have nothing to add to what the Director-General said in relation to some cross-government thing. There was a clear need, and identified in the BioFirst Strategy, to do something around Health. The policy is about getting consistency across Health.

Even if we had an agency that we could go to, across government, even when we will have BioLink up and running well, there is still need at local level to have established processes so that IP opportunities can be identified and reported to the public health organisation, and then appropriate mechanisms put in place so that you do not have disputes down the track about who owns what. One of the key components of the policy is establishing a high level committee within each Area Health Service, really, so that these things can be reviewed on a regular basis and hence reported.

Mr COHEN: I start with a question that comes as a residual from the Committee that I was at this morning. We were looking at the transport of nuclear waste. I am wondering from the Department of Health's perspective whether medical research is advantaged most by the development of a new nuclear reactor at Lucas Heights in terms of nuclear medicines and alternatives, or s it served best by the development of alternative strategies? Is this way outside your—

Ms KRUK: This is way outside of my brief. Dr Stewart, would you have a view?

Mr COHEN: I am thinking here in terms of value to NSW Health in terms of medical technology developments here.

Dr STEWART: There are research activities that take place in relation to isotopes, where they come from and how they are produced so that they can be used is the issue you are asking, Mr Cohen. I, not having been briefed about that, cannot really comment meaningfully on what alternatives there might be if they were not coming out of Lucas Heights.

Mr COHEN: It might be an unfair question. I thought you might have some opinion in terms of the effective directions of research in that area.

Ms KRUK: I cannot proffer a view, I must admit. That is beyond my comfort zone.

Mr COHEN: We had evidence before the Committee with Professor Fell back on 8 September that there were problems between how IP is handled in the health system and how it is handled in the universities. I was wondering whether you could outline what efforts your Department made to co-ordinate IP policies for the research and commercialisation part?

Ms KRUK: Yes, I think that comes back to some of my opening statements and Dr Stewart's comments then as well too, for the need for us to sort the game rules out. There is, as I indicated in my submission, and I will ask Dr Stewart to elaborate on that, there was perceived to be a difference in how we handled it. There is no doubt that we rely very much and seek to encourage collaboration with the university sector. I think the draft policy that we have on the way to the Minister at the moment

will certainly be a significant step forward in relation to making it clear what the benefits are for the health sector to enter into these commercial arrangements. We are a different organisation with a different end game than the university sector is, so I do not think we necessarily need to offer arrangements that exactly mirror what the universities do. There was a clear hiatus in the terms of the fact that the universities had a clearly articulated benefit sharing regime, and the health sector was less clear in its arrangements. Dr Stewart, would you like to add to that?

Dr STEWART: No, the key driver in developing the policy was that issue; that because there is so much overlap between appointments in public hospitals and appointments to universities because it may be the person who is employed by the university has an appointment with the public hospital, or employed by the public hospital in a conjoint appointment with the university, that it was going to inevitably create problems in the future, when the university had a scheme in place that would benefit individual researchers and the New South Wales Health Department did not. It was a significant step to say we should recognise that difference because it traditionally has not been the case that that kind of sharing would take place. It has always been the policy that the intellectual property rests with the public health organisation and that was one of the main drivers for the policy.

Ms ROBERTSON: Can I ask another question on that issue. Is there potential in the future for conflict about who is sharing it, the university or the Health? Are you going to fight over it?

Dr STEWART: No, there is potential. The policy goes to it in some detail and says, "There is potential for this so when you start, make sure that at an Area Health Service level there is a clear understanding on the basis of a standard agreement or developed agreements about who is entitled to what."

Ms KRUK: Remember, the issue was—again coming back to the attractiveness of research in this area, commercialisation was often diminished because of these things being unresolved or attempted to be resolved at such a late stage in the play that it was just too hard, and potential industry investors would walk away, because they were going to face a protracted dispute between the parties as to benefit sharing regime, and the normal risk management arrangements, so it was significant and is significant to have that clarified up front.

Ms ROBERTSON: I asked that question because sometimes during the hearings I have had the feeling that the university is saying, "Health will not give it to us." The intellectual property issue—sometimes I have been thinking, when we are hearing that Health is saying, "You can not have it, it is ours," and they want it. I am generalising.

Ms KRUK: It is a real issue, because the assignment of that has been an issue. It is something that will need to be arguably discussed and negotiated, depending on what the issue is. I do think there has been a lack of clarity in this regard. Hopefully the policy clears that up to a certain extent and makes the game rules clearer.

Mr COHEN: Given the Minister for Health was a key player in the BioFirst Strategy, I am wondering now that you have a course administer for science and medical research, can you outline how the Department determines which Minister it reports to.

Ms KRUK: Can I answer that in the first instance, that is a very comfortable split. I report to two Ministers with quite different roles and responsibilities. Obviously there is a synergy of interest in relation to health services research which underpins both. Dr Stewart works very closely and is one of the senior officials that is backing the current review into the medical research area. I have what is a line of accountability to the Minister for Medical Research. He relies on the resources within the Department for expertise as he also would rely on the resources within the Cabinet Office for a whole range of the policy issues that effect a broader whole-of-government basis. That is an effective interaction. Dr Stewart, would you like to add to that?

Dr STEWART: There are some clear lines. For example, the infrastructure grants program that allocates funds to research institutes like the Garvan, the Centenary, the Millennium under the split is clearly a matter for our Minister for Science and Medical Research; and that is a responsibility for Minister Sartor. The newly announced Spinal Injuries Fund is his responsibility. The BioFirst Strategy in general is a matter for Minister Sartor. But it is true that the roll-out of the BioFirst

Strategy was allocated out to three main portfolios: State and Regional Development and us and Agriculture. Our component of that was about $35 million. So on behalf of Government we have done what was required in terms of the programs that we are responsible for. Those programs were some capital funding for the Garvan, capital funding for the Millennium Institute at Westmead, the BioFirst awards program, BioLink which we have talked about, and a program around converging technologies around better linkages between institutions using broadband. So those are all happening within Health. We report now through the Minister for Science and Medical Research for those matters.

Mr COHEN: So you are all getting more funding, or how do you work that out; amicably or is it a bigger pot of gold to delve into as a result of this split; the new division?

Dr STEWART: That is a matter of taking what is existing and saying this part goes over there now. BioFirst was a four-year program and we are running into the third or fourth year; something like that.

Ms KRUK: Mr Cohen, what is important in the current configuration is that it actively looks at opportunities in this area across government. So having a Minister focusing specifically on that and having a voice within the Cabinet and in the Parliament looking specifically at this area, I think already in the short period of time that I have been involved with it, have been of benefit. Obviously the review that has been initiated by the Government will set future agenda in terms of both a funding base, but also arguably the best targeting for use of funds in this area. I think it is an important area for us to make a leverage: whether the money goes to one particular pot or to another pot. Badging is quite a secondary issue; it is how we get the maximum leverage out of it.

Mr COHEN: In general, is there sufficient expertise in commercialisation within NSW Health, and what is the level of advice your Department provides researchers with potential new product?

Ms KRUK: I might start that and then pass it over to Dr Stewart. I think that is one of the greatest potentials of the alliances that have been formed by BioMed North and BioLink is to provide some assistance. I am conscious that a number of the Area Health Services would have expertise or are developing expertise in this area, but it is again, I would say, not core business. So it is something that is new. I know there is a very strong counter-argument that the health sector should not make this its core business and should draw upon the expertise of the private sector, and probably the balance is in the middle there. I think what BioMed North is doing—and this is in collaboration with BioLink—is to in effect to offer an opportunity for advisory services in specialist areas to assist what are commercial opportunities. Realistically, not each and every Area Health Service will have that, what is it, human capital and intellectual capital that it wishes to advance down that path, but it is, from my viewpoint, cost-effective way of pursuing it to make use of those alliances. Greg, do you want to add to that?

Dr STEWART: Yes. In 2000 we undertook a study in three major hospital about intellectual property and commercialisation—that was in the opening statement—and it showed that there are issues around expertise and support and the ability to go somewhere to gain additional support. That is the reason we are developing the mechanisms through the policy and through BioLink that we have done. There have been some pretty stunning examples about commercialisation in the New South Wales health sector. The two that will always be mentioned are ResMed and Cochlear, and they were things that came directly out of work done within the New South Wales health system. But it does come back to the Director-General's opening comment that there is some tension in some researchers around their altruistic intent and their major concern about improving health outcomes and a commercialisation intent.

I am very happy to provide a copy of the Research Australia Report that was quoted at the start. It is quite interesting in general about health researchers and what motivates them, and it is undoubtedly the case that commercialisation does not motivate the majority of health researchers.

Ms KRUK: Can I add to that; that is why being clear how the benefits are shared is an important part of encouraging that. Where it is feasible and where you wish to encourage it, there is no doubt—this is one way of encouraging innovation, and while there is ambiguity, I think that was

potentially an impediment. We may never have the expertise and it is a matter of having access to the expertise in those areas.

Mr COHEN: You have possibly answered this next one, but we found in earlier evidence a comparison between Australian universities and the cross-over to commercialisation compared with the US experience where academics were very much—it was unusual if they were not branching out in commercial area at a frequent and early stage. I am wondering whether you could comment in light of that how important it is for scientists and technologists to have their skills and ability to move freely between industry and public sector research institutions.

Ms KRUK: That is interesting. I will comment on it briefly. I know that there are arguments for and against that. Some of the arguments that have been proffered in the past is that you should stick to your core business and do what you do best, rather than developing a commercial competence. As I said earlier, I think the truth is probably in the middle. I think it is having the awareness, making use of the opportunities and certainly providing access to that expertise within the commercial sector. I think I mentioned earlier that was an issue for CSIRO, and certainly the messages from industry were it is not beneficial for us to necessarily have that sort of exchange. It is a matter of people doing what they do best and to have a clarity of roles. An interchange between the parties may be of benefit, but it arguably in some instances will offer very little benefit either, because you are looking at such two different realms of endeavour. Dr Stewart, would you like to add to it?

Dr STEWART: I think there are obviously differences between the way health and medical research and its overlap with commercialisation has developed in America and in Australia, and that goes to the previous answer. I think what is required is that when there is the inclination and the opportunity, that there is a base and there is support so that these things can be addressed. I might say this, and I do not think it is too heretical, but the fundamental principles about commercialisation and IP are not really all that difficult. What is lacking is the intricate detail of it; the contacts with the appropriate attorneys who can do the job for you and so on. Once you get a nexus of expertise—and BioMed North is a good example of that, and BioLink is earlier on in the piece than of BioMed North—then it is not all that difficult to call on that expertise to do things in a kind of routine and standardised way.

Ms FORSYTHE: One of the areas you have not touched on today, but a feature of many of the hearings we have had so far has been the co-operative research centre program. I was wondering what the role of NSW Health is in relation to that program and how successful would you say the CRC program has been to date.

Ms KRUK: I might ask Dr Stewart. I certainly know that we are a member of a number of CRCs, but I might ask Dr Stewart to comment on that.

Dr STEWART: The CRCs are broader than health and medical research. The one that I am most familiar with, because we have both an involvement as part of the consortium, but also because we contribute funds, is the respiratory one around the Woolcock Institute at Prince Alfred Hospital. I suppose the answer really is that it is a good program and we will take opportunities when we can to get involved. In this case, the respiratory CRC, the Department of Health itself became involved because we are interested in things around the atmosphere—asthma and so on—as well as the Area Health Service. But usually, and I am not across it well enough to know what other Area Health Services are involved in CRCs, but normally it would be an Area Health Service and an individual doctor or researcher who would be involved. But I think the answer is it has been going now half a dozen years or so and I think it has been very useful in developing science and technology in Australia.

Ms FORSYTHE: If I can come back to the BioFirst Program, what opportunities does BioFirst provide for the commercialisation of medical and other related research discoveries? I think we are particularly interested to know about the relationship between NSW Health and the BioUnit within the Cabinet Office. What is the nature of the relationship there; to what degree and in what way do you liaise?

Ms KRUK: I might ask Dr Stewart who has the primary point of contact.

Dr STEWART: I will answer the relationship with BioUnit in a second. The first question is around commercialisation and clearly BioFirst has a specific component called BioLink which is about commercialisation. I think it was part of the original process of planning for BioFirst, but the actual concept and perhaps even the name BioLink was only announced about November-December last year. That is the mechanism whereby BioFirst will be involved in assisting with commercialisation.

In relation to the BioUnit which was established around the time of the BioFirst Strategy, my staff deal almost on a daily basis with the BioUnit in relation to particular issues; BioLink being one, Converging Technologies being another, the Spinal Injuries Fund is another, as a matter of interest; and more recently, around differentiation of duties between Ministers. I meet regularly with the head of the BioUnit. We have good solid relationships in the contexts that one does where there is an agency in the central agencies involved in co-ordinating services across other agencies. We are experienced with that now because of other programs; for example, the Drug Summit where we have an almost identical type of arrangement where a central unit co-ordinates services across other units.

Ms FORSYTHE: Where does the BioFirst Strategy place New South Wales in both the short and long term?

Dr STEWART: If I could say this about BioFirst: it has been an incredibly important strategy to boost acceptance of the need for there to be a focus on biotechnology in New South Wales. There were substantial funds allocated to that. It has led to there being much greater co-operation across Government departments and a much greater understanding, and an expectation amongst researchers that things are happening in relation to a co-ordinated approach. I think that it was really critical for that to occur. There will be discussion at Government level obviously, especially now we have a Minister for Science and Medical Research, about what steps are required to be taken such that New South Wales can continue to develop that capacity.

There is always a lot of discussion about our capacity and our performance in relation to other States. That will continue to be the case, although I should say that—and I do not know if Mr Harris mentioned it when he was in—but there has recently been signed a co-operative agreement between the Premiers of the three eastern seaboard States, which is a great thing, because there is a slight touch, in my perception of discussion about this matter, of a little too much competition. After all, if you look at Australia's research performance, understandably, since we are only a small part of the world's population, as the researchers say we box above our weight. Nevertheless, our research output is only 1 per cent or 2 per cent of total research output across the developed world, I suppose. I think BioFirst has been important to get that whole thing on the road.

Ms FORSYTHE: Does the focus on biotechnology remain appropriate, do you think?

Dr STEWART: Yes, I think it does. But I might say this as well: that one of the things that has come out of the review that Minister Sartor commissioned has been the necessity also to look at, in relation to health research, health research more broadly; research around population health matters; interventions in the whole population and health services research, and also social research. One of the organisations that got funds out of our recent grant round was the Centre for Social Health Research at the University of New South Wales.

Ms FORSYTHE: You referred moments ago to the competition between the States. Considering that New South Wales has a focus on biotechnology, are you concerned that Victoria seems to have more dedicated biotechnology companies than any other Australian State, and claims to be the national biomedical research hub with the largest concentration of research institutes, and the highest spending on medical and health research and development. You referred earlier to that being a historical fact.

Dr STEWART: It is the case that in Victoria there are bigger research institutes. I am not sure it is the case that, in terms of the commercial aspects of it, the companies that are doing business around biotechnology, that Victoria in fact leads at all. I think in fact, and this is more general knowledge than my direct knowledge as a Chief Health Officer, but I think New South Wales is in fact the leading State in commercial investment and production of biotechnology initiatives.

Ms FORSYTHE: Within the BioFirst Strategy, are programs co-ordinated by NSW Health mainly at the research rather than the commercialisation end?

Dr STEWART: It is not easy to answer that question in terms of that dichotomy. The programs that we co-ordinate are firstly, some capital works programs; secondly, a program around BioFirst Awards, so attracting high-flying researchers back to Australia with grants that are completely untied to any specific performance, just additional funds that can be used in whatever way a research organisation sees fit—whether that be a boost in the salary of the researcher or a research assistant or whatever. The Converging Technologies Program which I talked about earlier is about linking up organisations so there is a potential commercial involvement in that, but predominantly it is about better interaction and the BioLink Program I have spoken about. I think it is not just a matter of research or commercialisation in this case.

Ms FORSYTHE: If I could ask Ms Kruk one last question. You referred earlier to a survey of three hospitals in 2000 looking at IP. I assume that all three hospitals were teaching hospitals.

Dr STEWART: I do not know which hospitals they were, but they were teaching hospitals. Can I say, Mr Chairman, we unfortunately have not submitted the written submission that we were going to make to the Committee and I would ask—I know the closing date is past but a lot of what we have said today, including the executive summary of the report—

Ms KRUK: We would ask that you give us the leeway to submit that.

CHAIR: We would love to give you the leeway and concede that.

Ms KRUK: Thank you.

Ms FORSYTHE: Can I ask in relation to your submission, has that been co-ordinated by the BioUnit at the Cabinet Office?

Dr STEWART: No, not at all. No, it has been a joint effort between the Epidemiology and Research Unit which reports to me and the Department, and the Legal Branch in relation to the intellectual property matters.

Ms KRUK: Committee members, what we have also tried to do is to pick up some of those issues in the opening statement. We obviously elaborate on those in the submissions.

CHAIR: It has been suggested to us in evidence that because of the BioFirst Strategy a lot of money is specifically attached to the research, if it fits into the biotechnology basket, and that one of the impacts of that has been the definition of biotechnology has rapidly expanded, including medical devices and areas which would not ordinarily fit within the biotechnology framework. Is there any evidence of this for the research conducted by NSW Health or its research partners?

Ms KRUK: I might ask Dr Stewart. He would be familiar with the individual programs.

Dr STEWART: The answer is no, because the BioFirst money was additional money about specific things, the things I mentioned before. The funds that are allocated by NSW Health for research infrastructure funds and the funds that researchers garner by their own efforts through NHMRC or other funding bodies are outside the parameters of BioFirst. It seems to me there is an issue about BioFirst being used more broadly across New South Wales to represent the combined efforts in relation to biotechnology, or health and medical research. I have had exactly those discussions with the BioUnit about how we best use that badge, because it is a well-recognised badge. But we did not see any of that kind of gaming going on, because the specific programs around BioFirst were programs that we rolled out in accordance with the developed policy, the developed program of BioFirst.

Ms ROBERTSON: Does NSW Health and the New South Wales Department of State and Regional Development have any levels of co-ordination?

Ms KRUK: I might ask Dr Stewart again, because I think that comes to his earlier response.

Dr STEWART: In the context of our work around BioFirst and the need for co-ordination of BioFirst.

Ms ROBERTSON: You are at the table together there.

Ms KRUK: Yes.

Dr STEWART: Yes, we are the table together there. When there are issues around BioFirst and the BioUnit is co-ordinating efforts around BioFirst, then Agriculture and us and DSRD are the three main departments that are present at the time.

Ms ROBERTSON: I have rewritten this one because you just mentioned that. You have been talking about the BioFirst Awards. Can we have some details of award recipients and what sort of contributions they have made to research and commercialisation, recognising that it is early in the piece?

Dr STEWART: Yes.

Ms KRUK: Do you want us to speak to it generally—but we would certainly would be happy to provide more detail.

Ms ROBERTSON: That would be good.

Dr STEWART: Yes. BioFirst Awards, it is a $6 million program over five years. The intent was to attract back to Australia between three and five researchers a year for those years, as a cash flow issue obviously. As it turns out, there have been six in the first two years. I can certainly provide details about why those people were targeted by research institutes, because that is how we put out our expression of interest. We said to research institutes, "If you can find Australian researchers who want to come back to Australia and continue their work, then we will give you these funds." It is too early to say what impact that has had because they have only been back—12 months would be the maximum.

Ms ROBERTSON: You have touched on this quite often during the discussions, and of course it is something that worries me personally. How will Health ensure the emphasis on commercialisation does not risk politically unpopular or social research, or research of non-commercial value? I know that the emphasis at the moment is to ensure that they survive, but are there structures in place?

Ms KRUK: I think—and I will ask Dr Stewart to elaborate—that is the one of the major contributions of the IP policy in relation to putting a structure process in place to ensure that there is your appropriate Government structures that override both the type of research and any issue of risk and benefit sharing. The other issue is obviously we have a very strong ethical framework within which our research structures are undertaken. I think that is acknowledge across the Australia, the importance of having that in research of this kind. Dr Stewart, would you like to add to it?

Dr STEWART: Yes, and we have dealt with it by saying that there are effectively two pots of money for infrastructure research funds, if I can go to that, the money that we allocate. One is around biomedical research broadly; clinical research as well; institutes; and that is the majority of what we allocate out of the $20 million a year. That is, going forward over the next three years about $17 million. There is another pot of money which is about health services research and population health, and we are allocating $3 million a year for that. The percentage is 15 per cent or 18 per cent. It has been less in the past, but it has roughly been about that. I think NHMRC allocates about that as well.

There is a debate on population health doctor, so there is a debate that you should be allocating more, but in fact we went through a long process before we put out applications for the current round. That was about a year ago. There was a lot of discussion about how much should be in this pot and how much in that pot, and a lot of discussion about how we allocate. That is the main mechanism whereby we say the New South Wales Health Department, on behalf of the system, says population

health and health services research and social health research is an important component of what we do, and we have to specifically allocate into that bucket, and that will continue.

Ms ROBERTSON: You do not think that there is possibly any potential for one day the world coming to a state where commercial research which has a possibility of a commercial outcome is the only research to be delivered?

Dr STEWART: I do not think that, no.

Ms ROBERTSON: What information sharing with, and education of current and potential research in commercialisation partners does the Department undertake?

Dr STEWART: Can you repeat that?

Ms ROBERTSON: No, I cannot. I will totally change it.

Dr STEWART: What information sharing do we undertake?

Ms ROBERTSON: Yes. It is participating with other possible commercialisation partners, so it is information sharing, education of and current and potential research.

Ms KRUK: That is arguably, I think, what the question is getting at is some of the underpinnings in relation to BioLink and also BioMed.

Dr STEWART: Yes, it is.

Ms KRUK: There are obviously the driving forces for those. It is a forum both for development, but also information exchange and experience sharing. I think that is at the heart of your question.

Ms ROBERTSON: I think it is too. Do you think it is?

Ms KRUK: I hope.

Ms ROBERTSON: I should have led it before.

CHAIR: If I could ask, the issue of appointing a chief scientist—Western Australia has done it, South Australia has done it, Queensland has announced that they are going to—any thoughts on that for New South Wales?

Ms KRUK: Ultimately that is of course a matter for Government policy, but I think the comments we were making earlier is that there are real benefits in co-ordination and I think that has been shown in the past. I also indicated in relation to having a minister with a clear focus on that. Arguably the success of the venture has to do with the role the chief scientist. In some jurisdictions I am conscious overseas that that can be a titular role. I think what is important is more the objectives you are trying to seek, which is the co-ordination of effort, maximum leverage, information sharing across the various sectors of government-based research. Thank you, members.

CHAIR: I thank you very for your time here today, for all the material that is on the way as well, and all the work that you do.

(Ms Kruk and Dr Stewart withdrew)

The Committee adjourned at. 2.22 p.m.